Associative Experiment as an Effective Method of Studying Students' Linguistic Consciousness

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Abstract. The purpose of this article is to present the methodology of conducting associative experiments, which is used in their psycholinguistic research by scientists of Moscow International University, Voronezh State University and the "Laboratory of Cognitive Research of Consciousness named after Said Makhdikhon Sattorov". This technique makes it possible to identify more or less frequent associations that are actually represented in the consciousness of native speakers (language consciousness), as well as to fix the associative norms of the national language within the framework of the corresponding (associative) dictionaries. The article presents the results of linguistic associative experiments conducted in Derbent in lecture halls of local universities. A list of 10 stimuli was used as a stimulus material. Based on the results of the experiments, associative fields of stimuli were constructed, which made it possible to identify the state of language consciousness of Derbent students.

1 Introduction

Conducting associative experiments has a long tradition. There are five stages in the history of free associative experiment [1].

The first stage (1879-1910) falls at the end of the 1970s and is associated with the experimental activity of the English psychologist F. Galton.

Galton is called the first scientist who conducted an associative experiment.

Galton used the associative experiment as a psychodiagnostic technique that allowed him to study individual abilities of a person.

In the future, associative experiments were conducted by other psychologists. V. Wundt used this technique to measure the speed of verbal associations; E. Kraepelin studied with the help of associative experiments the activities of mentally ill people, and J. Cattel measured people's intellectual abilities.

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The second stage begins in 1910 and continues until 1954. During this period, lists of associative norms are created for the first time (G. Kent, A. Rozanov), the concept of an associative field is introduced (Sh. Bally), as a set of associative reactions to stimuli; for the first time, an associative experiment is used to study the unconscious component of the structure of the human psyche (Carl Jung), to identify the motives of his behavior.

At the third stage (1950s - early 1970s) associative experiment actively penetrates into a new scientific discipline – psycholinguistics, and becomes one of its basic methods. Thus, the associative experiment begins to be applied in linguistic research, as well as in research of intercultural communications.

During this period, a monograph by J. Disa "The structure of associations in language and thinking", in which he attempts to combine linguistic and psychological analysis of associations and describes a new method of analyzing associative structures [2].

The fourth stage (1970s-1980s) is associated with the development of associative research in Russian (Soviet) science within the framework of the theory of speech activity. Associative reactions are studied as specific (associative) meanings of words. Dictionaries of associative norms of national languages (Russian, Kazakh, Ukrainian, etc.) are being created.

The fifth stage begins in the late 1980s and continues to the present [3,4,5,6].

The classical scheme of linguistic associative experiment can be represented as follows:

$$S \rightarrow \blacksquare \rightarrow R, \text{ where}$$

S is a stimulus material (lexeme-stimulus), acting as an impulse that triggers the activation process in the associative-verbal network, as well as bringing "a significant part of it into pre-speech readiness" [3].

R – reaction (lexeme-reaction), which is a verbalization of one of the nodes of the associative-verbal network, which was in pre-speech readiness.

$\blacksquare$ is a conditional designation of consciousness, which can be described as a kind of "black box", symbolizing the inaccessibility of penetration into human consciousness.

The experimental method "makes it possible to identify, taking into account all types of knowledge (theoretical, everyday, everyday), those general knowledge about the world that is stored in language and activated with the help of language" [4].

Associative experiments give access to the language consciousness of native speakers. Linguistic consciousness is understood as a set of images and knowledge that are verbalized in a communicative act.

Associative experiments are actively used in pedagogical (both fundamental and applied) research, since they allow us to productively study mental processes (or the so-called "mental lexicon") occurring in the minds of students. For example, associative experiments allow us to build simple models of students' linguistic consciousness.

Scientists from Moscow International University, Voronezh State University and the Laboratory of Cognitive Research of Consciousness named after Said Makhdikhon Sattorov conducted associative linguistic experiments in which students of Derbent universities took part.

The results of the experiments revealed both the level of students' knowledge and the associative norms that dominate their linguistic consciousness.

2 Materials and Methods

Experimental studies were conducted in Derbent (Republic of Dagestan, Russian Federation) in lecture halls of local universities. Students of different specialties and courses acted as test subjects. The age range of the subjects: from 17 to 28 years. Before the experiment, students received instructions about the experiment and A4 forms. Three tasks were placed on each form, which the subjects had to complete.

In the first task, the subjects had to answer the question: answer with the first word that came to mind for each word (stimulus) in the list of stimuli. The list of incentives consisted of 10 toponyms of the Russian language (Vladikavkaz, Volgograd, St. Petersburg, etc.), placed in letterheads in alphabetical order.

As part of the second and third tasks, the subjects had to answer the question of what these cities are known (famous) for and where they are located.

The time for completing tasks was not limited. On average, the subjects completed the work within 15 minutes.

We emphasize that we used not only the methodology of free associations (in the first task), but also the methodology of directed experiments (in the second and third tasks). This approach is due to our understanding of the need to combine different experimental techniques to obtain more complete information about the state of linguistic consciousness.

3 Findings

The results of the experiments were processed manually.

According to the results of the experiments, associative fields were constructed for each stimulus-toponym.

Structure of the dictionary entry: 1) stimulus (for example, VLADIKAVKAZ) 2) associative fields – a set of associative reactions indicating the frequency (for example, Caucasus 14 means that 14 reactions with the word "Caucasus" were received for the stimulus "Vladikavkaz"), arranged in descending order of their frequency; 3) the number of refusals – the absence of verbal reactions, refusal to perform tasks (for example, 28 refusals to the "Vladikavkaz" stimulus means that 28 refusals to perform the task were received to the "Vladikavkaz" stimulus, i.e. there was not a single reaction); 4) unprocessed reactions – reactions that were not processed for various reasons (for example, due to unclear handwriting).

Free associations (based on the results of the first task in the experiment):

Vladikavkaz 100 – Caucasus **14**, mountains **7**, city, Ossetia **5**, Vladik, Beslan **4**, beauty **3,** car, pies, Zeigelansky waterfall, choir **2**, mountain, beautiful city, beautiful, Vladikavkaz, capital of Ossetia, own the Caucasus, eagle, wild image, Dagestan, Vladimir, Ruslan, glory, military service, friends, brother, multinational, friendship monument, Mukhtarov mosque, water, clean, Ossetian vodka – **1.**

Refusals – 28

Directed associations (based on the results of the second and third tasks in the experiment):

Vladikavkaz - what is it famous for? 100 – mountains **3**, museum, museums, beautiful city, archaeological masterpieces, monuments, Mukhtarov mosque, waterfall, Terek river, freestyle wrestling, hospitality **2**, Mount Arauhoh, high mountains, national museum, beautiful places, beauty, beautiful landscape, universities, prestigious universities, pies, three pies, large industrial center, the industrial center, the quiet city, in 2004 on September 1 there was a hostage-taking by terrorists, people of many nationalities live, a large city of the North Caucasus, a city in the south of Russia, North Ossetia, Ossetia, until July 20, 1990 was called Ordzhonikidze, the oldest cultural center, traditions, traditional cuisine, food, architecture, church, sights, football club "Alania", landscape, Darial gorge, Argun river, navy, city of military glory, all Caucasian cities are famous, famous writers went there, sanatorium, sanatorium-resort town, hotels, cars, Ossetian vodka – **1**

Refusals – 49

Unprocessed reaction – 1

Vladikavkaz – where is it located? 100 – in Russia **18**, in North Ossetia **15**, in the south of Russia **13**, in the North Caucasus **10,** in the central part of the North Caucasus **6**, in Ossetia

4, in the Caucasus **3**, in Vladikavkaz **2**, in southern Russia, in the eastern part of Russia, the capital of the Republic of North Ossetia, South Caucasus, high in the mountains, in the mountains, further from Beslan, near Dagestan, on both banks of the Terek River, earth, Eurasia – **1**

Refusals – 27

Free associations (based on the results of the first task in the experiment):

Volgograd 100 – grad **13**, Volga **12**, Mamaev Kurgan **11**, city **5**, Motherland calls, Battle of Stalingrad **3**, competitions **2**, monument, monument of military glory, statue, glory, hero city, Stalingrad, Volgograd, Leningrad, Lenin, sights, Barmaley fountain, university, study, bus, isolation, Fatima, neighbor, friends, Volgograd residents, people are firmly convinced that the most beautiful city, beautiful place, choir, terrorist attack, medicine, river, rain – **1**

Refusals – 25

Directed associations (based on the results of the second and third tasks in the experiment):

Volgograd – what is it famous for? 100 – Mamaev Kurgan **11**, hero city, statue "Motherland" **6**, monuments **5**, Battle of Stalingrad **4**, the famous monument "Motherland calls", in my opinion, Motherland (monument), monument to the mother heroine, many monuments, there is a monument to the heroes of the Battle of Stalingrad, a huge monument, the largest statue of Lenin, battles took place during the Battle of Stalingrad, heroes of the Battle of Stalingrad, panorama museum, the Battle of Stalingrad Museum, changed its name three times in history, changed its name three times, until 1925 it was called Tsaritsyn, a big city, stands on the Volga, the city of heroes, the city of glory, beautiful historical places, Victory Park, Pavlov's house, Volga-Don Canal, high structures, dancing bridge, medicine, Nile River, terrorist attack on December 29, 2013 – **1.**

Refusals – 51

Volgograd – where is it located? 100 - in Russia **38**, in the south-western part of Russia **6**, on the bank of the Volga, in the south-east **5**, in the south-east of Russia, in the south of Russia, in the lower reaches of the Volga **4**, in the European part of Russia **3**, south of the central part of Russia, on Mamayev Kurgan **2**, on the west bank of the river Volga, on the right bank of the Volga River, 8 hours drive from Moscow, Eurasia **1.**

Refusals–32

Free associations (based on the results of the first task in the experiment):

Voronezh 100 - crow **17**, Institute **6**, city **5**, Russia, road, choir, Snezhanna Denisovna, Scarlet Sails Park **2**, large city, millionaire city, Torch, museums, recreation, hero city, Voronezh, gentle, beautiful, climate, good flowers, fruits, raven, sparrow, lark, competitions, freedom, telephone, writer I.A. Bunin, Chechnya – **1.**

Directed associations (based on the results of the second and third tasks in the experiment):

Voronezh - what is it famous for? 100 – Scarlet Sails Park **4**, Scarlet Sails **3**, Voronezh Palace **2**, funny monuments, beauty of the city, large city, Voronezh universities, student city, Socio-pedagogical Institute, snowy winters, picturesque natural landscapes, forests, Chernozem soils, climate, Voronezh Sea, flows into the Don River, Don River, nature reserves, museums, cathedrals, Annunciation Cathedral, Koltsovsky Square, the birthplace of the Airborne Forces, the city of military glory, some kind of crow, skinheads, Snezhanna Denisovna – **1.**

Refusals–72.

Unprocessed reaction – 1

Voronezh - where is it located? 100 – in Russia **35**, on the banks of Voronezh **2**, the Voronezh River, on the banks of the Voronezh reservoir, in the European part, the southern part of central Russia, in the Voronezh region, near Saratov, Central Federal District – **1.**

Refusals – 53.

Free associations (based on the results of the first task in the experiment):

Dagestan – 100 mountains **21**, country of mountains **10**, Republic **7**, Derbent, Lezginka **3**, native, homeland, garbage, mess, **2**, multinational, multinational region, multinationality, highland region, Caucasus, Makhachkala, Vasiliev, bolshoy, Dagh 05, eagle, eagles, nature, sea, landscape, city, fortress, Naryn-Kala fortress, Chirkey hydroelectric power station, Gimrinskaya tower, tradition, mosque, khinkal, dance, highlander, martial arts, wrestling, strength, pride, family, home, love, homeland, corruption, bribes, riots, lawlessness, that's real extreme, bluffs **- 1**.

Refusals – 11.

Directed associations (based on the results of the second and third tasks in the experiment):

Dagestan - what is it famous for? 100 – mountains **19**, multinational **13**, nature **8**, traditions **4**, khinkaly, unique culture, Rasul Gamzatov, sea **3**, mountain plains, Shalbuzdag, rivers, customs, lezginka, central Juma mosque, museum, sports, hospitality **2**, beautiful nature, beauty of mountains, mountain country, landscape, mountain landscapes, high mountains, mighty mountains, fields, lakes, color, climate, oil, beautiful country, located on the border, the capital of Makhachkala, people, multinational state, kind people, hospitable people, Dagestanis, Kubachins, athletes, khabib Nurmagomedov, feats in sports, traditions, customs, viticulture, dry wine, handmade products, dancing, modesty, respect, religion, religious, muslims, Znamensky Cathedral, museums, sulak Canyon fortress, Naryn-Kala fortress, defensive tower in the village of Gimri, Chikul district, history, veterans, Said Amirov, Vasiliev, problems, drug addicts, dealers, bad politics, disorder, corruption, theft, LADA priora – **1**.

Refusals – 20.

Unprocessed reaction – 1.

Dagestan - where is it located? 100 – in Russia **33**, south of Russia **20**, North Caucasus **6**, North Caucasus Federal District **4**, Caucasus **2**, in the south of the European part of Russia, at the southernmost point of Russia, the southernmost part of Russia on the border with Azerbaijan, in Russia in the eastern part, in the eastern part of the Caucasian District, in the eastern part of the Caucasus, South Caucasus, the North Caucasian economic region in Kaspiysk, on the Caspian lowland, among the mountains, in the village of Gimry, on planet Earth, it is not fair here with us – **1.**

Refusals – 24.

Free associations (based on the results of the first task in the experiment):

Moscow – 100 Red Square **19**, capital **13**, Kremlin **10**, square **5**, capital of Russia, Russia **4**, center, city, Putin, mausoleum **2**, complex, bustle, huge, large, high-rise buildings, multinational city, high standard of living, beauty, my capital, dream, fun, traffic jams, metro, fortress, sambo-70, corruption, bullshit, sea, city – **1.**

Refusals – 15

Unprocessed reaction – 1.

Directed associations (based on the results of the second and third tasks in the experiment):

Moscow - what is it known for, famous for? 100 – Red Square **42**, Kremlin **17**, capital of Russia **14**, capital, square, Tretyakov Gallery, monuments, mausoleum **3**, center of Russia, Moscow River, museums **2**, many wonderful treasures, many attractions, culture and history, fortress in the center of Moscow, Stalin skyscrapers, Bolshoi and Maly Theater, Historical Museum, Lenin Mausoleum, Moscow State University, Moscow City, White House, symbol of the country, metro, one of the most beautiful cities in the country, one of the most developed cities in the country, great prices, multinational city, matryoshka dolls, snowy winters, traffic jams – **1.**

Refusals – 22

Unprocessed reaction – 1.

Moscow - where is it located? 100 – in Russia **49**, in the center of Russia **5**, in the center of the European part of Russia **3**, in the European part of Russia, in the center of Moscow **2**, in the center of the European part, in the center, in the center of the East European plain, in the northeast, on the Moscow River, between the rivers Oka and Volga, Central Federal District, in Europe, in Eurasia, in the heart of Russia, in the south of Russia (in Dagestan), in the Kremlin, in Moscow, Red Square, where Putin is **1.**

Refusals – 27

Free associations (based on the results of the first task in the experiment):

St. Petersburg – 100 Peter, bridges **5**, Peter *I* **4**, Leningrad, beauty, relatives, white nights, architecture, Zenit, drawbridges, bridge, drawbridge **2**, beautiful bridge, St. Petersburg, city, one of the big cities of Russia, "1703", capital, 2nd capital, cultural capital of Russia, beautiful city, beautiful, beauty, St. Petersburg, dream 1, sights, hermitage, palace bridge, Singer house, cathedral, museums, museum, monument, monuments, rains, rain, river, winter, work, hunger, no one around, relatives, London, city of booze – **1.**

Refusals – 32

Directed associations (based on the results of the second and third tasks in the experiment):

Saint Petersburg - what is it famous for? 100 – white nights **10**, drawbridges **9**, bridges, Hermitage, museums **6**, architecture, winter palace, monuments **4**, palaces, the cultural capital of Russia **3**, beauty, the former capital of Russia, the second capital, Mariinsky Theater, famous museums **2**, architectural monuments, architectural structures, unusual architecture, beautiful bridges, bridge, drawbridge that connects the central part with Vasilievsky Island, palace bridges, night beauty, the most beautiful city, one of the most beautiful cities along with Moscow, very clean city, ancient city, our northern capital, cultural capital, cultural center of Russia, culture, theaters, Peterhof, Nevsky Prospekt, Neva River, the mouth of the Neva, the State Russian Museum, is considered the second capital of Russia, was the capital, Peter the Great, the city built by Peter the Great, founded by Peter ***I,*** renamed many times, cloudy weather, rainy weather, filming, making films, education, football, purchase and sale – **1.**

Refusals – 28.

Saint Petersburg - where is it located? 100 – in Russia **35**, northwest of Russia **8**, north of Russia **5**, on the coast of the Gulf of Finland, the northern capital of Russia **3**, the northern capital, near Moscow **2**, in the Gulf of Finland, on the border with Finland, in the northwest, northeast of Russia, on the banks of the Neva River, far away, further than Moscow, Kaliningrad region, in St. Petersburg, Dagestan, St. Petersburg, a city of federal significance - **1.**

Refusals – 30.

4 Conclusions

Thus, in this article, the possibility of studying the mental lexicon of students using methods of associative experiments was demonstrated. It is shown that in order to obtain a more complete model of linguistic consciousness, it is necessary to use a set of associative methods. Our research involved methods of free and directed associative experiments.

We invite colleagues to participate in joint research in which we could compare the results of experiments among native speakers of different languages.

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