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ARTICLE

Quantitative and Qualitative Analysis in the Process of Compiling an Associative Dictionary

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ABSTRACT

The paper aims to discuss the experience of creating the National Associative Dictionary of the Kazakh language. This unique resource provides valuable information about national values and their impact on the linguistic consciousness of Kazakh speakers. As part of the process of compiling the associative dictionary, various approaches and methods were used to study the national and cultural characteristics of the linguistic personality's fundamental values through their reactions. Quantitative and qualitative methods were chosen as a rational way to analyze large amounts of linguistic data. The associative experiment aimed to determine the number of lexical units and investigate their semantic and axiological nature. During the research, main conclusions were drawn and linguistic facts were presented that reflected the fundamental values of Kazakh society, as they are updated in the daily linguistic consciousness of language speakers. The article also analyzes the course of the free association experiment and its results from a linguistic perspective. It considers the national and cultural characteristics of some associations, citing examples. Based on this analysis, it is concluded that the Kazakh people have an associative way of thinking when it comes to the perception of ethnolexical items, the level of education, and their attitude towards cultural values.

Keywords: Associative Dictionaries; Associative Experiment; Associations; Qualitative Method; Quantitative Method

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1. Introduction

One of the most notable features of the modern world and the development of domestic lexicography is the widespread use of quantitative and qualitative analysis. The active development of associative lexicography, a special branch of linguistics, is also due in part to the direct influence of these methods. Quantitative analysis is used to collect stimulus words for an associative experiment. It helps to determine the frequency and number of responses to these words, as well as to identify their semantic, connotative, axiological, cognitive, pragmatic, and ethnolinguistic characteristics.

Associative dictionaries are descriptive lexicographic works that highlight the manifestation of a particular language's linguocultural consciousness and the verbal form of a person's world knowledge. In other words, these lexicographic publications reflect the image of the world through language, as well as the cultural background of the subject, which is evident in their thoughts and language use in daily life.

Linguocultural consciousness is a reflection of linguistic consciousness, as the national mentality encompasses competencies that directly impact the development and functioning of the language. It objectively presents the values, emotions, and experiences of both the individual and the entire population by language units. A.A. Leontyev[1] writes based on the worldview and understanding of the world of each people is a system of subject meanings, social stereotypes, and cognitive schemes. Therefore, the consciousness of a person will always have an ethnically conditioned quality—the attitude of one people to the world cannot be translated into the language of another people's culture by simple "recoding" (p. 20).

Researcher N.S. Rozov[2], considering the term "consciousness" in general from a physiological point of view, shares the following opinion: "consciousness (in its full development) is a whole field of sensory and semantic representation in subjective experience: diverting attention from object to object, considering what is happening in other places and times, recognizing and and using previously accumulated views to create appropriate behavior" (pp. 24–25).

In the Kazakh language, the Associative Dictionary was published three times - in 1978, 1998, and 2004, under the direction of corresponding scientists N.V. Dmitryuk, D. Moldalieva, and Zh. Moldanova, among others. However, the first two dictionaries are bilingual—for example, the Kazakh-Russian associative dictionary. In 2014, the "Kazakh Association dictionary" was published in Shymkent[3]. The structure of this dictionary follows a common psycholinguistic technique for finding associations. A free associative experiment is used, where participants are asked to respond to given stimulus words with the first associative reaction that comes to mind.

Quantitative and qualitative analyses of language research have evolved in the history of linguistics at different times and independently of each other. However, these approaches cannot be contradictory. Currently, in linguistics, the synthesis of qualitative and quantitative methods, the prevalence of language criteria, and the quantitative method gives the content of the collected data and frequency. Currently, the development of traditional quantitative and qualitative linguistics has a significant impact on the use of new information technologies and the computerization of linguistics. From this perspective, we must emphasize that quantitative analysis enables a deeper understanding of the nature of linguistic elements.

Quantitative Linguistics objectively determines the lexico-semantic system of a language, as well as its morphological and syntactic structure and stylistic features in texts.

In other fields of science, the combination of quantitative and qualitative methods is called "mixed methods research" (MMR), at the same time, the following opinion is put forward: "by combining quantitative and qualitative data, researchers can engage in triangulation, use complementary strengths of different methods, and solve different research questions. Such an "integrative strategy" facilitates a comprehensive study of research problems and contributes to a deeper understanding of the contextual factors that affect the results", draws attention to the valuable aspects of qualitative and quantitative methods for science[4].

The article is devoted to the description and systematization of the cultural values of a linguistic person speaking the Kazakh language, identifying features using quantitative and qualitative methods in the compilation of the Kazakh

language National Associative Dictionary, and presenting the results of such analyzes. The setting and solution of these problems are closely tied to the exigency of understanding the development and nature of Kazakh lexicography, as well as the degree and manifestation of value changes in cultural processes occuring in modern society.

The scientific significance of the study is determined by a wide range of theoretical problems to be solved, for example, the identification of value-oriented lexical units in the associative dictionary compiled from the answers of the Kazakh-speaking language owners, the development of an Associative Dictionary of a national trait that provides a wealth of information from the values of Kazakh culture, unification and verification of the dictionary, likewise the use of specific quantitative/qualitative methods in the associative experiment, in the dictionary development.

The proposed paper, for the first time, sets the task of conducting a quantitativeand qualitative analysis of extensive material from an associative experiment carried out by the authors of the paper, in order to compile an associative dictionary that summarizes the most significant values of Kazakh culture. It is worth noting that these values are not static, but instead undergo changes in response to changes in the objective world around us. Therefore, the task of compiling the dictionary is complicated by the absence of clear criteria for defining values. A reasonable approach to compiling an associative dictionary would be to use quantitative and qualitative methods on large datasets from experiments, which would allow us to achieve predictable and objective results.

This study aims to address, for the first time, the challenge of conducting both quantitative and qualitative analyses of a large dataset derived from an associative experiment designed by the authors. The primary goal is to develop an associative dictionary that reflects the most prominent and meaningful values of Kazakh culture. Recognizing that cultural values are dynamic and evolve in response to societal changes, the study acknowledges the complexity of identifying such values due to the lack of fixed criteria. To overcome this, the research proposes a methodological framework that combines qualitative and quantitative approaches to analyze the experimental data, thereby ensuring more reliable and objective outcomes.

Research question: How can the integration of quantitative and qualitative analysis of associative experimental data facilitate the development of an objective and comprehensive associative dictionary representing core values of Kazakh culture?

2. Literature review

The linguostatistical study of the Kazakh language became more organized and effective following the creation of the "Automation of Linguistic Work and Language Statistics" group in 1968 at the Institute of Linguistics under the Academy of Sciences of the Kazakh SSR. It was attended by A.Akhabayev, K.Bektayev, A.Belbotaev, A.Zekenova, S.Myrzabekov, A.Zhubanov, and other scientists-correspondents [5].

According to researcher K. Akhanov, linguistics is closely connected to mathematics, especially in areas such as machine translation and the use of mathematical statistics in language analysis. Statistical methods, in particular, assist in dictionary compilation by identifying the range of vocabulary and measuring the frequency of word usage in communication [6].

For example, S. Myrzabekov (1973) analyzed the structure of modern Kazakh verbs using statistical and linguistic methods, while A. B. Belbotaev [7–9] studied the linguostatistical description of word classes in Kazakh texts and the use of adjective affixes in scientific and technical style. A.K. Zhubanov [10] considers the quantitative structure of the Kazakh text, and A. Yergalauov resorted to the direct numerical method in providing a statistical description of intransitive verb forms in Kazakh and English [8].

In this regard, the opinion of Professor A. K. Zhubanov, who conducted statistical research on the Kazakh language, is important. According to the scientist's calculations, the frequency of a linguistic phenomenon is a universal language category. It should be understood here that in the course of language research, we are not only discussing the use of mathematical, or rather, statistical methods and mathematical expressions, but also that the quantitative character is objectively inherent in the internal nature of a particular language. Indeed, at present, there is no doubt that qualitative and quantitative characteristics in the structure of the language are closely intertwined internally. The study of language using statistical methods helps to transform the subjective conclu-

sions of corresponding experts into objective reality, or to prove that it is negative [11].

Regarding the history of published Associative dictionaries of the Kazakh language, the first Kazakh-Russian associative dictionary (KRAD-1978) was compiled from the results of a free associative experiment conducted by the scientist N.V. Dmitryuk in 1975-1976. University students from the South Kazakhstan region participated in this experiment and provided their answers. The list of words compiled by American Scientists G.Kent and A.Rozanov, consisting of 100 words commonly used in any language as stimulus words, has been translated into Kazakh and presented to students. Since the time of the experiment came to an end in the twentieth century, this dictionary can trace the features of the linguistic consciousness of the middle native speaker of the Kazakh language in the USSR's last years.

Moreover, in 2014, the second associative dictionary with changes in social and cultural life in the history of independent Kazakhstan—the Kazakh-Russian Associative dictionary, called "Kazakh associative dictionary", was also mentioned above, as well as the first dictionary, based on the list of Kent-Rozanov, compiled from the reactions of more than 1100 Kazakh-language students of various universities of the South Kazakhstan region, about 17–25 years of equal composition of men and women. The authors note that the experiment strictly takes into account the requirement to speak the Kazakh language as a native language, and only students of Kazakh departments of universities who have graduated from Kazakh schools and study the Kazakh language at the institute were involved in the experiment. The peculiarity of this dictionary in terms of compilation from other dictionaries is that, for the first time in the associative field of each stimulus, gender specificity was taken into account, which means that the dictionary presents the associative reactions of men and women. Russian correspondent U.M. Bakhtikereyeva [12], who was a reviewer of the dictionary, expressed the opinion that "for the first time in the practice of compiling associative dictionaries, the gender principle of systematization of more than 120,000 associative responses was introduced into the content of eyebrows, which contributes to a wider understanding of the gender identity of the linguistic consciousness of an individual and a particular society" (p. 194).

In this dictionary, the characteristics of the Kazakh mentality are compiled in the form of reactions, including word expressions, aphorisms, phraseological phrases, and quotes. In addition, the total number of lexeme units obtained after the stimulus word is indicated. The dictionary article then indicates their degree, depending on the frequency (in 1st, 2nd, and 3rd place), as well as the number of reactions obtained.

The quantitative approach, which determines the frequency of different types of words in the written language and spoken language, allows you to determine the structural-grammatical and stylistic-semantic features of the language. In this regard, the subject of the article is the frequency of results obtained from associative reactions through mass associative experiments, their arithmetic mean and meridian, meaning, and use in national and cultural contexts.

3. Materials and Methods

3.1. Research Design

The Kazakh language National Associative Dictionary was developed in several stages. At the first stage, the authors identified words of national significance by conducting interviews with scientists holding academic degrees and aged over 50, residing in several regions of Kazakhstan, including Almaty, the Almaty region, the Zhetysu region, and the Zhambyl region, as well as with adults who have completed secondary and higher education.

The fact that dictionary authors consult and identify words expressing national values among older adults as the language owners corresponds with the hypothesis existing in the fields of sociology and axiology. On this subject, researchers S.I. Khrupin and N.M. Sustina [13] put forward the following opinion: "using the elderly potential, taking into account their valuables and value orientations, is a certain basis for general development. In modern conditions, it is impossible to solve the problem of maintaining social order in society without understanding the values of the older generation. The basis of the older generation value consciousness is four closely related values: family, well-being, legality, and morality" (p. 75). Therefore, the knowledge of older generation's opinions and thoughts, as well as data from academic publications on ethnography and cultural studies, suggests

that as a person's social maturity in real life increases, their assessment of external and internal conditions in their life changes, and they have a greater opportunity to understand and appreciate national values.

3.2. Data Collection

When counting stimulus words, we took into account the scope, theme, degree of activity, and specificity of national and cultural units. Despite their stylistic features, some national-cultural dialectisms were not chosen as stimulus words because they were unclear to the respondents participating in the survey. Various grammatical and stylistic options were also not included as stimulus words.

After compiling a list of stimulus words, an anonymous survey was created based on the Google Forms platform in an online format. In the documentation section, personal information was requested, including age, gender, specialty (philological/non-philological), and region of residence. The main criterion for choosing respondents is that their native language is Kazakh.

3.3. Participants

Four questionnaire sheets with 25 stimulus words marked as* (asterisk) have been developed, in which the answer is mandatory. After the survey was designed, respondents aged 18 to 80 were randomly selected. They were University students in Almaty city and representatives of various fields.

Before the experiment, participants were provided with detailed information about the purpose of the associative experiment and the expected outcomes. Afterwards, the following instructions were given: "Please note that your answers will be kept confidential. We ask you to carefully read each word given below and note (write) the first word that comes to your mind without any help. The answers you give without anyone's help will be very valuable to us."

There was no special time limit for recording all reactions. During this time, the respondents recorded their reactions. It was explained that if the word did not cause any reaction, respondents would be allowed to write a response without answering or stating "No answer" or "I don't know". This associative experiment was conducted in 2023–2024.

3.4. Data Analysis

After the experiment was completed, any entries that did not match the stimulus words were eliminated, and spelling and grammatical errors were corrected. All "different", "non-repeatable" associative interpretations have been preserved to reflect the internal language possibilities. The "Excel" program statistically processed the collected results.

In addition to the associative experiment, the primary research methods include quantitative and qualitative analysis. Quantitative analysis is the text content study through quantitative and statistical methods. The method of quantitativeand qualitative analysis includes consistency, objectivity, and generalization. Quantitative and qualitative assessment and description of qualitative language phenomena are closely related to the study of the essence of the linguistic phenomenon under consideration.

The successful implementation of quantitative analysis will depend on several factors, as processing quantitative research data presents certain difficulties. Data management is time-consuming and requires competent analysis. The quality of the results depends on the quality of the data [14].

Within the framework of this paper, quantitative and qualitative methods are employed to analyze stimulus responses and identify language units in a nationally oriented value dictionary. This is associated with the need to develop specialized linguistic analyses that identify both hidden and realized forms in specific situations of language use. Furthermore, through qualitative analysis, the associative fields and nuclei of reactions, expressed in the form of lexemes, phrases, sentences, and proverbs, are identified, which convey ethnocultural values in their semantics.

4. Results and Discussion

In modern Linguistics, the associative method is actively used to study the associative meaning of words and speech. Word association refers to the relationship between a stimulus and a corresponding reaction word. A significant contribution to the general theory and study of associations in linguistics was made by the renowned Swiss linguist F.

de Saussure. The scientist defines associative relationships as "formed based on thought Association of groups that are not limited to the rapprochement of members of communication, expressing something in common."; consciousness, the mind understands them as the nature of the relationships that bind them in each case and thus create many associative series, such as different relationships"[15]. According to the F. de Saussure research, the associative series of words are divided into four types: root or base commonality, suffix commonality, commonality of the meaning of "similar" and commonality of acoustic images[15]. Thus, he distinguishes four types of associations: root, derivational, semantic, and phonological[15].

The famous Swiss linguist Sh. Bally first introduced the term "associative field" into Linguistics. Sh. Bally[16] noted that any word is the center of a certain associative field; there are associative words that are grouped around this word and have a significant degree of association.

The word's associative field is a set of associations in which a stimulus is assigned to a word. As a stimulus, the main keywords of the studied field are taken.

The most interesting results in the "associative experiment" are not quantitative calculations, but the general state of the associative field. The high "basic density" of consecutive associations indicates the stereotypical dominance of certain phenomena's perception in public consciousness. It directs the study to the search for social factors that give rise to a "pattern" of responses[17]. Depending on where, through what, and under what conditions the cognitive process takes place, different sources of knowledge formation are distinguished: real-sensory experience, subject-practical activity, scientific and theoretical activity, language activity, and non-verbal communication[18].

The author adheres to the opinion that "with a change in the socio-cultural reality of native languages, their linguistic consciousness also changes." Some concepts transition from the nuclear category to the periphery, while others are completely erased from the stage of history. One of the conclusions drawn by scientist N.V. Ufimtseva[19] is that this approach enables the prediction of what language and culture will be like, as more and more young generations are often selected as survey subjects.

N.V. Ufimtseva[19] says that "a comparative analysis of the associative experiments data conducted at different times allows the linguist to track changes in the lexical meaning of a word in diachrony" (p. 151).

Each linguistic sign in a person's mind is associated with certain motives, ideas, value attitudes, emotional and expressive manifestations, and knowledge expressed in language. Any linguistic unit is stored in the memory of the linguocultural knowledge owner in the form of assessments, judgments, and precedent phenomena. From the associative dictionary articles, we can determine the knowledge contained in the minds of the language owners participating in the experiment by studying the elements that form the linguocultural consciousness of a linguistic person, determining the components of linguistic consciousness and the criteria for the relationship between the stimulus word and the reaction words, and conclude how a particular phenomenon manifests itself in linguistic consciousness, taking into account extralinguistic factors.

Table 1 compiled and presented the nucleus of the Kazakh people's linguistic consciousness based on the most common number of all associations obtained from the associative experiment results conducted in 2023-2024 to create the "National Associative Dictionary of the Kazakh language". Based on the data in the table, empirical evidence shows that in Kazakh society, alongside spiritual values, material values are also widespread, characterizing material life. Material and spiritual values are inextricably linked. They influence each other and determine the development of society as a whole. Material values create conditions for the development of spiritual values. Spiritual values, in turn, influence the production and consumption of material values. Material and spiritual values are the most important elements of human culture. They play a huge role in the development of society and determine its future.

Generally, the most common reactions are the primary source of information that informs the national consciousness, linguistic awareness, and cognitive thinking of Kazakh-speaking respondents. Because the high frequency is a current process (trend) of national value, as well as a guide to the future development path. The quantitative indicator of reactions is presented in **Table 2**.

Column 1 of **Table 2** contains the total number of reactions given to each stimuli word from an associative experiment conducted on 350 people. For each of these stimulus, on average, 130 different responses were obtained, that

is, 130 differential associations were registered. The frequency of associations enables us to determine how many stimulus words with a cultural connotation of a nation have the potential to cause a reaction and the concentration of their semantic meanings. If we pay attention to **Table 1**, we see that at least 800 reactions were given to the stimuli "Ūiat" and "Şañyraq", and the number of reactions to the stimuli "Tūsau keser" and "Jetı ata" is less than 130 respectively. This does not reduce the degree of national values' manifestation by stimulus with a small number of reactions, but only indicates that they consist the same type of reactions, have a relatively small semantic field, semantic tone, and are incomprehensible due to various reasons, since most of the respondents are from the category of young people. The arithmetic mean was defined as the sum of all collected reactions divided by their number. For example, the stimulus "Ūiat" is given a total response of 977, and this number of 976 is divided into 128 different positions. The number 128 represents a variety of reactions: position 1 is the word "Ar", 124 reactions are given to it, Position 2 is the word "Ūiat" (112), and position 3 is the word "Ar-namys" (102).

Table 1. The core of the linguistic consciousness of the Kazakh people.

Place	Associat	Frequency	Place	Associat	Frequency
1	Toi (big party)	565	16	Äje (Grandmother)	138
2	Kıım (Clothing)	289	17	Mal (Cattle)	136
3	Aqşa (Money)	266	18	Ar (Honor)	124
4	Bala (Child)	242	19	Ana (Mother)	110
5	Ūiat (Shame)	231	20	Ar-namys (Honor)	107
6	Siyr (Cow)	189	21	Et (Meat)	104
7	Üi (Home)	171	22	Äiel (Woman)	104
8	Jas (Young)	170	23	Molşylyq (Abundance)	100
9	Jylqy (Horse)	167	24	Bölek şyğaru (Separate output)	90
10	Bas kıım (Headgear)	165	25	Otbasy (Family)	89
11	Ūlttyq kıım (National costume)	158	26	Syrğa salu (Insert the earring)	87
12	Qoi (Sheep)	153	27	Bölek şyğu (Separate living)	78
13	Dastarqan (Table)	149	28	Ūialu (to be Shame)	75
14	Tamaq (Food)	142	29	Namys (Honor)	71
15	Kıız üi (Yurt)	141	30	Jien (Nephew)	70

Table 2. Quantitative indicator of associations representing national values.

Stimulus	Total Number of Reactions	Arithmetic Meaning	Median
Ūiat (Shame)	976	8	20
Qalja (hot food prepared from fresh meat for a woman in labor or for a sick person)	446	7	22
Besık toi (a celebration of the occasion when an infant is first placed in a cradle)	110	2	3
Obal (reprehensible action)	105	1.5	2.5
Jetı ata (seven generations)	114	2	2.5
Jarysqazan (a ritual performed to facilitate a woman's labor)	127	3.5	8
Tūsau keser (cord cutting)	112	2	3
Ar-namys (Honor)	187	2	3
Şañyraq (wooden circle on top of the yurt)	837	8	17
Şıldehana (newborn party)	221	4	10

Creating figures or frequency graphs of each association allows one to visually see the distribution of associative reactions (**Figure 1**).

Low-frequency associations can express personal or cultural differences, as well as less common but important associative connections (**Table 3**).

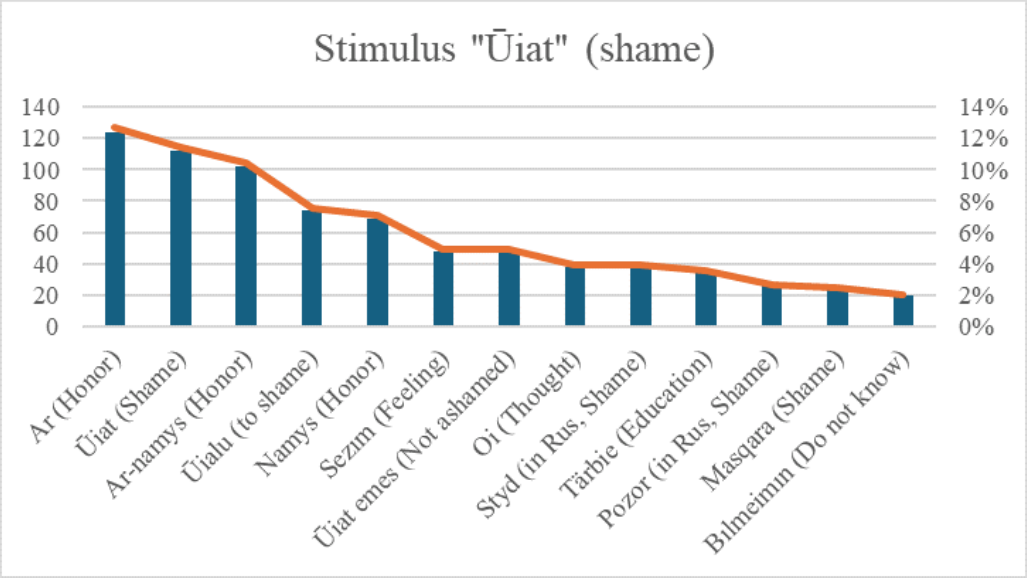

Figure 1. Quantitative and percentage of high frequency associations in relation to the stimulus "Ūiat" (shame).

Table 3. Quantitative and percentage of low-frequency associations of the stimulus "Ūiat" (shame).

Stimulus	Reactions	Number	Percentage
Stimulus "Ūiat" (shame)	Be sentenced	1	1%
	Shame is a very big topic, I will try to explain when I meet	1	1%
	Shame refers to one of the main qualities of a Muslim person	1	1%
	The word shame has a very high meaning. Our ancestors valued shame. Let's cherish the word shame.	1	1%
	Shame, shame	1	1%
	Pride is stronger than shame	1	1%
	Embarrassing things	1	1%
	Devils have no shame	1	1%
	Extremities	1	1%
	Limit	1	1%
	Reality	1	1%
	Shame (English reaction)	1	1%
Number of total reactions		**976**	**100%**

As high-frequency associations reflect the collective perception and consciousness of the survey participants of the stimulus "*Ūiat*" as a symbol of valuable spiritual wealth, which indicates the moral qualities of the Kazakh people worthy of respect and pride in society, such as Honor, feelings, upbringing, and social assessment of the individual. Moreover, low-frequency associations such as "*Pride is stronger than shame*" (1), "Devils have no shame" (2), "Shame"(3) form a series of reactions of a personal nature, in which the language owner changes the phrase "*shame is stronger than Death*" (1), jokes among young people (2), as well as the participation of the polylingual respondent.

Another important feature of the National Associative Dictionary of the Kazakh language is that ethnolexical reactions expressing national values reflect both positive and negative attitudes of respondents. For instance, the reactions "*murder, immorality, hitting someone, not communicating with loved ones, bad deed, bad things, be dirty, mistake,*

inconvenience, fear, hitting a girl, squeezing, character, dishonor, listening to other people's thoughts, bribes, too much speech, shameful things, Devils do not have shame, restriction" caused certain negative feelings in the respondents, because Kazakh society is against the form of physical, verbal, religious, reproductive, psychological, economic and sexual violence, these language data shows a position that condemns antics.

Additionally, the stimulus "*Obal*", a sacred and high moral concept exclusive to the Kazakh people, caused negative associations: "*bad thing, sin, lack of dignity, cruelty, abuse, regret, failure, trouble, theft*." These reactions are examples of the fact that Kazakh society is a humane society that values and advocates for ethical ideals and high principles of human life.

At the same time, some respondents also wrote positive meaningful reactions inherent in the universal: "*goodness, intentions, joy; feelings, honesty, value; humanity of a person is awakened by a sense of the essence of the soul and homeland, family, nation, environment and society, reflected in its struggle for well-being and integrity; the inner support of a person; the moral state of a person; the person's behavior; the human quality that should be in every person. The highest stage of morality; this is the great feeling that every person has; vigor; high spirit; virtue; important qualities; self-discipline; patriotic feeling; cleanliness, upbringing, order*". And the following reactions reminded the survey participants of pleasant memories of significant events in their personal life, many moments filled with warmth of the stimulus word "*Qonaqjailylyq*" (hospitality), the generous quality of the Kazakh nation: "*Kazakhs are a hospitable people; the guest is greeted with respect without a frown; this is the Kazakh country; the Kazakhs gave their name to the guest, that's what hospitality is; the main feature that distinguishes Kazakh from other nationalities*."

The gastronomic name – gluttony "Besbarmak", which is widely used in everyday colloquial communication among the people, also contains a separate Interpretation in which positive emotions are involved: "*favorite food; hanged meat. Besbarmak is an artificial word derived by other nations; not beshbarmak, but meat; beshmarmak is the Kazakh National Food. Good, fat meat is cooked with the dough is rolled out on it. This Kazakh national dish is called beshbarmak; the most delicious dish; the distorted name of the name; this is the name of the Kazakh national dish, after it is a dish eaten with five fingers; Kyrgyz main dish, translated into Kazakh from Russian; Kazakh national dish*".

Some scientific works define the word "besbarmak" as follows: "Besbarmak is a dish made from boiled chopped meat and noodles. Besbarmak or 'five fingers' is often believed to be a later name given by outsiders, foreign travelers, or later Russian settlers"[20].

When compiling a Dictionary, the authors follow traditional guidelines defined by existing associative dictionaries, indicating the associative field of each stimulus word (**Figure 2**). The collected reactions were classified according to the frequency of repetition, and the language units that were encountered the most were placed in the associative field in such an order. The number of such reactions was presented in Arabic numerals in a table, with the indicator descending from reactions with a higher frequency to those with a lower frequency (**Table 4**).

Reactions that are equal in number are arranged in alphabetical order in a table indicating the associative frequency. Sentence-type reactions were separated from other lexemes by quotation marks and italicized.

The article authors used this classification to determine the relationships between associations based on dictionary materials.

A group of *paradigmatic relations* is formed by stimulus words and associations of the same lexical and grammatical type; in other words, they are words included in the same lexical and grammatical paradigm: *Atameken*-native land, motherland, poem, land, House, country, Kazakhstan, shanyrak, plain, state. *Tılaşar* (it was celebrated when the baby started talking and could consciously repeat new words) - wedding, child, school, ritual, alphabet. *Körımdık* (it is a symbol of the commonality of the joy that has taken place)-money, gift, joy, car, wedding, house, love. *Közmonşaq* (evil eye beads)-protectors, superstitions, products, prohibitions, amulets, jewelry, bracelets, gifts.

A group of syntagmatic relations consists of stimulus words and their associations that form phrases with each other according to grammatical laws. In this case, the association continues the text started with the word stimulus. Thus, the associative experiment "becomes similar to a fragment of speech activity"[21]: *Müşel* (chronology, age (twelve-year

calendar)-young, *Besık*(cradle)-rocking, the child lies down, so that the child can sleep, sleep, separate the baby. *Kimeşek* (married women's headdress of fine white cloth)-the other wears, "*Ūiat*" (shame)-not.

Figure 2. Associative field of the stimulus "Aq jaulyq" (spouse).

Table 4. Quantitative and percentage indicator of the associative frequency of the stimulus "Aq jaulyq" (spouse).

Stimulus	Response	Frequency	Percentage
Aq jaulyq (spouse)	Mother	64	18%
	Towel	59	16%
	No answer	47	13%
	Grandmother	45	13%
	Sister	34	9%
	White handkerchief	33	9%
	Do not know	23	6%
	Woman	22	6%
	Hostility	12	3%
	Bride	11	3%
	Mothers wear	1	1%
	Old and wise woman; large-scale mother	1	1%
	Headscarf worn by women	1	1%
	Dear mother	1	1%
	Headscarf worn by mothers	1	1%
	Scarf on the head of mothers	1	1%
	Love	1	1%
	Artistic	1	1%
Total number		358	100%
	Arithmetic mean number	17.29411765	
	Median	33	

Thematic associations-a pair of associative words that do not have standard significant features in the content of the stimulus[21]. These associations usually represent external phrases in the associative chain, the middle of

which is dropped. For example, *Aksakal*-the eldest of the family, Asar-helps, people, succeeds, *Atameken*-always in mind.

Currently, some national and cultural words (itköilek, jarapazan, jolaşar, and jienqūryq) are rarely used; however, they were chosen as stimulus words because they hold a significant place and importance in the system of national values and the cultural life of the Kazakh people. Factors such as age, field of activity, profession, and gender were also assigned to a separate group in the form of "individual interpretation." Such reactions were distinguished by the use of a colloquial style, characterized by syntactic sequences, sentences, individual replies, or semantic and personal differences from other similar responses. For example, "the child lies down (sentence), the place where the child lies down (phrase), the child rocking (phrase), the child puts to sleep (sentence), the child puts to sleep (phrase), the child (phrase), for the child to sleep (phrase), for the child to be upright (phrase), for the child to lie down (phrase), the child's bed (phrase), the child's sleeping place (phrase), the crib means that when a small child is born, he is put in the crib. On the one hand, in the sense of being pure, religious, well-mannered, and friendly. Those who are in the same crib will be fraternal (text in several sentences); National meaning (phrase), Baby separation (phrase), baby rocking (phrase), baby sleeping bed (phrase), baby lying down (phrase), bed place separating from birth (incomplete sentence), bed place to lay the baby (incomplete sentence), bed to lay the baby (phrase), rocking (pronoun, lexeme), bed of the born child (incomplete sentence), place of sleep (phrase), sleep (closed verb, lexeme)".

In statistical analysis, the total number of reactions, the frequency of each response, the arithmetic mean, the median, and the percentage were determined, as well as various reactions, individual reactions, and the absence of responses were determined (**Table 5**).

Table 5. Transmission of a statistical indicator of reactions in the dictionary.

	Response	**Frequency**	**Percentage**
	Do not know	41	7%
	No answer	8	4%
Total number		241	100%
	Arithmetic mean number	4.228070175	
	Median	10	

An alphabetical list of stimulus words is given at the beginning of the dictionary. At the end of the dictionary, a list of stimulus words by the number of reactions is presented. The "National Associative Dictionary of the Kazakh language" contains 62 stimulus words and 20505 reactions.

Metaphorical, epithetic reactions in a series of precedent lexemes—several valuable literary materials in the study of artistic associative thinking. Metaphor-associations derived from the experiment are as follows: *tärbienıñ qaimağy* (qaimaq (sour cream) is a dairy product, in the best sense of Education), *jürek tazalyğy* (purity of heart) (honesty), *namys degen keudedegı* ot (honor fire in the chest) (patriotic feeling), and *qoldyñ keñdıgı* (breadth of hands) (generosity). Indeed, "the metaphor is an amazing linguistic phenomenon, which is one of the most important principles of the organization of human cognitive activity"[22]. Indeed, the use of a metaphor encourages the establishment of a connection between two concepts, independently predicting their similarity, reconstructing the author's logic, and constructing the meaning of a metaphorical message.

Moreover, among the epithets are *azuly mınez* (severity), *jyly şyrai* (establishing a good relationship), and *altyn taq* (golden throne) (in the sense of good, the best). As can be seen from the examples, epithets serve as an artistic tool that is attached to the name of the subject, concept,or personality in order to give the word expressiveness and artistry.

Original folklore examples, as found in the associative field (Proverbs and quotes), are a new source of analytical material for literary studies and folklore studies.

Proverbs, as elements of folklore, contain cultural connotations that reflect various stages of Social Development. The proverbs collected from the experiment we conducted are as follows: *Ölımnen ūiat küştı*, *jetı atasyn bılmegen jetesız*.

In replies of the respondents, texts from other literature and textbooks were also found: "*beshbarmak is one of the most exquisite Kazakh national dishes, highly appreciated*

for its taste qualities and is considered the first name of the festive table; beshbarmak is the Kazakh national dish; beshbarmak (Besbarmak) is the name of the main dish of the Kyrgyz and the name of the main dish of the Kazakh language."

The reactions provide insight into the ethnic and cultural values, perceptions, and views of the Kazakh people, including both negative and positive assessments from respondents. E.g., lexemes are denoting material cultural values, such as "*bas kıım, ūlttyq kıım, qūndyz börık, ükı, bailyq, dästürlı bas kıım, qūndyz, qazaqtyñ bas kıımı, kämşat börık*" (headdress, national costume), as well as linguistic units of sacred meaning in the life, cognitive system of the Kazakh people, such as "*toi, aq dastarhan, dastarhan, toi-duman, qonaqtar, tuystar, şañyraq, qonaqjailylyq, mol dastarhan*" (related to such concepts as wedding, tablecloth, feast, guests, relatives, shanyrak, hospitality).

The Dictionary is based on national and cultural lexemes of the Kazakh language, so most of the associations were ethnolexemes, syntactic units that convey spiritual life. For example, "*toi, säbi, besık toi, näreste, salt, salt-dästür, şıldehana, bala, ädep-ğūryp, än; bala düniege kelgende jasalatyn jiyn; bala düniege kelgende oryndalatyn toi; bala qyrqynan şyqqanda jasalatyn toi; bala perzenthanadan şyqqan soñ jasalatyn salt-dästür. toi; bala tuylğannan keiın süiınşılep jasalatyn dästür; balany qyrqynan şyğaru; balanyñ alğaşqy toiy; balanyñ düniege keluı; balanyñ ömırge beiımdeluı; balanyñ toiy; balanyñ tuyluy; böpenı qyrqynan şyğaru; dästür; jaña tuylğan näreste 40 künge tolğanda jasalatyn salt-dästür; jas näreste; jas säbige arnalğan toi; kelın; kışıgırım toi; kışkentai balağa jasalatyn 40-nan keiıngı toi; kışkentai näreste; mereke; närestege arnalğan dästür, närestenı qyrqynan şyğaru; ömırge kelgen närestenıñ qūrmetıne jasalatyn toi; säbidı qyrqynan şyğaru; sündet toi*", all these examples are reactions to the stimulus "şıldehana", that is, a party in honor of the baby's birth, to one of the many rituals of the Kazakh people, when they celebrate the first wedding of a child at birth. These examples show that the dictionary is an important source of ethnocultural research.

The dictionary encompasses socio-political, religious, and historical concepts related to the social sciences, politics, and religion. For example, "*Alladan qorqu, imandylyq belgısı, iman, Paiğambar jas, Oraza ait, aittyq, oraza, aittap baru, aittau,dını mereke, İslam, İslam dını, Qasiettı Ramazan aiynan keiın jasalatyn mereke, mūsylman; Ramazan aiy bıtken soñ, 3 kün ait toilanady. Adamdar bır-bırınen aittyq sūraidy; sadaqa*". These reactions suggest that the dictionary is essential for religious studies, sociology, and history.

An in-depth analysis of the results of the associative experiment revealed precedent texts as a reflection of the relationship between "language and culture". The Longman Dictionary for the English language gives the following explanation for the term "precedent": it is "an action or situation that has occurred in the past and serves as an example or justification for subsequent situations of this kind"[23]. D.B. Gudkov[24] a precedent implies a particular fact (in the broad sense of the word), exemplary (serves as a benchmark, an example), and imperative (based on which subsequent actions should be modeled). Thus, in the broadest sense of the word, precedents can include exemplary facts presented in speech with specific verbal signals that are not newly created, but update standard content (for instance, language clichés of different levels, stereotypes, and frames) (pp. 104–105). In other words, precedent phenomena are individual blocks of information that evoke certain nationally-specific associations common to the owners of a particular language in text or speech (**Figure 3**).

In such a multi-ethnic, multicultural state as the Republic of Kazakhstan (according to the Bureau of statistics of the Republic of Kazakhstan at the beginning of 2023, Kazakhs comprise 70.7% of the population, Russians 15.2%, and Uzbeks 2.9%), for various historical, geographical, political and other extralinguistic reasons, the potential for language acquisition in society is 80. 1% of the Kazakh language, 83.7% of the Russian language, and 35.1% of the English language[2]. The unifying nation in the state is the Kazakhs, with whom representatives of 124 ethnic groups live. Living in the same territory for years and even centuries, the presence of common goals of an economic, social, and cultural nature, as well as specific steps to maintain unity and harmony, and a friendly, non-aggressive attitude in the country, led to the formation of shared values and common stereotypes in the linguistic consciousness of the people. According to the 2021 census data, the titular population of the Republic, the Kazakhs, speak the Kazakh language at a rate of 99.6%, Russian at 79.5%, and English at 39.7%[25, 26]. This means

that among the many languages spoken by the Kazakh people, these three languages hlod a dominant position. The fact that under the influence of the phenomenon of linguistic contact in the colloquial style and the minds of subjects with the status of native speakers of the Kazakh language, as a result of the mixing of these three languages, along with intonation shifts, hybridization of some language units, grammatical structures and sentences as a whole have undergone formal syntactic changes, in particular, the answers obtained as a result of the associative experiment conducted by the authors.

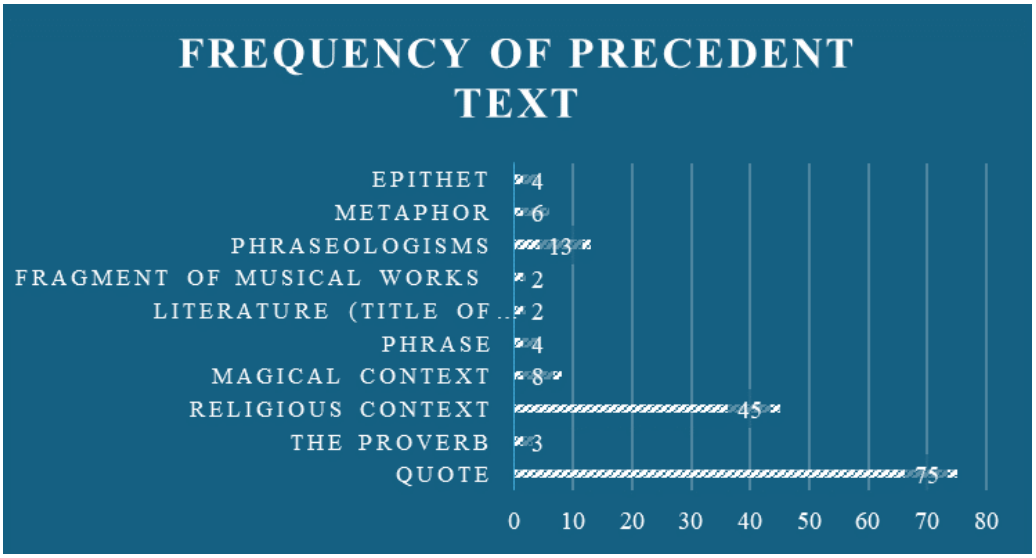

Figure 3. Frequency of precedent text in the National associative dictionary.

In modern Psycholinguistics, one of the most widely used scientific methods for identifying various linguistic facts is the associative experiment, a method designed to reveal associations formed through a person's previous life experiences[27]. In the experimental psycholinguistics the fact that an associative field consisting of 100 associations is sufficient when added to the associative dictionary. However, some scientists, for example, G.A. Cherkasova[28], considered that an increase in the number of respondents responding to a stimulus by 100 people increases the number of different reactions in the dictionary articles of the direct dictionary by an average of 36.41%, thus increasing the quantitative reliability of reactions, as well as stabilizing the relative frequency (degrees) of "stable" reactions with an increase in the sample size (p. 243).

According to the data of the **Figure 4**, the majority of reactions with a total number of 20,505 are 20,314 (99.07%), which means that the respondents responded to the stimulus in the Kazakh language accordingly in the Kazakh language, understood the rules of the experiment, the Kazakh language is a priority in the linguistic consciousness of Kazakh speakers and thinks "Kazakh", therefore, the dictionary can serve as a source of information about the Kazakh language, the linguistic situation in Kazakhstan, the cultural identity of the Kazakh people, both theoretical and practical significance[29, 30]. Moreover, the fact that Russian is in second place, with a number of 178 (0.87%), indicates that Kazakhs also actively use the Russian language and have a significant presence in the life and linguistic landscape of society. The presence of reactions in the English language, the total number of which is 13 (0.06%), indicates not only the bilingual but also the polylingual character of Kazakh speakers.

Amid the associative expert qualitative and quantitative analysis of the article's authors, on which the dictionary was compiled, reactions were noted, including the above-mentioned linguistic units, anthroponyms, gastronomic names, terms, and slang. This is because gastronomic names (78; 0.38%) are cited as a reaction to stimuli related to food, sitting, and feasting. For example, the national and main dish of the Kazakh people, "besbarmak" (gastronomic name), is composed of et, *qazy-qarta*, *et qamyr*, *et asu*, *jal-jaia*, *qamyr*, *besbarmaq*, *et tağamy*, *jaima*, *qazaqşa et*, *qoi etı*, *nan salma*, and *şaşlyk*. This is a natural phenomenon that lends itself to such a character corresponding to the general

nature of the association.

Reaction-Terms (6; 0.03%), which are defined as the "language of science", forming the linguistic base of some science, are also closely related to the associative potential of the stimulus. For instance, terms related to the psychological and philosophical sciences, such as "emotion, morality," in relation to the stimulus "ūiat" (shame), refer to the same scientific semantics as the lexeme "ūiat".

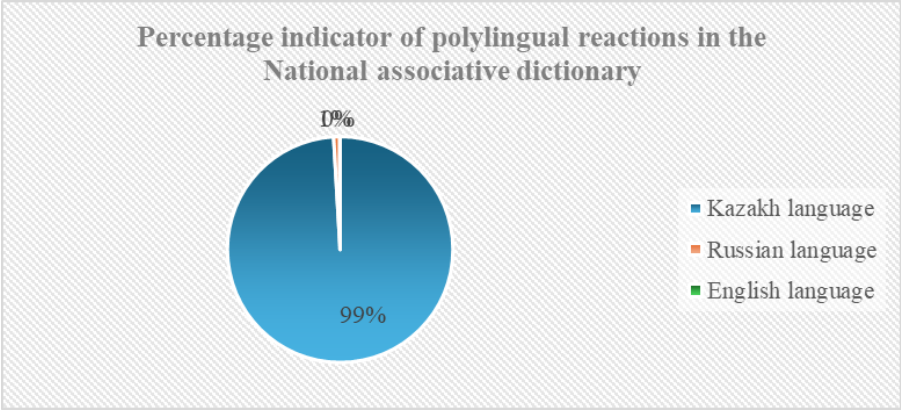

Figure 4. Percentage indicator of polylingual reactions in the National associative dictionary.

Since the majority of respondents participating in the associative experiment are youth categories, an example of colloquial vocabulary that finds widespread use among young people—slang (2; 0.01%)—were encountered as a reaction as special language units: *besh* (abbreviated name of the dish "besbarmak"), *pahan* (1. mafiosi; 2. father; 3. leader of an aggressive youth group (usually the largest and with a criminal history) (**Figure 5**)[31–33].

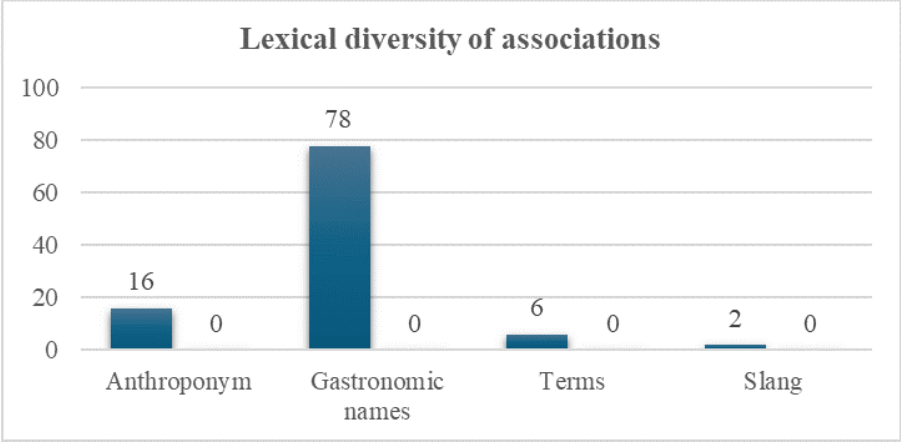

Figure 5. Quantitative indicator of lexical diversity of associations in the National associative dictionary.

5. Conclusion

In conclusion, the *National Associative Dictionary of the Kazakh Language* serves as a comprehensive repository of national-cultural lexemes, offering detailed insights into the lexical, semantic, and associative dimensions of the rich Kazakh language. It reveals the semantic, logical, and associative relationships among words while reflecting the social, cultural, pragmatic, and cognitive characteristics of the Kazakh people. This dictionary captures the nation's linguistic consciousness—its worldview, values, perceptions, emotional experiences, and everyday realities.

What distinguishes the *National Associative Dictionary* is its capacity to model the worldview of the multilingual speakers of the Kazakh language. It highlights preserved cultural knowledge, core concepts, and traditional values

while also marking linguistic and cognitive shifts occurring in modern society.

The study employed both qualitative and quantitative methods, commonly used in interdisciplinary research, to collect and analyze associative data. These methods enabled a formal and semantic interpretation of the associative responses, revealing deeper structures and meanings within the language.

The study's findings constitute a system of verbalized core values, that characterizes the linguistic identity of Kazakh speakers. The practical value of this research lies in its applicability to various fields, including linguoelectology, linguoculturology, ethnolinguistics, cognitive linguistics, axiology, and lexicography. Furthermore, the dictionary holds potential as a scholarly resource and an encyclopedic educational tool for learners of Kazakh as a second or foreign language, fostering interest in the preservation of cultural heritage, strengthening ethnic self-awareness, and supporting cultural identity.

Author Contributions

Conceptualization, P.M. and K.A.; methodology, B.K.; software, K.A.; validation, M.M. and K.K.; formal analysis, P.M.; investigation, B.K.; resources, K.K.; data curation, A.K.; writing—original draft preparation, K.A.; writing—review and editing, M.M. and K.A.; visualization, A.K.; supervision, P.M.; project administration, K.A.; funding acquisition, K.A. All authors have read and agreed to the published version of the manuscript.

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References

[1] Leontyev, A.A., 2016. Linguistic Consciousness and the Image of the World [in Russian]. In: Tarasov, E.F. (ed.). Language and Consciousness: Paradoxical Rationality [in Russian]. Institut yazykoznaniya RAN: Moscow, Russia. pp. 16–21.

[2] Rozov, N.S., 2025. Stages and causes of the evolution of language and consciousness: a theoretical reconstruction. BioSystems. 248, 105389. DOI: https://doi.org/10.1016/j.biosystems.2024.105389

[3] Dmitryuk, N.V., Moldalieva, D.A., Narozhnaya, V.D., et al., 2014. Kazakh Associative Dictionary [in Kazakh]. Media-Logos: Almaty-Moscow, Kazakhstan-Russia. pp. 1–330.

[4] Ncube, M., Ngulube, P., 2025. Surge of data analytics in postgraduate education and methodological plurality: A systematic review. Discover Education. 4, 29. DOI: https://doi.org/10.1007/s44217-025-00422-9

[5] Akhabaev, A., Bektaev, Q., Belbotaev, A., 2018. Automation of Linguistic Work and Language Statistics [in Kazakh]. Tıl bılımı instituty: Almaty, Kazakhstan.

[6] Akhanov, K., 2021. Introduction into Linguistics [in Kazakh]. Sanat: Almaty, Kazakhstan. pp. 1–300.

[7] Belbotaev, A.B., 1992a. Linguistic and Statistical Characteristics oof Parts of Speech of the Kazakh Text [in Kazakh] [PhD Thesis Abstract]. Almaty, Kazakhstan: National Academy of Sciences of Kazakhstan. pp. 1–32.

[8] Belbotaev, A.B., 2023b. On the Use of Adjective Affixes in Scientific and Technical Style. Ğylym: Almaty, Kazakhstan.

[9] Belbotaev, A.B., 2023c. Alphabetical-Frequency Dictionary of the Mathematical Text [in Kazakh]. In: Zhubanov, A. (ed.). Statistics of Kazakh Text. Ğylym: Almaty, Kazakhstan. pp. 543–552.

[10] Zhubanov, A.H., 2021. Quantitative Structure of the Kazakh Text (an experience of linguistic analysis on a computer) [in Kazakh]. Gylym: Almaty, Kazakhstan. pp. 1–324.

[11] Zhubanov, A.H., 2017. Quantitative Structure of the Kazakh Text [in Kazakh]. Gylym: Almaty, Kazakhstan. pp. 1–146.

[12] Bahtikireeva, U.M., 2015. From stimulus to reaction: a review of the first Kazakh associative dictionary [in Kazakh]. Voprosy Psiholingvistiki. 1(23), 189–195.

[13] Khrupin, S.I., Sustina, N.M., 2006. Spiritual values of the older generation as a factor in social unity and consent of assistance [in Kazakh]. Vestnik Adygejskogo Gosudarstvennogo Universiteta. 2, 72–79.

[14] Kotronoulas, G., Miguel, S., Dowling, M., et al., 2023. An overview of the fundamentals of data management, analysis, and interpretation in quantitative research. Seminars in Oncology Nursing. 39(2), 151398. DOI: https://doi.org/10.1016/j.soncn.2023.151398

[15] Saussure, F., 2011. Course in General Linguistics. Columbia University Press: New York, NY, USA.

[16] Bally, C., 1977. Language and life [in French]. Librairie Droz: Geneva, Switzerland.

[17] Dauletkeldiyeva, A., 2023. Associative field of the concepts of "multilingualism" and "monolingualism". Bulletin of L.N. Gumilyov Eurasian National University: Pedagogy, Psychology, Sociology Series. 3(144).

[18] Boldyrev, N., 2009. Conceptual basis of language [in Russian]. Kognitivnye Issledovaniya Yazyka. 4, 25–77.

[19] Ufimtseva, N., 2011. Language consciousness: dynamics and variability [in Russian]. Institut yazykoznaniya RAN (IP Shilin I.V.): Moscow, Russia. pp. 1–252.

[20] Alymbaeva, A., 2020. Nations of plov and beshbarmak: Central Asian food and national identity on the Internet. The Muslim World. 110(1), 107–125. DOI: https://doi.org/10.1111/muwo.12321

[21] Klimenko, A.P., 1974. Lexical systematicity and its psycholinguistic study [in Russian]. MGPIIYA: Minsk, Belarus. pp. 1–108.

[22] Johnson, M., 1987. The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason. University of Chicago Press: Chicago, IL, USA.

[23] Longman, 2005. Longman Dictionary of English Language and Culture. Longman: London, UK. pp. 1–1620.

[24] Gudkov, D.B., 2003. Theory and Practice of Intercultural Communication [in Russian]. Gnozis: Moscow, Russia. pp. 1–286.

[25] Koptleuova, K., Khairzhanova, A., Akkuzov, A., et al., 2023. The language situation in the healthcare sector of the Republic of Kazakhstan. Eurasian Journal of Applied Linguistics. 9(2), 118–131.

[26] Utegulova, D., Koptleuova, K., Bauyrzhan, N., et al., 2024. Language learning plateau: EFL teachers' perceptions and practical recommendations. Theory and Practice in Language Studies. 14(7), 35. DOI: https://doi.org/10.17507/tpls.1407.35

[27] Goroshko, E.I., 2005. Problems of conducting a free associative experiment [in Russian]. Izvestiya Volgogradskogo Gosudarstvennogo Pedagogicheskogo Universiteta. 3, 53–61.

[28] Cherkassova, G.A., 2005. Quantitative Studies of Associative Dictionaries [in Russian]. In: Communication. Language Consciousness. Mezhkul'turnaya kommunikaciya: sbornik statej. Kaluga, Russia. pp. 227–244.

[29] Bazarbayeva, Z., Ospangaziyeva, N., Zhalalova, A., et al., 2024. Syllable theory and diachronic phonology: Vocalism and consonantism in Turkic languages. Eurasian Journal of Applied Linguistics. 10(1), 50–59.

[30] Lutfullayeva, D., 2017. Associative dictionaries as a mirror of reflecting native speakers' word stock. Sovremennye Nauchno-Issledovatelskie Razrabotki. 2, 10–13.

[31] Levikova, S.I., 2003. Large Dictionary of Youth Slang [in Russian]. GRAND: FAIR-PRESS: Moscow, Russia. pp. 1–928.

[32] Wolfer, S., Nied, M., Dias, I., et al., 2018. Combining quantitative and qualitative methods in a study on dictionary use. Proceedings of The XVIII EURALEX International Congress; July 17–21, 2018; Ljubljana, Slovenia.

[33] Kamiński, M.P., 2021. Qualitative Analysis. In: Kamiński, M.P. (ed.). Defining with Simple Vocabulary in English Dictionaries. John Benjamins Publishing Company: Amsterdam, Netherlands. pp. 171–226.