РУХАНИ ЖАҢҒЫРУ

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ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ

Студенттер мен жас ғалымдардың
«ҒЫЛЫМ ЖӘНЕ БІЛІМ - 2018»
XIII Халықаралық ғылыми конференциясы

СБОРНИК МАТЕРИАЛОВ
XIII Международная научная конференция
студентов и молодых ученых
«НАУКА И ОБРАЗОВАНИЕ - 2018»

The XIII International Scientific Conference
for Students and Young Scientists
«SCIENCE AND EDUCATION - 2018»

12th April 2018, Astana

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ
Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ

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2018 жыл 12 сәуір

Астана

Жинаққа студенттердің, магистранттардың, докторанттардың және жас ғалымдардың жаратылыстану-техникалық және гуманитарлық ғылымдардың өзекті мәселелері бойынша баяндамалары енгізілген.

The proceedings are the papers of students, undergraduates, doctoral students and young researchers on topical issues of natural and technical sciences and humanities.

В сборник вошли доклады студентов, магистрантов, докторантов и молодых ученых по актуальным вопросам естественно-технических и гуманитарных наук.

UDC 159.9.07
HUMAN BRAIN COGNITIVE FUNCTIONS: FOREIGN LANGUAGESAND LATIN-BASED QAZAQ ALPHABET

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Introduction. Languages are gateways to the new cultures that allow us to connect with people around the world. If you know more than one language you are a bilingual ("bilingualism" in this article is used as an all-inclusive term to embody both bilingualism and multilingualism). In practice knowing two or more languages means that your brain is arranged and functioning differently than the brain of monolinguals. At present, the government of Kazakhstancalls on citizens to master three languages: Kazakh – a state language, Russian – a language of international communication and English – an international language. [1] However, in fact, not all the population can equally speak the same three languages. The state language is spoken by 82.3% of the population, 89.4% of the population speak Russian, and only 23.7% of our citizens know English. A mere 20% of the population is trilingual. [2]How do we assess language skills? To identify the level of English language skills we take IELTS (International English Language Testing System), which is the most popular international testing system for English. Over 3 million people pass IELTS annually. [3] The TRFL (Test of Russian as a foreign language) and KazTest are designed to assess the Russian and Kazakhlanguages, respectively. All these language tests have a similar structure. These tests identify the level of language proficiency by two methods: active (speaking and writing) and passive (listening and reading). A balanced bilingual has approximately equal language skills, but in fact most bilinguals know and speak two languages at different levels.

While studying a foreign language, it is necessary to compare the systems of a native and a studied language in terms of phonetics, vocabulary and grammar. The text is essentially the basis for the methodological selection and organization of the teaching material.

Research question. The article investigates the following research questions:
1.   How learning a foreign language affects the human brain?
2.   What impact will Latin-based Qazaq alphabet have on human brain cognitive functions?

Both research questions remain fairly unexplored and topical. The data of physiology and psychology make it possible to conclude that the knowing the second language is not just the accumulation of linguistic materials (vocabulary, situational supports, rules of grammar and phonetics of the language), but also the reorganization of human speech mechanisms for interaction, for the parallel use of two and more language systems, this is the ability to conduct comparative analysis of the linguistic phenomenon. [4] At the first stages of mastering a foreign language, the skill of switching from one language to another is formed, and at later stages the task is to temporarily neutralize one language system for the beneficial functioning of another language. The essence and peculiarity of the bilingual approach is the excitation of the familiar connections of lexical units at the choice between two language systems. Observations prove that studying the second language system at the beginning, regardless of the education methodology, each new lexical unit is associated with the corresponding word of the native language not through the designation of objects. At the same time, there is a danger of creating false sign relationships in the event that a new foreign word does not have a full equivalent in its native language. This is the first feature of the mechanism of bilingualism. Each word in any language system has corresponding semantic links. Therefore, the literal transfer of these links from one's native language to another is the second feature of bilingualism.The third feature of the formation of the mechanism of bilingualism is related to the law on the dominant language, which suppresses the second and other languages and is the cause of not only lexical, grammatical, but also linguistic interference.

Methodology. Now we have identified the problems that may be facedby people studying the

language as they can be prevented by their native language. But what if the alphabet of the native language is changed? Soon Kazakhstan will switch to the Latin-based alphabet. The first step will cover 2018-2020. During this period, the preparatory work and measures will be carried out to improve the regulatory framework. Based on the Latin graphics, spelling rules on the new Qazaq alphabet and IT-applications for the text-based recodifier into Latin alphabet will be developed. The second step – from 2021 to 2023 - ensures the issuance of passports and identity cards of citizens of Kazakhstan and other documents in the state language in the Latin-based graphics. Seminars and lectures, courses with the participation of philologists and linguists will be organized to train teachers and the public. At the third step, which will be held between 2024 and 2025, it is planned to conduct a phased transfer of office work of state bodies, educational organizations, state media and print publications to the Latin schedule. [5] How will the change in old and familiar forms and structures affect learning the Kazakh language? Will it be easier to learn English with a shift to the Latin-based Qazaq alphabet? Unfortunately, at this stage of the Latin alphabet development, we cannot experimentally prove or disprove the influence of the change of the alphabet on learning the English language, since none of us has studied the Kazakh language in this alphabet.

However, to support the argument empirically we decided to conduct an experiment with a focus group to determine the effectiveness of studying the Kazakh language in a new alphabet for people who speak English well. We chose a focus group consisting of the students from a first-year group of the Faculty of Journalism and Political Science with an upper-intermediate level of English (group A) and those with an intermediate level (group B),both groups have lower Kazakh language skills. The total number of participants: 12. We divided this focus group into two subgroups. For group A we gave unlimited time to learn 10 Kazakh words written in the Cyrillic alphabet, and group B with the same unlimited time period the same 10 words written in Latin alphabet.

Analysisandresults. For the experiment we used the following ten words:

Dictionary card №1

qanaǵat	удовлетворение	қанағат	удовлетворение
daǵdylaný	приучаться, упражняться	дағдылану	приучаться, упражняться
mazmundama	изложение	мазмұндама	изложение
jalǵandyq	ложность	жалғандық	ложность
izgilik	святость	ізгілік	святость
kishipeilik	скромность, простодушие	кішіпейлік	скромность, простодушие
azattyq	свобода,независимость	азаттық	свобода,независимость
nadandyq	невежество	надандық	невежество
ınabat	почтительность	инабат	почтительность
ar-uyat	честь,совесть	ар-ұят	честь,совесть

Dictionary card №2

abyroı	честь	абырой	честь
ataq-daq	слава	атақ-даңқ	слава
jůzdes	встретиться	жүздесу	встретиться
qalyṅ oı	глубокая мысль	қалың ой	глубокая мысль
kȯzqaras	взгляд	көзқарас	взгляд
jaan-shashyn	осадки	жауын-шашын	осадки
qolqanat	опора	қолқанат	опора
madaqtama	грамота	мадақтама	грамота
aỳyzbirshilik	единогласность	ауызбіршілік	единогласность
shatqal	ущелье	шатқал	ущелье

To translate words into the Latin alphabet, we used the last approved version of Latin-based Qazaq alphabet of October 26, 2017:

АЛФАВИТ
казахского языка, основанный на латинской графике

№	Написание	Звук	№	Написание	Звук
1	A a	[а]	17	Ń ń	[ң]
2	Á á	[ә]	18	O o	[о]
3	B b	[б]	19	Ó ó	[ө]
4	D d	[д]	20	P p	[п]
5	E e	[е]	21	Q q	[қ]
6	F f	[ф]	22	R r	[р]
7	G g	[г]	23	S s	[с]
8	Ǵ ǵ	[ғ]	24	T t	[т]
9	H h	[х], [h]	25	U u	[ұ]
10	I i	[і]	26	Ú ú	[ү]
11	I ı	[и], [й]	27	V v	[в]
12	J j	[ж]	28	Y y	[ы]
13	K k	[к]	29	Ý ý	[у]
14	L l	[л]	30	Z z	[з]
15	M m	[м]	31	Sh sh	[ш]
16	N n	[н]	32	Ch ch	[ч]

Source: tengrinews.kz

The participants showed the following results

Table 1. In the first column, the time is shown during which the participants of Group A with the upper-intermediate level were able to learn the words from dictionary card №1, written in the Latin alphabet. In the second column there is time period during which the participants of Group A with the upper-intermediate level were able to learn the words from dictionary card №2, written in the Cyrillic alphabet.

Table 1. Group A results

Latin-based Qazaq alphabet		Cyrillic alphabet	
	Time		Time
A1	3 min 2 sec	2 min 27 sec	
A2	2 min	1 min 5 sec	
A3	3 min 48 sec	3 min 11 sec	
A4	2 min 51 sec	1 min 58 sec	
A5	3 min 32 sec	2 min 54 sec	
A6	4 min 34 sec	3 min 23 sec	
Average time:	**3 min 17 sec**	**2 min 41 sec**	

Table 1 shows that despite comparatively high level of English, the participants of the

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experimental group are quicker to learn and remember the words written in Cyrillic. The difference is 36 seconds.

Table 2. The first column represents the time spent to learn the words from dictionary card №2 by the participants of Group B with the intermediate level. The card is written in the Latin alphabet. In the second column we see the time spent to learn the words from dictionary card №1 written in Cyrillic by the participants of Group B with the intermediate level.

Table 2. Group B results

Latin-based Qazaq alphabet		Cyrillic alphabet
	Time	Time
B1	4 min 51 sec	2 min 46 sec
B2	10 min 25 sec	7 min 26 sec
B3	8 min	4 min 51 sec
B4	8 min 43 sec	4 min 58 sec
B5	30 min	24 min
B6	14 min 37 sec	11 min 57 sec
Average time:	**12 min 46 sec**	**9 min 27 sec**

According to these data, we found that Group B required to memorize the words on the Latin alphabet took 35% more time than those in Cyrillic.

Table 3. Since we did not consider the Russian language in our experiment, we also decided to compare the participants' GPA, because the participants of the experiment are studyingall the other subjects in Russian and this definitely affects cognitive functions.

Table 3. Participants' GPA

Upper-intermediate		Intermediate	
	GPA		GPA
A1	3,27	B1	3,4
A2	3,75	B2	3,64
A3	3,72	B3	3,27
A4	3,6	B4	3,5
A5	3,72	B5	3,28
A6	3,7	B6	3,27
Average GPA:	**3,63**		**3,39**

The participants' GDP in Group A is 0.24 points higher than that of Group B.

Diagram 1. Correlation between time and GPA
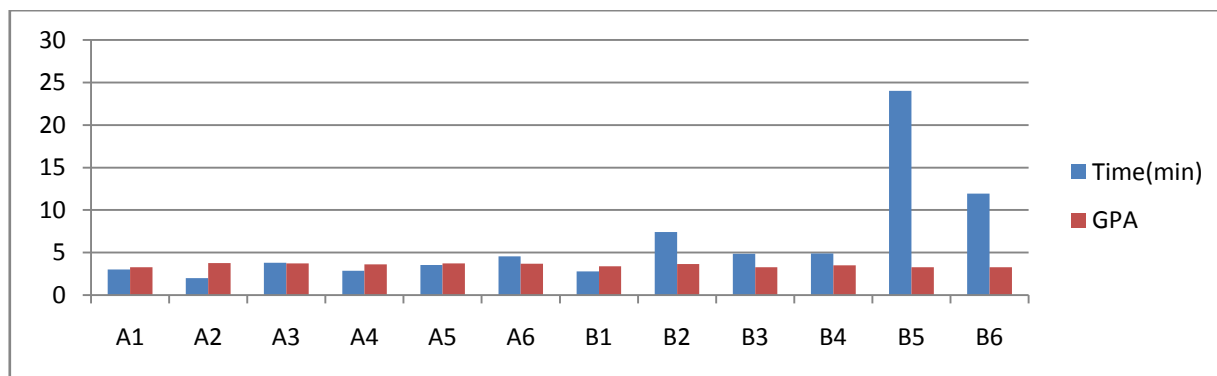
This diagram shows the dependence of the speed of memorization on the level of intellectual development, that is, the quality of the work of the brain. Participant A2 showed the fastest result,

which corresponds to his highest GPA score – 3.75 among all the participants. The participants coded as B5 and B6 showed the worst results, which also corresponds to the relatively low GPA- 3.28 and 3.27, respectively.

Diagram 2. The average time spent on memorizing words written in Cyrillic and Latin alphabet by Groups A and B.
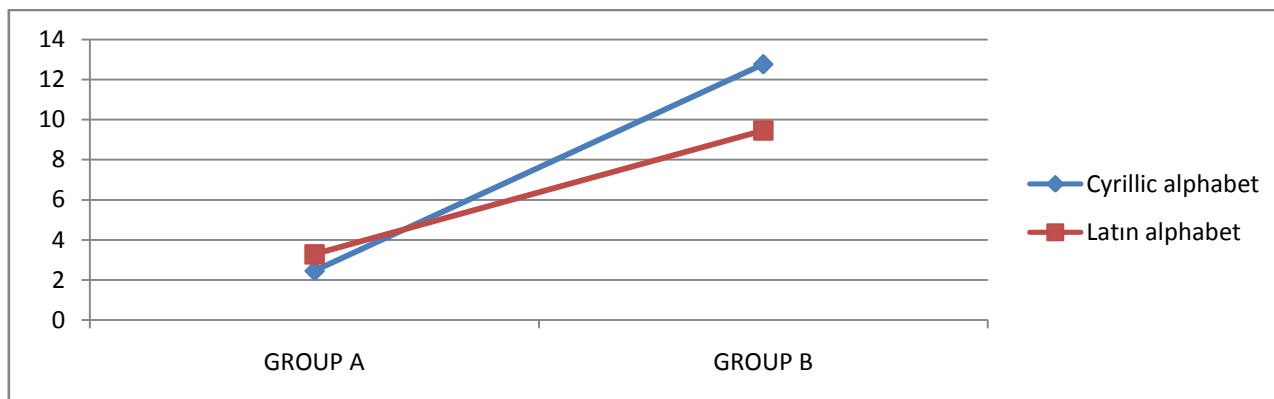
Group A showed a relatively better time in memorizing words in the Latin alphabet compared to Group B, despite the same level of knowledge of the Kazakh language. The difference in average storage time was 9 minutes and 29 seconds. In addition, Group A showed high results in memorizing the Kazakh words in the Cyrillic alphabet. The time difference is 7.26 minutes.

Conclusion.Having analyzed all the data and gathered the whole picture, we came to the conclusion that people who have a relatively good English language will switch to the Latin Kazakh alphabet much faster than those whose English level is lower.However, we do not connect this to the similarity to English, which is also in the Latin alphabet. After all, according to the studies, Group A with the upper intermediate level of English showed the best results in the same way in memorizing the words written in the Cyrillic alphabet in comparison with Group B. It is due to the fact that the cognitive functions of their brain are more developed, which, in its turn, occurs, because they know English better.

According to the existing researches in this area, people who know more than one language, decelerate the loss of memory for several years due to the development of neural connections. When a person speaks several languages, the neural network is working more intensely. The brain in this case will be more preserved. This removes the theoretically possible reduction in intellectual abilities, including sclerosis and other memory-related diseases. [6]Overall, our investigation also contributes to this discussion and proves that those who know foreign languages have better cognitive functioning.

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