Word Generation Interventions for Individuals with Aphasia: A Systematic Review

Bruno da Costa Sales1*, Claudia Simões Pinto da Cunha Lima1

1SENAI CIMATEC University Center; Salvador, Bahia, Brazil

Aphasia is a disorder that affects a person's ability to communicate, compromising their ability to understand or express themselves. Although aphasia rehabilitation aided by computerized tools already exists, there are gaps in this area. This study aims to conduct a literature review to understand the current state of technology supporting the treatment of aphasia and to identify areas that still need to be explored, focusing mainly on tools with game characteristics and those that stimulate word generation. The review was conducted using the Capes and Scopus databases, searching for articles published in the last 20 years. The analyzed studies reveal the effectiveness of computational support in treating aphasia; however, few studies address this subject for Portuguese-speaking individuals with aphasia.

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Address for correspondence: Bruno da Costa Sales. Av. Orlando Gomes, 1845, Piatã. Zipcode: 41650-010. Salvador, Bahia, Brazil. E-mail: bruno.sales@aln.senaicimatec.edu.br.

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University Hospital in Belgium using tablets containing STAPP, an online application for speech treatment in Dutch-speaking patients. The objective was to verify the application's viability and acceptability to support patient rehabilitation.

Among the patients, 36% reported having no prior experience with mobile devices, and 32% had no experience with computers. Despite this, the study revealed a high acceptance rate, with an average satisfaction rate of 91%. This high acceptance indicates that technological support in treatment is well-received among patients, even those unfamiliar with the devices. However, it is essential to investigate potential differences in acceptance among Brazilian patients, considering the cultural and technological differences between countries.

Positive results were also observed in the research by Karen Mallet [4], where 30 stroke patients, with an average age of 69, participated in tablet therapy aimed at better understanding their perspective on the treatment. The tablets were loaded with applications selected by the doctors based on each patient's needs. The patients in this study were more familiar with technology, with 43% reporting average knowledge of computers. The results showed a positive response to tablet treatment despite difficulties in use. While 71.4% needed help using the tablet, 64.3% expressed interest in continuing to use the tablet even after being discharged from the hospital. In her study, Gail Ramsberger [5] followed three patients with different types of aphasia. One of the patients was a 33-year-old woman with severe speech and writing impairments due to aphasia. During the evaluation period, she used an application to convert speech to text for writing messages. The patient would then correct errors in the message using her speech until she was satisfied with the results. In just two sessions, the patient achieved a basic level of competence in communication and could produce an email. This study demonstrated the effectiveness of non-specific mobile applications for treating aphasia in helping aphasic individuals improve their communication skills.

**Conclusion**

The analysis of the articles reveals that computers and mobile applications are viable tools for supporting the traditional treatment of aphasia when accompanied by a professional. There is also a gap in the use of these technologies in Portuguese, which is crucial when dealing with a language disorder. Based on the results of this review, a support base for the development of interactive technology is expected to be generated that aids in the training of word generation for aphasic individuals. For instance, gamified applications could introduce a playful aspect to the treatment, enhancing patient engagement and effectiveness.

**References**