

**LIFE-LONG FOREIGN LANGUAGE LEARNING AS A GUARANTEE OF BRAIN STABLE
COGNITIVE ACTIVITY**

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The article proves the idea that learning foreign languages affects not only the quality of life and future career prospects, but also brain on three levels – physiological, psychological and at the level of thinking.

Key words: *foreign language, cognitive activity, education life-long learning, brain, advantages, self-development.*

**ИЗУЧЕНИЕ ИНОСТРАННОГО ЯЗЫКА В ТЕЧЕНИЕ ВСЕЙ ЖИЗНИ КАК ГАРАНТИЯ
СТАБИЛЬНОЙ ПОЗНАВАТЕЛЬНОЙ ДЕЯТЕЛЬНОСТИ МОЗГА**

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В статье обосновывается идея о том, что изучение иностранных языков влияет не только на качество жизни и будущие карьерные перспективы, но и на мозг на трех уровнях – физиологическом, психологическом и на уровне мышления.

Ключевые слова: *иностраннный язык, познавательная деятельность, образование, пожизненное обучение, мозг, преимущества, саморазвитие.*

Everyone can give arguments on the hypothetical benefits of knowing several languages. And though everyone will have his own arguments, after all, our goals for learning languages are different; the advantages of learning languages are obvious. Learning a new language affects not only the quality of life and future career prospects, but also brain on three levels – physiological, psychological and at the level of thinking. The human brain likes complex tasks: when learning something, it improves, new neural connections appear and the cortex is getting thicker. Previously, it was thought that certain parts of the brain were responsible for speech and its perception. Grammar, for example, trained Broca's area; the area of Wernicke was responsible for semantics. But not so long ago, scientists found out that everything is somewhat understated. To talk and understand speech, you need to use the entire brain completely. When we think, say, or hear something about objects, their shape, color, and other characteristics, our entire brain takes an active part in this process. This means that the more we think, the more we strain the "muscle" in the skull, the stronger it becomes [10].

It is no surprise that learning foreign languages is included into all stages of modern education, starting from the kindergarten where talented and gifted children can be identified [21], school with building inter-subject connections [23], college, university [1], [6], [8], [9], [11], [12] where the technology of search and inventive activity is developed [24], continuing in the post-graduate education and in some cases acquiring according to Shmeleva Zh.N. the life-long property [13, p. 267-270]. When learning foreign languages, learners have to think a lot, and about a variety of subjects, colors and shapes. Learning foreign languages is not only an increase in the efficiency of brain cells, but also other positive effects including a well-developed voice [22]. For example, bilingualism makes a person's life richer. Moreover, as we are living in the age of informative-communicative technologies, they make learning languages much easier [4], [5].

And it is not about material goods, but about the possibility of using other languages to expand horizons and penetrate into other worlds. Different people have different incentives to learn foreign languages: English is necessary to move to the country of dreams; English helps to meet ambitions and build a successful career; English makes it possible to travel around the world and communicate freely with foreigners.

According to neurophysiological discoveries, the human brain is an incredibly complex system in which many different processes are constantly occurring. One of them is building new neural connections. Learning a new language, memorizing unfamiliar words – this is a great platform for harmonious "dates" of

neural networks. In addition, scientists have proven that the human brain grows when learning. The hippocampus and some parts of the cerebral cortex increase in volume. Studies have been conducted comparing the effects on the brain of learning foreign languages (in particular, Hindi and Arabic) and learning medical sciences. It turned out that new language knowledge is more valuable for brain development. The effectiveness of research is proved by the results of MRI of the subjects.

Learning languages activates all thought processes, and this effect is long-term. Thus, those who start learning a foreign language improve their memory through various techniques [10], [17]: this applies to remembering the sequence in which events occurred and objects were located. In other words, it is easier for someone who is learning a foreign language to remember a shopping list or find a road that they have already passed once. At the same time, memory loss associated with aging occurs later in people who speak at least two languages due to better functioning of neural connections in the brain. Attention and concentration also increase when people start learning a new language. It becomes easier to focus on the details, highlight the main features of a phenomenon, and form a complete picture of this phenomenon and its connections with others. That is, the ability to both inductive and deductive thinking is trained simultaneously. At the initial stage of learning it is a good idea to find a teacher as he will be able to clarify some details and eliminate difficulties [18] such as language interference for example [7, p. 167-170]. When the learner becomes more experienced, he can continue himself.

Another result of active language acquisition is the development of multitasking skills. It has been proven that bi- and poly-linguists can easily move from one task to another, switching their attention between them without compromising the quality of work, and can simultaneously look for solutions to several problems. As a result, it is easier for them to adapt to new conditions, whether it is a sudden change of language in conversation or drastic changes in life.

Learning languages allows to train logical thinking, and at any age [13]. According to research those who speak at least two languages cope with tasks on logic faster and easier. At the same time, bilinguals retain this ability at almost any age – their speed of thinking decreases significantly more slowly and to a lesser extent as they age than those who know only one language.

Learning new languages changes the perception at the level of grammar and word formation – that is, having learned at least one language other than the native one, a person can more easily trace and understand grammatical and lexical patterns in new languages.

All these facts gave rise to the theory of “bilingual cognitive superiority”, which suggests that bi- and poly-lingual thinking is faster, more flexible, and more productive than monolingual thinking.

Speaking about psychological changes in language learning, they are also inevitable. First of all, the usual bilingualism changes, and additional picture of the world appears that helps according to Shmeleva Zh.N. to socialize by means of the foreign language learning [14]. This is due to the fact that language necessarily reflects the realities of a different culture, and by understanding them, a person understands a different view of the surrounding reality, language helps to adapt, socialize and develop cross-cultural competence and tolerance. People who study languages often demonstrate high creative abilities and strong motivation especially for learning the so-called “Survival English” [15, p.263-266]. Psychologists attribute this to the fact that in the course of mastering foreign speech, a person uses associative memory mechanisms. Namely, associations form the basis for reality creative understanding. Those who speak several languages are characterized by greater self-sufficiency and independence – they do not depend on other people when traveling, they are freer to choose a career and use the opportunities that open up.

The study of languages, especially life-long, develops thinking, emotional intelligence [2], [3] and the ability to understand and accept other people – both at the personal level, and at the level of perception of other cultures and civilizations forming general cultural competence [1], [12], professional competence [20, p. 103-106], cross-cultural competence [19] and cross-cultural tolerance [16]. Consequently, an increase in the number of bilinguals can theoretically lead to a reduction in conflict situations, a softening of the international situation, and a reduction in cases of xenophobia.

Learning foreign languages is one of the best brain simulators available to almost everyone. The author of the article candidate of science, docent Tarasova O. M. and her colleague docent Antonova N.V. being in the age group of 60+, never stop self-development, write articles in English, conduct pedagogical and scientific activity, keeping their brain trained, using different mnemonic techniques. This has a cumulative effect – the more languages you learn, the larger your brain volume, more flexible thinking, better memory, higher psychological adaptability and emotional intelligence.

In conclusion, we can enumerate some advantages of life-long language learning:

- Multitasking and concentration are developed as polyglots can solve several tasks in their minds at once, easily switch between them and grasp the essence on the fly.

- The horizons are broadened as those who study not only the spoken language get an additional bonus: reading books in other languages significantly expands their horizons, because each nation has its own untranslatable idioms, words and expressions.
 - Rational decision-making is trained as to think more rationally, it is enough to formulate your request in a foreign language. Research has shown that this scheme works perfectly. The main condition is a good vocabulary.
 - Memory is certainly improved and it is believed that people who grew up in a multilingual environment have an improved memorization process. When learning a language, memory becomes stronger, more capacious, and more associative. In addition, scientists have proven that bilingual Alzheimer's syndrome and other manifestations of senile dementia overtake five years later than those who persist in speaking only their native language.
 - What is more surprising; the talent for music is formed. By learning a foreign language, a person learns to distinguish sounds that are unusual for their ear (especially for exotic languages). This ability allows you to further achieve excellent results when learning music.
- The conclusion is obvious: learning a new language is useful.

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