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## TO BOOST COGNITION THROUGH LEARNING A FOREIGN LANGUAGE IS TO ENHANCE SPORTS ACTIVITIES

*Slobodank Đolić<sup>4</sup>, Alina-Mihaela Stoica<sup>5</sup>*

### Abstract

The cognitive abilities and skills of foreign language learners developed through prior learning experiences and cognitive (mental) training, provide a robust framework for more effective and efficient language acquisition. These abilities enable learners to navigate the complexities of a new language, retain and recall information more effectively, and apply strategic approaches to overcome challenges in the language learning process. The developed cognitive abilities and skills of foreign language learners can significantly ease the process of language acquisition in several ways, such as developing metacognitive skills, enhancing memory capacity and retention abilities, transfer of knowledge and cultural awareness, etc. Jean Piaget is a Swiss psychologist known for his theory of cognitive development. Piaget's theory (1983), although not specifically about language acquisition, provides important insights into how cognitive abilities develop, which can be applied to understanding language learning. This theory is the basis on which we build and grow our view on the effects of learning foreign languages and playing sports in developing cognitive skills and abilities in a particularly elderly population who have passed the age of 65. Applying Piaget's cognitive theory to foreign language learning for prolonging the onset or progression of dementia, and Alzheimer's disease in older adults involves leveraging the principles of cognitive stimulation and development. This paper aims to analyse the cognitive stimuli emphasized by sports activities, fast walking, and going to fitness centres as well as constant exercise of the brain to adapt to the techniques of learning something new, in our case, a foreign language.

**Key words:** *Cognitive training, Jean Piaget's cognitive theory, Alzheimer's disease, learning a foreign language, sports.*

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<sup>4</sup> Slobodanka Đolić, PhD, Professor Emerita, Academician of IRASA, Belgrade University of Art, Republic of Serbia, [slobodankadjolic@gmail.com](mailto:slobodankadjolic@gmail.com)

<sup>5</sup> Full Professor Alina-Mihaela Stoica, PhD, Academician of IRASA, Department of Physical Education and Sports, Bucharest University, Romania, [alina.stoica@g.unibuc.ro](mailto:alina.stoica@g.unibuc.ro)



## Introduction

Speaking of cognitive theory based on Jean Piaget's knowledge of psychology [1], three main elements exist and they are *perception*, *attention*, and *memory*. Although Piaget's theory was originally developed for children, its principles can be adapted to explain cognitive development in adults, especially in the context of foreign language acquisition. Piaget's ideas around "assimilation" and "accommodation" – where learners integrate new information into their existing knowledge (*assimilation*) and adjust their mental frameworks to accommodate new experiences (*accommodation*) – can be applied to older adults learning a new language [2].

Tarone E. and Swierzbis B. [3] apply Piaget's theory to adult second language acquisition, discussing how learners modify their linguistic frameworks (*accommodation*) as they encounter new language rules and integrate them into their existing knowledge (*assimilation*).

Other authors, like Wode, H. (2004), Pavlenko, A. (2014), Gelman, S. and Gulberg, M. (2007), Morra, S., et al. (2008) have expanded on Piaget's theories to explore how adult learners assimilate and accommodate new linguistic information, demonstrating the continued relevance of Piagetian principles in understanding cognitive processes in adult foreign language acquisition.

When we think of the brain it can be compared to a computer that takes and stores information processed in the memory to encode data and use them later in real life. According to cognitive theory a person experiences stimuli as new information from the external world while the mind looks for internal frameworks created by memories to help understand the information. In other words, in our minds exists a prior schema and the new information attends attention to be encoded based on earlier experience. Depending on a person's capabilities new information is processed to the level of understanding and the knowledge of the data stored in the brain can become a part of the memory.

According to Piaget's stages of cognitive theory, three stages take part in the brain:

1. The brain uses schemas or mental frameworks to build knowledge.
2. The brain uses assimilation and accommodation to adapt to mental frameworks and move on between the stages.
3. Piaget's cognitive theory takes children's experiences in the world around them to develop cognition and get knowledge to use as outcomes of memories.

As a result, the mental or cognitive processes help interpret information internally and use it as the final product of the mind externally. Robert Sternberg [4] and Herbert A. Simon, American psychologists, suggest that human behavior depends on stored information, after they approach information processing while systematically develop cognition.

Cognitive capabilities tend to decline over time, and when the person comes into his/her older age of 65+ he or she experiences losing memory about some things they have been involved in throughout the previous life period without problems. Like children who develop cognitively in their lifespan, older people should stay



cognitively healthy as long as they can. However, to reach such a goal, activities that will work on memory retention, are implemented.

This paper claims two core activities that protect the brain and mind from the ability to concentrate and show attention to certain information already perceived, processed, and accumulated in the memory. In the first place is sport, or involvement in aerobic sports such as fast walking or running, engagement in light gymnastic exercises, i.e. exercises for improving concentration and body health, tai chi, yoga, and the like. The second important thing to mention concerns new information from the external world that needs encoding, processing, and application in organizing lifestyle and promoting new knowledge around the life environment; the claim is for new foreign language learning.

Boosting cognition in adults can involve a mix of lifestyles, mental exercises, and healthy habits in dealing with aerobic sports. Special interest is placed on the social life of old people, which is realized in sports but also in learning a foreign language, regardless of whether it takes place in the classroom or through online classes.

### **Cognitive training as a tool for effective language acquisition**

Cognitive training refers to a set of exercises or activities designed to improve cognitive functions (Kormos, 2003),<sup>6</sup> such as memory (Hayashi, 2019; Kormos & Trebits, 2012),<sup>7</sup> attention, problem-solving, and reasoning. [5, 6] Jaeggi et al. [7] discussed the relationship between performance on cognitive tasks such as the n-back task<sup>8</sup> and language learning. Their research underscores how cognitive training in tasks linked to memory and attention can transfer positively to language learning. These exercises are often used to enhance mental abilities and can be tailored to address specific cognitive challenges or to maintain cognitive health. Cognitive training can be delivered through various methods, including computer programs, puzzles, games, or even structured tasks in daily life.

The goal of cognitive training is to strengthen the brain's ability to process information more efficiently and effectively, which can be particularly beneficial for aging

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<sup>6</sup> In the abstract of the paper *The role of cognitive factors in second language writing and writing to learn a second language*, Judit Kormos shares the opinion that “the role of working memory and language learning aptitude in L2 writing processes and performance. The article offers an overview of how cognitive factors can mediate learning gains when L2 users engage in writing. Using theoretical accounts of cognitive individual differences, the article discusses how the characteristics of writing tasks can interact with individual variation in cognitive functioning”.

<sup>7</sup> Hayashi (2019) investigated the effects of working memory training on L2 development. His study highlights how cognitive processes like working memory can influence language acquisition, showing that training in this area can lead to improvements in language skills.

Kormos and Trebits (2012) focused on how task complexity and modality affect language learning, emphasizing that cognitive abilities, including working memory and attention control, are critical in mastering new languages.

<sup>8</sup> <https://www.google.com/search?q=what+is+n-back+task>: “N-back tasks (Kirchner, 1958) remain some of the most commonly used tests of working memory in the cognitive neuroscience field. They are a well-validated and a widely-used means of manipulating working memory capacity and its response requirements”.



population, individuals recovering from brain injuries, or those looking to boost their mental performance. There is ongoing research to determine the long-term benefits and efficacy of cognitive training, and while some studies show promising results, the effectiveness can vary depending on the individual and the type of training used.

Cognitive training in language acquisition involves targeted exercises and activities designed to enhance the cognitive abilities that are essential for learning a new language. These cognitive abilities include memory, attention, processing speed, and executive functions, all of which play a crucial role in how effectively a person can acquire and use a new language.

Cognitive training with students learning a foreign language (Achard, M. and Niemeier, S., eds. 2004) is efficient and helps students retain language forms with ease and apply them in their conversation, face to face to their partners either in everyday conversation or business-like activities worldwide. This language performance skill allows fluent conversation and full understanding. [8]

We strongly support the ability of working memory (Hayashi, 2019, training because it is vital for language learning, as it allows individuals to hold and manipulate information, such as vocabulary and sentence structures, while engaging in communication. Exercises that enhance working memory can help learners retain new words and phrases, understand complex sentences, and improve overall language comprehension. [6]

Language acquisition requires focused attention, especially when listening to speakers and processing spoken language in real-time. Cognitive training can include tasks that improve *selective attention* (focusing on relevant information) and *sustained attention* (maintaining focus over time), which are critical for learning and using a new language effectively. Language learning, as a matter of fact, requires attention control ability and improved skill to obtain best results in classroom teaching and free conversation once a person is left out of teacher's control outside of the classroom. The target in L2 teaching is to make students process speed particularly in understanding and producing language in real-time conversations. The basics refer to getting, processing and manipulating information gathered from various sources inside and outside of the classroom because learners are expected to become more fluent and responsive when using a new language. To reach L2 teaching and learning goals executive functions, such as planning, problem-solving, and cognitive flexibility, are important for managing the complexities of the learning process. Training these functions can help learners better organize their study routines, adapt to new linguistic rules, and switch between languages if they are learning more than one.

### **Applications of cognitive techniques, approaches and methods in L2 learning**

Applied linguists (Reyes Llopis-García, 2024), psychologists, neuro-linguists, and neurocognitive scientists work on improving better and more efficient L2 performance skills and abilities with young and old learners no matter of their cultural environment and civilization milieu of origin. [9] Learners aim to perform a foreign language fluently by using language forms, phrases and idioms with full understanding and



most applicable to the conversation context to meet native speakers' expectations. On the other side, teachers are motivated to let their students speak with full memory control of manifesting information stored in their mind which serve the purpose of good conversation drive towards the fruitful end that satisfies both parties taking place in conversation. To set such goals teachers must be knowledgeable about the cognitive theory and the results they may expect after having applied it within the teaching class.

Today's world is a digital one which makes it easy to find answers for most of the questions concerning teaching and learning. Many modern language learning apps incorporate cognitive training exercises into their platforms. These exercises might include memory games, puzzles, and activities that require quick thinking and problem-solving, all designed to reinforce language skills. The self-teaching learners of a foreign language can look up for such apps and reinforce learning by incorporating the contexts into practicing language tasks. Educators can incorporate cognitive training techniques into their teaching methods by including activities that target memory recall, attention focus, and problem-solving within the context of language lessons.

Some language learning programs use neurocognitive approaches that specifically target brain regions involved in language processing. These programs might involve intensive practice with language structures that challenge the brain and stimulate cognitive growth. This strategy is of great importance because it works on stimulating brain plasticity forcing the brain to respond to such stimulations and retain this ability for a long time, throughout the learning process.

Learning a new language is not just about memorizing vocabulary and grammar; it also involves understanding new cultural contexts, perspectives, and modes of thinking. This cultural immersion promotes cognitive flexibility, which is the ability to switch between different ways of thinking, a skill that declines with age but can be maintained through cognitive training. It is important to show how this kind of cognitive flexibility translates into everyday life, improving older adults' ability to adapt to changing environments and circumstances, a key factor in maintaining cognitive health.

Piaget's stages of cognitive development—sensorimotor, preoperational, concrete operational, and formal operational—provide a structured framework that can be applied to language learning. [2] For example, beginners may start with concrete operational tasks such as simple vocabulary and sentence structure, progressing to more abstract and hypothetical language use in the formal operational stage. This systematic approach can help learners of all ages, especially older adults, to engage deeply with the learning process. Such cognitive training may improve linguistic abilities and cognitive functions, potentially lowering the risk of Alzheimer's disease by maintaining active cognitive engagement.

When talking about learning a foreign language in the classroom we have young learners on our mind. Without diminishing this type of teaching, we'd like to put an accent on older generation, the adults learning a foreign language to boost cognition



and “stay young” as long as possible. “Young mind” requires “young body” and both contribute to the person’s health of mind and body.

To end up the discussion we say that cognitive training can be a valuable component of language acquisition, especially when combined with traditional language learning methods. It not only supports the direct learning of a language but also enhances the cognitive capacities that underpin successful language acquisition.

### **Cognitive stimuli emphasized by sports activities**

Cognitive training through language learning may enhance not only mental flexibility but also motor skills and coordination. The mental agility developed through foreign language learning can transfer to physical activities, helping older adults improve their reaction times, coordination, and motor control during sports activities. It is interesting to explore the transfer of cognitive skills, such as attention and executive function, from language learning to sports. For example, increased attentional control in language learners may help them focus better during sports activities like tennis, dancing, or even walking in complex environments. In addition, the cognitive strategies developed in language learning, such as pattern recognition and problem-solving, enhance older adults’ abilities to learn and master new motor skills in sports and the brain’s motor cortex can benefit from the cognitive challenges posed by language learning, resulting in improved physical performance and coordination.

The connection between being involved in sports and the state of mind has been a matter of investigation from a long time ago. It was believed that sports make a great impact on people’s social, psychological, neurological, and mental or brain health. Institutional education was built on the benefit sport can bring into the classroom. Being part of a team in the classroom or in sports has a social value because students develop the feeling of belonging. This feeling gives strength to survive in all circumstances and the wish to belong to a group gives students confidence they are not alone. Anxiety, loneliness, and depression lose the place in student’s heart.

Cognitive stimulation through physical and mental exercise cause a synergistic approach to delaying Alzheimer’s disease in older population.

Regular physical exercise, such as walking and fitness activities, promotes brain health by improving blood flow and stimulating the release of neurotrophic factors. When combined with cognitive exercises, like learning a foreign language, this approach creates a holistic brain workout that can delay or prevent the onset of Alzheimer’s disease. It is an important point to see the relationship between physical activity and cognitive resilience, emphasizing the positive effects of aerobic exercise (like fast walking) on hippocampal growth, memory, and learning. [10] Also, sports like chess, table tennis, or even team sports like basketball require players to make quick decisions, anticipate opponents’ moves, and strategize effectively. Such sports act as cognitive training by engaging the prefrontal cortex, which is involved in decision-making and executive functions.

“The interest in a new approach to education through the significance of physical activity that had its beginnings during the Renaissance reached its culmination in the



18th century during the Enlightenment. Many Enlightenment thinkers during this period devoted their attention to the importance of physical activity and play as tools for improving health and education. However, the foremost among them was Rousseau. For Rousseau, physical education becomes a pivotal element in the formation of the youth within a comprehensive pedagogical system that promotes their intellectual development while ensuring their physical and mental well-being. Rousseau's ground breaking theories on physical education found widespread acceptance among a multitude of intellectuals, educators, and philosophers during the Enlightenment" (Alexandra Martin-Rodriguez, et al. 2024).

Julia C. Basso and Wendy A. Suzuki (2017) wrote that "the positive influence of exercise on mood and cognition across the lifespan has become a topic of much excitement. In particular, abundant data suggest that physical activity can reduce the risk of various neurological diseases and protect the brain from the detrimental effects of aging"<sup>9</sup>. [11]

Apart from treating mental deterioration, sports' exercises have a positive effect on learning capabilities by boosting cognition. Happy and relaxed individuals precede to learning new things with excitement, ease and piece in mind. Learners are in a good mood with reduced stress and the positive effect on cognition functioning, "demonstrating behavioural effects ranging from strongly positive to detrimental" [11: 128].

Cognitive training and sports activities (Prakash RS, et al. 2015) or doing physical exercises on an everyday basis can help older people of 65+ to stay in good shape both physically and mentally (Gligoroska JP, Manchevska S. 2012). [12, 13] Disorders of any kind stop developing or slow down the process of cognitive deterioration making the living conditions fulfilled with positive expectations. Learning a new foreign language is not a must, but a need to maintain cognition that effects awareness so that the view of the surrounding world is in agreement with the state of mind, physical condition and positive attitude towards the environment.

Investigations and research conducted by cognitive linguists focus on the factors behind long-term memory retention, associative memory, retention of motor skills and language learning availability. As a result, it appeared that sports used as a tool has a special place and role in providing adults and older people with memory retention, ability to sustain attention for a long time, capability to take and store information, and positive behaviour towards learning a new foreign language. Alongside, problem-solving, decision-making, working tasks and working memory (Kramer et al. 2006), verbal fluency, accurate and fluent language performance skills, learners are proved to become trained to show cognitive manifestation in real life. In conclusion, learning tests reveal the fact that physical exercise intensity correlates with cognitive factors to boost learning capability. [14]

Metacognitive skills developed in older people enhances self-regulation and cognitive control in learning a foreign language.

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<sup>9</sup> See also: Kramer, A.F., Erickson, K.I., Colcombe, S.J. (2006). Exercise, cognition, and the aging brain. *J Appl Physiol.* 101, 4, 1237-1242.



Older adults learning a foreign language often develop metacognitive strategies, which involve awareness and control over their own learning processes. These strategies help them monitor their understanding, plan learning tasks, and adapt when they encounter difficulties, which are crucial for maintaining cognitive health.

“One study, for example, that compared the effects of various maximal resistance regimens (none versus 40%, 70%, or 100% of 10-repetition maximum) on cognitive functioning revealed that different intensities of exercise might differentially improve distinct types of brain functions. ... moderate-intensity exercise may be more beneficial for executive functions, whereas high-intensity exercise may be more beneficial for information processing” [11: 129].

Research data underlines that sports should be incorporated into daily routine of people no matter of their age, because positive effects are undeniable and with the old people the state of mind and psychological preparation to learn without stopping are most important. Cognitive and sports training or physical activities<sup>10</sup> play a significant role in second language (L2) acquisition by enhancing the underlying cognitive processes that facilitate language learning.

The role of social interaction in language learning and sports has a dual cognitive and emotional boost in people of all ages.

Both language learning and sports activities often involve social interaction, which provides additional cognitive and emotional benefits. Engaging in social settings while learning a language or participating in sports promotes emotional well-being and further stimulates cognitive processes, contributing to a slower decline in cognitive abilities.

The social and emotional benefits of combining sports and language learning are proven, such as increased motivation, better memory retention, and enhanced mood, all of which contribute to overall cognitive health. The social aspects, including communication and teamwork encourage brain stimulation through the need for quick thinking, problem-solving, and emotional regulation.

### **The risk of Alzheimer's disease compared to bilingualism and active lifestyle**

Alzheimer's disease is a neurodegenerative disorder characterized by progressive cognitive decline and memory loss. Its prevalence increases with age, particularly affecting older adults. While specific statistics can vary based on factors such as geographic location, ethnicity, and lifestyle factors. Alzheimer's disease is one of the most common forms of dementia worldwide. According to the World Health Organization (WHO), around 50 million people globally were estimated to be living

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<sup>10</sup> Jennifer Etnier and Benjamin A. Labban (2012). The Influence of Physical Exercise on Cognitive and Brain Health. *Brain*, 1453, 87-101. These two psychologists review the evidence linking physical exercise to cognitive benefits, including improved verbal memory and linguistic skills. Their findings support the idea that physical exercise, like sports, can create an optimal environment for learning new languages by enhancing cognitive functions.



with dementia in 2020, with Alzheimer's disease being the most common cause. While Alzheimer's disease can occur in individuals younger than 60 (referred to as early-onset Alzheimer's), the majority of cases occur in individuals aged 65 and older. Studies suggest that approximately 10% of people aged 65 and older have Alzheimer's disease. As the population ages, the prevalence increases significantly, with estimates indicating that about 32% of people aged 85 and older may have Alzheimer's disease. Due to aging populations and longer life expectancies, the number of people living with Alzheimer's disease is expected to rise in the coming decades. By 2050, the number of people with dementia globally is projected to reach 152 million, according to the Alzheimer's Disease International (ADI). Women may have a higher risk of developing Alzheimer's disease compared to men, partially due to their longer life expectancy. However, the reasons for this gender difference are not fully understood and may involve biological, genetic, and hormonal factors.

Research suggests that mental activities could help delay the onset or progression of Alzheimer's disease by enhancing neuroplasticity and cognitive reserve, which are critical for brain resilience. [16] Bilingual individuals often have a later onset of Alzheimer's symptoms, which highlights the protective effect of language learning on brain health.

Bialystok, Craik and Freedman (2007) found in their experiments that bilingualism delays the onset of Alzheimer's disease symptoms by up to 4 to 5 years compared to monolingual individuals. [15] The cognitive demands of two languages enhance executive functions and create cognitive reserve. Stern (2002) discussed the concept of cognitive reserve, which suggests that engaging in intellectually stimulating activities, such as learning a new language, can build a buffer against cognitive decline. Activities that challenge the brain promote neuroplasticity and can delay the onset of Alzheimer's symptoms.

Valenzuela, Sachdev (2009) and Bak et al. (2016) conducted studies to demonstrate that older adults who learned a new language showed significant improvements in cognitive functions compared to a control group whose members didn't have such experience and knowledge. They found that learning activities helped reduce the risk of dementia generally.

Physical activity has been shown to promote overall brain health by increasing blood flow to the brain, stimulating the growth of new brain cells (neurogenesis), and enhancing synaptic plasticity, which is crucial for learning and memory. Brain plasticity, or the brain's ability to reorganize itself by forming new neural connections, remains active well into older age. Both learning a foreign language and participating in regular physical activity stimulate plasticity, enhancing cognitive reserve—the brain's ability to compensate for neural damage caused by aging or neurodegenerative diseases. Research has shown that language learning induces changes in the brain's neural networks, particularly in areas related to memory, attention, and problem-solving. Thus, physical exercise stimulates neurogenesis and neuroplasticity in older adults, and combining it with language learning leads to a more comprehensive enhancement of cognitive reserve. The evidence is provided from research on cognitive reserve and Alzheimer's prevention, showing that those



who engage in both physical and mental exercises have a lower risk of cognitive impairment.

Regular exercise can help manage and reduce several risk factors associated with Alzheimer's disease, including high blood pressure, high cholesterol, diabetes, obesity, and cardiovascular disease. By addressing these risk factors, exercise can help lower the overall risk of developing dementia. Exercise has neuroprotective effects, meaning it can help protect brain cells from damage and degeneration. It may also reduce inflammation and oxidative stress, both of which are implicated in the development and progression of Alzheimer's disease.

Exercise is known to boost mood and reduce stress, anxiety, and depression. Chronic stress and mood disorders have been linked to an increased risk of cognitive decline and dementia, so managing these factors through physical activity can have positive effects on brain health. Participating in sports and physical activities involves social interaction, which can provide emotional support, reduce feelings of loneliness and isolation, and improve overall well-being. Social engagement has been associated with a lower risk of cognitive decline and dementia. The social factor is of extreme importance in the life of old people (65+) because any isolation leaves a person feel lonely and useless. Upon retirement, the employment status is lost and a person suddenly feels that he/she is removed from social obligations that creates the feeling of dissatisfaction and loneliness.

Foreign language learning has been associated with various cognitive benefits, and some research suggests that it may help postpone the development of Alzheimer's disease and other forms of dementia. Learning and using a second language require cognitive effort, including memory, attention, and problem-solving skills. This cognitive engagement contributes to the development of cognitive reserve, which is the brain's ability to withstand neuropathological damage before showing clinical symptoms of cognitive decline. Individuals with higher cognitive reserve may experience a delay in the onset of Alzheimer's disease or other dementias. Learning a new language stimulates brain plasticity, the brain's ability to reorganize and form new neural connections. This process involves various brain regions, including those associated with language processing, memory, and executive function. Reduced stress levels can improve cognitive functions such as working memory and concentration, making it easier to learn a new language.<sup>11</sup>

The relationship between sports and learning foreign languages is an interdisciplinary topic that has been explored by researchers interested in the cognitive and physical benefits of these activities. Some studies have examined how physical activity can enhance cognitive functions such as memory and learning, which are essential for acquiring a new language. While this specific intersection is not as extensively researched as other areas, there are some notable authors and studies that touch upon these themes. Ursula K. Fischer and Lars Nyberg<sup>12</sup> explored how combining physical

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<sup>11</sup> Marc, P. A., et al. (2018). The Impact of Acute Stress on Attentional Control and Associated Neurofunctional Correlates: The Role of Physical Exercise as a Stress-Buffer.

<sup>12</sup> Ursula K. Fischer and Lars Nyberg (2018). The Combined Effects of Physical Activity and Cognitive Training on Health and Cognitive Function in Older Adults: A Meta-Analysis.



activity, such as sports, with cognitive training (including language learning) can enhance cognitive function. The findings suggest that physical exercise improves brain plasticity, which is crucial for learning new skills, including languages.

We can conclude that bilingualism has been linked to improvements in executive function, which encompasses abilities such as problem-solving, task-switching, and cognitive flexibility. These executive functions are important for everyday activities and may help individuals cope with cognitive decline associated with aging or neurodegenerative diseases like Alzheimer's. Some studies suggest that bilingual individuals may experience a delay in the onset of Alzheimer's disease symptoms compared to monolingual individuals. While the exact mechanisms underlying this effect are not fully understood, it is hypothesized that bilingualism enhances cognitive reserve and provides a buffer against neuropathological changes in the brain. While research on the relationship between foreign language learning and Alzheimer's disease is ongoing, the cognitive benefits of bilingualism and lifelong learning are well-established. Incorporating language learning into daily routines, particularly during midlife and later years, may contribute to cognitive resilience and support healthy brain aging.

## Conclusion

Previous research related to the factors that enable better cognitive, mental and physical activity in older people over the age of 65, have shown that maintaining physical condition while learning new things such as foreign language contributes to better cognitive abilities and overall health, both of body, spirit and mind.

Based on Piaget's principles in his cognitive theory, the teaching model should follow the technique of starting with concrete, progressing to complex and abstract tasks during new language learning to adults. Activities that combine social interaction with cognitive tasks, such as language classes and sports organized in groups are beneficial for cognitive health.

Research proved that bilingual people are exposed to cognitive decline in a smaller percentage, unlike monolinguals. It is similar with the factor of physical inactivity or reduced activity in learning new things.

As a conclusion, it is suggested that the problem with reduced cognitive ability in older people occurs when the interest in greater engagement of the mind and body in everyday activities decreases. The claim is for organized further education in learning foreign languages for older people (60+) and groups of older adults for regular physical exercises. These activities should be seen as special medical assistance to the elderly population for leading a healthy life.

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