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LANGUAGE STIMULATION FOR A HEALTHY ACTIVE AGING: COGNITIVE TRAINING PROGRAM

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Abstract. Currently, the increase in life expectancy worldwide poses new challenges and opportunities for older adults. Frailty, a multidimensional condition that can manifest itself in various ways, emerges as a significant obstacle to aging, impacting the quality of life of this population. Among the changes associated with aging, alterations in key brain areas stand out, such as Broca's and Wernicke's areas, which can affect language processing. Aware of these challenges, it is imperative to develop specialized cognitive training programs that promote active, healthy and satisfactory aging. These programs play an essential role in maintaining and improving cognitive skills through activities adapted to the individual characteristics of each older person. In this context, a training program is proposed that seeks to enhance fluency, precision and understanding of language in various contexts and situations. Through exercises specifically designed to strengthen the brain areas associated with language processing, this program aims to improve the quality of life of older adults by facilitating more effective communication and active participation in their social environment. The implementation of initiatives of this type not only addresses the cognitive challenges associated with frailty in aging, but also promotes a proactive approach towards the mental health and well-being of the population.

Keywords: older adults; cognitive stimulation; language; cognitive training program; healthy active aging.

ESTIMULACIÓN DEL LENGUAJE PARA UN ENVEJECIMIENTO ACTIVO SALUDABLE: PROGRAMA DE ENTRENAMIENTO COGNITIVO

Resumen. En la actualidad, el aumento de la esperanza de vida a nivel mundial plantea nuevos desafíos y oportunidades para las personas adultas mayores. La fragilidad, una condición multidimensional que puede manifestarse de diversas formas, emerge como un obstáculo significativo para el envejecimiento,

impactando la calidad de vida de esta población. Entre los cambios asociados con el envejecimiento, se destacan alteraciones en áreas cerebrales clave, como las áreas de Broca y de Wernicke, lo que puede afectar el procesamiento del lenguaje. Conscientes de estos desafíos, resulta imperativo desarrollar programas de entrenamiento cognitivo especializados que fomenten un envejecimiento activo, saludable y satisfactorio. Estos programas desempeñan un papel esencial al mantener y mejorar las habilidades cognitivas mediante actividades adaptadas a las características individuales de cada persona mayor. En este contexto, se propone un programa de entrenamiento que busca potenciar la fluidez, precisión y comprensión del lenguaje en diversos contextos y situaciones. A través de ejercicios diseñados específicamente para fortalecer las áreas cerebrales asociadas con el procesamiento del lenguaje, este programa aspira a mejorar la calidad de vida de las personas adultas mayores al facilitar una comunicación más efectiva y una participación activa en su entorno social. La implementación de iniciativas de este tipo no solo aborda los desafíos cognitivos asociados con la fragilidad en el envejecimiento, sino que también promueve un enfoque proactivo hacia la salud mental y el bienestar de la población.

Palabras clave: personas adultas mayores; estimulación cognitiva; lenguaje; programa de entrenamiento cognitivo; envejecimiento activo saludable.

Introduction

Today, the world's population has a longer life expectancy. In 2019, this expectancy was 72.8 years, however, it is expected to increase to 77.2 years in 2050 (United Nations Organization, 2023). While it is true that gaps still exist among the less developed countries, despite progress in increasing longevity. This is due to the persistence of social conflicts, violence, high infant and maternal mortality, sexually transmitted diseases, among others.

Spain, for its part, is very well positioned, although COVID-19 wreaked havoc on society with an increase in mortality in 2020. This fact was observed in 2021, as Spain was the European Union country with the highest life expectancy with 83.3 years compared to other countries. Likewise, the National Institute of Statistics (2022) projects a life expectancy in 2071 of 86 years for men and 90 years for women compared to current values (81.8 years for men and 87 years for women). It should be noted that longevity has undergone a remarkable evolution, driven by the medical and technological advances of the last decade. Another aspect that has influenced this progress has been the development in the lifestyle of society, highlighting changes in eating habits, the promotion of sports, better accessibility to health services, and other factors that collectively contribute to well-being and a significant extension of life expectancy.

Longevity, however, is not exclusively linked to the quality of life a person possesses, but also to socioeconomic and integral health factors. According to the experts of the World Health Organization (2023), healthy life expectancy is defined as the number of years that a person can live in complete health, free of disease, illness, disability and/or dependence. It is a statistical indicator that is based on the average age at which people live, it does not take into account other variables such as mental health and emotional well-being of the person. On the other hand, the concept of quality of life has evolved from a sociological approach (economic and social factors) to a psychosocial perspective, which encompasses subjective objectives of well-being or personal satisfaction with life. Authors such as López and Carrillo (2020) state that quality of life is a set of multidimensional factors (economy, physical and mental well-being, personal development, interpersonal relationships, leisure, level of activity and performance, autonomy, inclusion, social support, among others) that favor personal and social well-being. Quality of life can vary considerably from one person to another, even among

people of the same age and health status. It is important to recognize that longer life expectancy does not necessarily guarantee a good quality of life in the elderly. It is possible for a person to live longer, but experience limitations, which can negatively affect their quality of life. Therefore, it is essential to consider both life expectancy and quality of life when addressing population aging and designing policies and programs that promote healthy and successful active aging.

Healthy active aging refers to the participation and well-being of older adults in different life contexts (social participation, learning, optimizing health opportunities) in order to improve their quality of life at this stage (IMSERSO, 2011; Rita *et al.*, 2016). However, frailty in aging is a multidimensional condition that can manifest itself in different ways in each individual. It is a state of physical, cognitive and/or emotional vulnerability in the elderly. It is characterized by a decrease in reserve and resilience to physical, cognitive and/or social stressors (IAGG, 2016).

The relationship between frailty and healthy active aging is complex and multifaceted, involving biological, social and psychological factors. On the one hand, active aging seeks to promote the health, well-being and participation of older adults, fostering their autonomy and quality of life. On the other hand, frailty represents a challenge, as it limits the ability of older people to participate in activities of daily living. Frailty can lead to an increased risk of functional and cognitive impairment, chronic diseases and dependence. This can diminish the quality of life. It is important to mention that frailty is not an irreversible condition and can be addressed and treated. Healthy active aging plays an important role in the prevention and management of frailty in older adults (Bermejo, 2010). By adopting a holistic approach that includes promoting physical and cognitive activity, healthy eating, stress and emotion management, maintenance of interpersonal relationships, and accessibility to services, the effects of frailty can be prevented and mitigated. A multidisciplinary approach involving healthcare professionals, caregivers and personal assistants, family members and the community at large is essential to identify and address frailty in a comprehensive manner. This may include tailored exercise programs, cognitive training programs, nutritional interventions, emotional and social support strategies, among others.

Therefore, cognitive training programs are interventions specifically designed to stimulate and improve cognitive skills in the elderly. These programs usually include a variety of activities and exercises that exercise different cognitive areas (cognitive functions): memory; language; attention and concentration; comprehension; learning; reasoning and problem solving; among others (Clemente *et al.*, 2015; Calatayud *et al.*, 2020). These programs can be carried out individually or in groups, and can employ different methods and resources such as: memory games, puzzles, attention exercises, logic exercises, cognitive training tools, etcetera. The main objective of cognitive training programs in this group is to maintain and improve cognitive function for healthy active aging. Interestingly, individual goals may vary according to the needs and preferences of the individual, and it is important to tailor cognitive training programs to address their specific needs (Sanz, 2021; Sanz, 2023).

In language processing in older adults, there are several areas of the brain that may be affected. One of the key areas related to language is Broca's Area, which is located in the frontal region of the brain, specifically in the left hemisphere. This brain area plays a fundamental role in language production, specifically in the generation of grammatical structure and verbal articulation. Lesions or dysfunctions in Broca's Area can result in a condition known as Broca's aphasia, in which individuals have difficulty producing words

and sentences correctly, but retain language comprehension. Likewise, this area may experience changes related to normal aging, such as a decrease in verbal fluency and slower verbal processing speed. However, in some cases, older people may experience more pronounced deterioration due to neurodegenerative diseases, such as Alzheimer's disease or stroke. In addition to this area, other brain regions are also involved in language processing such as Wernicke's Area located in the left temporal region, involved in language comprehension. Lesions in this area can result in a condition known as Wernicke's aphasia, in which individuals have difficulty understanding language, although their verbal output may be relatively fluent. The angular gyrus region, located in the inferior parietal region, plays an important role in reading and processing written words. Alterations in this area can lead to difficulties in reading and writing, such as acquired dyslexia (Juncos and Pereiro, 2002).

For these reasons, the article will focus on detailing a cognitive training program specially designed to stimulate language in older adults. The purpose is to foster not only affective communication, brain stimulation and understanding, but also to improve self-esteem and confidence in the participants. In addition, it seeks to reinforce interpersonal communication, promoting group cohesion and creating an environment conducive to the cognitive and emotional enrichment of the older adults involved.

Method

The methodology employed in the creation and development of the language stimulation training program has been based on a sound and comprehensive approach, starting with the review methodology as a starting point. This initial phase, based on the principles proposed by Fernández and Simón (2022), has made it possible to establish a solid theoretical and scientific knowledge base. The primary objective of this review has been to gain a thorough understanding of the fundamentals of language-related cognitive functions, to explore various existing approaches and techniques, and, crucially, to support and justify each strategic choice and activity integrated into the program. The review has not only focused on understanding cognitive and linguistic theory, but also on keeping up to date with the latest research and advances in the field. This has allowed for a more precise application of strategies tailored to the specific needs of the target population, ensuring that the program is not only grounded in theory, but also relevant and effective in practice.

Subsequently, the methodology has been oriented towards the creation and development of program activities. Various educational methodologies have been chosen and combined in order to provide a rich and stimulating learning environment, especially designed for seniors. The expository method was used for the oral explanation of the activities. This approach allows a clear and structured transmission of information, ensuring that participants understand the proposed tasks and their objectives; the interactive methodology has been implemented to encourage active participation and communication among participants. It provides opportunities to express ideas, share experiences and strengthen communication skills in a participatory environment; the inclusion of multisensory learning has been key to activate and consolidate activities through different sensory channels. This approach recognizes the importance of sensory stimulation for effective learning, especially in the context of aging; cooperative learning has been adopted for the joint construction of knowledge. This method not only promotes

collaboration and mutual support, but also contributes to the development of social skills and a sense of belonging.

The use of participatory methodologies has been a deliberate choice to encourage activity and the active construction of knowledge. This approach not only makes learning more meaningful, but also promotes social interaction and intrinsic motivation. Essential aspects for a program designed not only to stimulate language, but also to enhance personal development and promote lifelong learning.

Ultimately, the methodology adopted has not only been comprehensive in its approach, addressing both theory and practical application, but also flexible and adaptive to meet the specific needs of the target population. The combination of educational approaches has resulted in a balanced and holistic program that seeks not only to improve language skills, but also to enrich the learning experience and promote active and healthy aging.

Objectives

The overall objective of this program goes beyond purely linguistic improvement; it aims to cultivate enriching and effective verbal communication specifically tailored to the needs of older adults. The ultimate goal is to design a sequence of activities that not only strengthen language skills, but also act as an essential bulwark against cognitive decline associated with aging.

The program aims to preserve and improve vital cognitive functions, focusing on specific areas of the brain related to language, such as Broca and Wernicke. By addressing language fluency, accuracy and comprehension, the aim is not only to improve the quality of daily communication, but also to prevent the cognitive decline that often accompanies the aging process.

The focus on language fluency and accuracy is not simply a technical exercise; it is aimed at improving participants' social participation. By providing tools for more effective communication, the program seeks to foster more satisfying social interactions. The ability to express oneself clearly and understand accurately contributes to building stronger relationships and active participation in diverse social environments.

The essence of the program lies in its contribution to enriching the quality of life of the participants. Effective communication is fundamental to emotional connection, expression of thoughts, and participation in meaningful activities. By enhancing language skills, the program seeks not only to improve verbal communication, but also to enhance participants' ability to express their needs, desires and experiences, which in turn improves their overall well-being.

This program is not only conceived as a set of exercises; it aims to be a catalyst for active and healthy aging. By maintaining and strengthening essential cognitive functions through language enhancement, we seek to provide participants with the tools necessary to proactively address the cognitive challenges associated with aging. This involves not only maintaining language skills, but also promoting an active and positive attitude towards aging.

Sequence of activities

A well-structured sequence of activities allows for a gradual progression in terms of difficulty and cognitive challenge. Beginning with simpler, more basic activities, it has progressed to more complex tasks as cognitive skills are strengthened. The present sequence of activities not only focuses on improving cognitive functions associated with language, such as Broca's and Wernicke's areas, but is also designed to benefit other key cognitive areas: memory, attention, reasoning and visual-spatial skills.

Initial activities focus on speech production and grammar, working specifically in Broca's areas. These exercises not only improve language skills, but also involve a verbal memory component by recalling and repeating specific phrases. This simultaneous focus on memory and language production lays the foundation for comprehensive cognitive training.

The next phase introduces activities designed to stimulate linguistic creativity. Word games, creating stories, and participating in writing activities not only strengthen connections in Broca's areas, but also engage long-term memory and reasoning. The creative generation of verbal content requires the activation of multiple cognitive processes, thus promoting an overall enrichment of brain function.

Activities aimed at improving language comprehension, focused on Wernicke's region, not only work on the ability to listen and understand, but also involve sustained attention. Attention and working memory are essential for following complex instructions and understanding auditory messages, thus contributing to attention and memory training.

Within the sequence, specific games aimed at stimulating verbal memory are included. Remembering lists of words, associating terms, and engaging in activities that challenge short-term and long-term memory strengthen this key cognitive function. This phase not only improves the retention of linguistic information, but also strengthens the individual's overall memory.

The social component of the sequence, such as group conversations and collaborative writing projects, not only improves language skills in an interactive context, but also stimulates social reasoning. The ability to understand and respond appropriately in social situations is a complex cognitive function that benefits from active social interaction.

In short, this sequence of activities goes beyond language improvement, comprehensively addressing several higher cognitive functions. From speech production to linguistic creativity, attention, memory and visual-spatial skills, each phase of the sequence contributes to complete cognitive training. This holistic approach not only enriches the learning experience, but also provides tangible benefits to overall brain function. The connection and synergy between the different cognitive areas strengthens brain plasticity and promotes active and healthy aging, improving the quality of life of older adults who participate in this comprehensive cognitive training program. Thus, the following table also shows all the aspects mentioned above (see Table 1).

Table 1

Synthesis of the sequence of activities that are developed to work with language

SESSION 1. WORD PORTRAITS: THE ART OF DESCRIPTION.	
Activity 1. The descriptions box.	
Development	Blank paper cards and a variety of everyday objects are prepared in advance. The latter are placed inside a cardboard box and can be random objects such as a watch, a key, a ball, a charger, tweezers, among others.



Next, each participant takes a paper card and makes a detailed description of one of the objects without mentioning its name. The description should include physical characteristics, functions and any other relevant information. Once everyone has finished writing, the cards are collected and shuffled into the box.

Subsequently, participants take turns taking a card out of the box without reading it aloud. Each person must describe the object based solely on the description written on the card. The other participants must try to guess what the object is. The participant who correctly guesses the object wins a point and then the written description is revealed for verification. The activity continues with different cards and objects until everyone has had a chance to describe and guess.

Methodology

- Expository method. • Interactive methodology.
- Multisensory learning. • Cooperative learning.

Functions cognitive

- Language. • Attention. • Memory. • Reasoning.
- Perception. • Comprehension.

Activity 2. Descriptive challenge: Weaving words through everyday objects.

Development



Initially, the game of chain words is used as a reference. Participants must say a word by associating it with an object they have seen or used during that day that begins with the last letter of the previous word. They should also describe the word in as much detail as possible, remembering what it is or what it is used for, the colors, the texture, its usefulness, among others. The objective is to keep the string of words without repetition and to describe the object in question.

Methodology

- Expository method. • Interactive methodology.
- Multisensory learning.

Functions cognitive

- Language. • Attention. • Memory. • Reasoning.
- Processing speed. • Comprehension.

Activity 3. Painting with words the essence.

Development

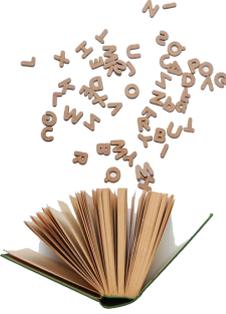


You will take a box in which you will place small pieces of paper with all the names of the people who are present in the room. Each of them should randomly choose a piece of paper and dive into their imagination to start describing the chosen person in detail. They can use poetic comparisons, metaphors, compare it with a painting, a famous person, a song, among others. The aim is to "capture" the physical traits and internal qualities of the person, such as their character, their passions or their way of relating to others.

After an estimated time, participants can share their descriptions with the group. Each one will be able to read his or her 'verbal portrait' and try to convey the essence of the person. Finally, each participant should reflect on the similarities and differences between the descriptions, and appreciate the diversity of perspectives.

Methodology

- Expository method. • Interactive methodology.
- Multisensory learning.

Functions cognitive	<ul style="list-style-type: none"> • Language. • Attention. • Memory. • Reasoning. • Perception. • Comprehension. • Learning.
Activity 4. Lexicon Project: Forging a glossary of unique terms.	
<p>Development</p> 	<p>With the help of a basic dictionary, participants have to think of a completely new and original word, with an interesting sonority and any imaginative element. Participants will be provided with poster boards with a template to describe their invented word, along with a drawing and a phrase. This activity can be done individually, in pairs or in small groups to make it a little easier. Once everyone has created their words, a brainstorming session can take place. Each participant will share their invented word and its meaning, and the others will be able to express their impressions or associations with the new word, even combining it with their original idea. Finally, a small dictionary with all the words collected will be made in a cooperative way.</p>
Methodology	<ul style="list-style-type: none"> • Expository method. • Interactive methodology. • Multisensory learning. • Cooperative learning.
Functions cognitive	<ul style="list-style-type: none"> • Language. • Attention. • Memory. • Reasoning. • Perception. • Comprehension. • Learning.
SESSION 2. BETWEEN PAGES AND VERSES: A JOURNEY OF WORDS.	
Activity 1. Three landing pages: Write your short story.	
<p>Development</p> 	<p>Beforehand, the participants will be explained what a micro-story is, inviting them to participate in the explanation with examples. They will then be invited to embark on an imaginary journey through the writing of a micro-story. They will be provided with three blank pages, representing three different destinations that can be real or imaginary. Participants must choose one of the pages and create a unique micro-story based on the destination they select. Finally, a vote will be held among the whole group to choose which micro-story is the most interesting. This activity encourages creativity and the exploration of different scenarios, allowing participants to freely express their imagination.</p>
Methodology	<ul style="list-style-type: none"> • Expository method. • Interactive methodology. • Multisensory learning.
Functions cognitive	<ul style="list-style-type: none"> • Language. • Attention. • Reasoning. • Perception. • Comprehension. • Learning.
Activity 2. Haikus in bloom: Ephemeral poems.	
<p>Development</p> 	<p>An explanation of what a haiku is (traditional Japanese poetic form composed of three verses of 5, 7 and 5 syllables respectively). Haikus capture an image of nature and convey an emotion or feeling, which is why each participant is encouraged to choose a theme or an image of nature that inspires them, supported by some photography and even zen music and nature sounds. It can be a landscape, a flower, a season of the year, an animal, among others. Afterwards, each participant must write his/her poetic expression accompanied by a small drawing with the paintbrush, and then share it as a group.</p>
Methodology	<ul style="list-style-type: none"> • Expository method. • Interactive methodology. • Multisensory learning.
Functions	<ul style="list-style-type: none"> • Language. • Attention. • Reasoning. • Perception.

cognitive	• Comprehension. • Learning.
Activity 3. Stories in threads of imagination.	
Development	<p>A deck of cards or a set of cards with various images, such as illustrations, photographs or printed images, is generated. Next, a certain number of cards are selected from the deck (e.g., 5, 10 or 15, depending on the desired length of the game) and the cards are then lowered to be placed face down in a pile in the center of a table.</p> <p>Subsequently, the group determines who is the first narrator of the participants. This can be done by consensus, by turn order or by using any other method such as a die. The opening narrator takes the first card from the pile and shows it to the other players.</p> <p>Using the image of the card as inspiration, the narrator begins to tell a story related to the image, it can be a short story to remember and keep the flow of the game going. Once the storyteller has finished his turn, the player to his left takes the next card from the pile and continues the story, linking his part to the image on the new card. The game continues in this way with each player adding his or her part of the story until an ending (open or closed) is generated. The game should end when all players have had a chance to narrate.</p>
	
Methodology	• Interactive methodology. • Multisensory learning. • Cooperative learning.
Functions cognitive	• Language. • Attention. • Memory. • Reasoning. • Comprehension. • Perception. • Learning.
SESSION 3. WEAVING THE STORY OF A LIFE.	
Final product. Portraits of a life: Treasures of experience.	
Development	<p>This activity gives them the opportunity to collect and share their memories, experiences and reflections in a meaningful and tangible way. To this end, the idea of creating a memory book or life album where they can record their personal stories and experiences will be explained to each participant beforehand and they are encouraged to reflect on the most important moments of their lives, their goals, achievements, lessons learned and significant memories. They are also provided with a template as a basis and support with some questions, allowing them to write their story.</p> <p>For this process, several group writing sessions are also held where they share and discuss their life experiences, using descriptions, detailing emotions and personal anecdotes to enrich the writing. If some participants have difficulty writing, a writing partner or encouraging oral storytelling is offered as an additional support network. This will depend on the characteristics of the user.</p> <p>Therefore, participants are asked to provide family photographs, printed images or magazine clippings, among others, that represent important moments in their lives. You will be helped to organize and select the most relevant and meaningful images to include in the memory book or life album, in a coherent and attractive way.</p> <p>Finally, an open day is held for each participant to share their life album with their family, friends, partner, or other interested users so that they can be part of this very special event.</p>
	

	This activity is the finishing touch to the sequence, since it will not only stimulate language in the elderly, but will also give them the opportunity to reflect on their lives and create a meaningful space to share with their loved ones.
Methodology	• Expository method. • Interactive methodology. • Multisensory learning. • Cooperative learning.
Functions cognitive	• Language. • Attention. • Memory. • Processing speed. • Comprehension. • Reasoning. • Perception. • Learning.

Note. Authorship (2023). This table shows a small cognitive training program for the stimulation of language and other cognitive functions that work with older adults. The images used are in the public domain.

Resources and materials

Regarding resources and materials for the training program, a careful selection has been planned to support the diversity of activities and goals established. Cardboard boxes, paper cards, writing materials, handouts and templates for writing and organizational activities will be included. The use of dictionaries, poster boards and photographs will provide visual support, stimulating comprehension and memory. The integration of computer equipment and microphones will facilitate multimedia and speaking activities. Artistic painting materials and binding cords or rings will be used for creative projects, encouraging artistic expression.

In addition, visual cards, printed images and magazine clippings will be used to stimulate the association of ideas and promote conversation. Printed copies of the participants' album will not only serve as a tangible record of their progress but will also facilitate reflection and sharing of experiences. Special attention will be paid to the ambience, incorporating decoration and elements that create a pleasant and comfortable environment for the participants.

It is essential to emphasize that flexibility is key in adapting these resources and materials. They will be adjusted according to the individual characteristics and preferences of the participants, ensuring a personalized experience focused on their needs. This approach ensures that the resources are not only effective pedagogical tools, but also facilitators of an inclusive and enriching learning environment.

Evaluation

The evaluation of the sessions and the sequence of activities is an essential component of the program, adopting a comprehensive approach that employs a variety of methods and tools to obtain a complete understanding of the results. The implementation of diverse evaluation approaches not only captures the richness and complexity of participants' experiences, but also facilitates the identification of areas for continuous improvement. How each method contributes to the holistic evaluation of the program is detailed here:

- A) The qualitative evaluation is carried out through individual interviews with the participants, establishing a direct channel to collect their impressions, feedback and suggestions for improvement after each activity. This approach provides valuable *insights* into participants' subjective perception, their level of satisfaction and the specific areas they find beneficial or challenging. The interviews not only

capture quantitative data, but also reveal qualitative aspects of the experience, thus enriching the overall understanding of the results.

- B) The evaluation of results is carried out through the individual activities proposed, such as the creation of a personal dictionary, the composition of micro-stories, the elaboration of haikus and the construction of a life album. Specific criteria such as relevance, narrative, organization and presentation of these creations are considered. This approach allows not only to evaluate the acquisition of language skills, but also to understand creativity, personal expression and the ability to apply what has been learned in concrete contexts.
- C) The overall evaluation focuses on the achievement of the established objectives, the participation of individuals, the results obtained and the general feedback. This approach provides a panoramic view of the program's performance, making it possible to identify areas of success and those in need of adjustment. Overall feedback from participants, along with the quantitative data collected, helps to adjust and adapt the sequence of activities to maximize the effectiveness of the program over time.
- D) Continuous evaluation emerges as the main option, carried out constantly throughout the activities and the project. This approach promotes learning and continuous improvement in a dynamic way. Feedback and observations are integrated into the process, allowing immediate adjustments to address challenges and optimize the learning experience. Continuous evaluation is not only a measurement tool, but also an active component that drives the constant evolution and adaptation of the program.

To carry out this comprehensive evaluation, various instruments are used, such as direct observation, evidence recording, verbal feedback, self-evaluation, learning diaries and short questionnaires. These instruments are implemented in a flexible manner, using supports such as sheets of paper, portfolios, rubrics and physical diaries, always adapting to the needs and context of the activity. This variety ensures that multiple dimensions of the learning experience are captured, allowing for a more complete and accurate assessment.

Overall, this comprehensive evaluation strategy contributes significantly to the effectiveness and adaptability of the program. The combination of quantitative and qualitative methods, together with the implementation of a variety of instruments, ensures a thorough and holistic assessment. Continuous feedback and the ability to adjust in real time allow the program to evolve according to the individual needs and experiences of the participants, thus ensuring its relevance and effectiveness over time. This careful attention to assessment reflects the program's commitment not only to the improvement of language and cognitive skills, but also to the holistic and unique experience of each participant.

Results

The diversity of objectives set out in this program translates into a comprehensive range of desired outcomes. This ambitious initiative not only aims to improve language skills, but also to strengthen verbal memory, positively impact emotional and social well-being, and address cognitive decline associated with aging. Here, we will detail in more detail how these objectives materialize into a wide variety of concrete benefits.

The core of the program is focused on the significant improvement of language skills. This covers essential aspects such as comprehension, oral expression, reading and writing. The goal goes beyond a simple increase in vocabulary; the aim is to promote verbal fluency and communication skills. The implementation of specific strategies, such as speaking exercises, reading aloud and writing activities, will contribute to a tangible increase in the effectiveness of daily communication.

The integration of language into cognitive training not only aims to improve language skills, but also has a direct impact on verbal memory. Participants will be guided through exercises designed to retain and recall critical information, details of conversations, words and instructions. This approach not only benefits verbal memory, but also stimulates other cognitive functions such as attention and reasoning, demonstrating the vital interconnection between language and cognitive functioning.

The program is not limited to cognitive improvements; it also seeks to generate a positive impact on the emotional and social well-being of the participants. Improved language skills, especially in oral expression and participation in meaningful conversations, are expected to contribute to an increase in self-esteem. The ability to communicate effectively can have a transformative effect on social relationships, fostering deeper and more satisfying connections.

The anticipation of a positive impact on self-esteem and social participation goes hand in hand with the vision of the program as a catalyst for more active and fulfilling aging. By providing tools for more effective communication, we seek to empower participants to participate more fully in social, cultural and community activities. This holistic approach not only benefits mental and emotional health, but also contributes to a positive perception of aging.

Specific attention to the regulation of cognitive decline associated with aging reflects the program's commitment to keeping the brain active and reducing the risk of neurodegenerative diseases. The combination of activities that challenge memory, attention and reasoning, along with the focus on language skills, creates an environment conducive to neuroplasticity and long-term brain health.

It is imperative to point out that, although these results represent ambitious goals, individual variability is recognized as a determining factor in the materialization of these benefits. Each person has unique needs and capabilities, and the effectiveness of the program is intrinsically linked to their adaptability. Understanding this diversity underscores the importance of tailoring strategies according to individual characteristics, thus maximizing the effectiveness of the program for each participant.

Discussion and conclusions

Adaptability and customization have emerged as crucial elements during the design and implementation of this program. The most important observation is the need to adjust the activities to the individual characteristics of each participant, recognizing the diversity of linguistic and cognitive skills present in the group. The importance of a thorough initial assessment proves to be an essential step in identifying specific areas that require further attention and a personalized approach.

The provision of continuous support and positive feedback proves to be a key component in the process. Creating a motivating and supportive environment contributes

significantly to maximizing results by encouraging participants to overcome challenges and advance their linguistic and cognitive development.

The inclusion of a variety of activities designed to stimulate various aspects of language: reading, writing, interacting and listening are strategically incorporated to comprehensively address language skills. This diversity of approaches provides a comprehensive framework for cognitive and linguistic development, offering a wide range of stimuli that benefit participants.

Gradual progression, starting with simpler activities and moving towards more complex ones, has been shown to be an effective strategy to ensure a smooth and adapted learning experience. This approach allows participants to progress at their own pace, ensuring that each step is an achievable and, at the same time, meaningful challenge for their development.

The program seeks not only to offer short-term benefits in terms of language and communication improvement, but also to generate a long-term impact on the cognitive health and quality of life of the participants. By cultivating richer and more effective communication, participants are expected to experience greater satisfaction in their daily interactions and maintain an active and resilient mind as they age.

In line with the words of the Italian neurologist Rita Levi-Montalcini (2022): "Keep your brain excited, active, make it work and it will never degenerate" (para. 2), the program is aligned with an active and committed approach to healthy aging. Providing seniors with meaningful opportunities to participate in a variety of activities promotes a higher quality of life, autonomy and independence. The philosophy of keeping the brain excited and active reflects the spirit that drives this program, where learning and cognitive stimulation are intertwined to cultivate full and healthy aging.

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