The BioVisualSpeech speech therapy games platform

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Introduction

Speech and language therapy is very important to treat children with speech sound disorders (SSDs).

Also, repeating the speech exercises is key to the child's progress. When training is continued at home, it can contribute to reaching speech improvements faster.

One way of motivating children to practice the speech exercises frequently is through computer games.

Here we propose a **speech therapy platform that includes several therapy games**. These games integrate speech therapy exercises that are usually done during the speech therapy sessions (fig. 1).
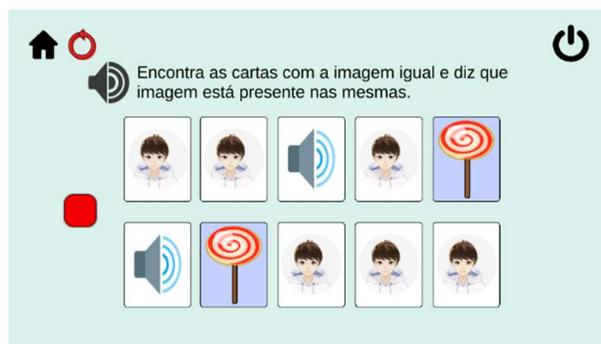

Fig. 1 Games for sigmatism.
(Top) Pairs game. (Bottom) Maze game.

The BioVisualSpeech platform and its games

Currently, the platform includes games: for **sigmatism**, for **dysphonia**, for practicing the **fricative consonants**, and for practicing **phonological awareness**.

The games are based on sound. Some are **controlled by the child's voice**, while in others the child needs to perform tasks after listening to phonemes or speech.
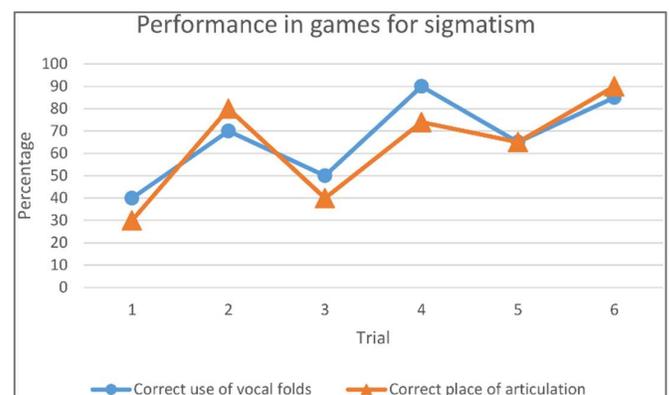

Fig. 2 Parameterization window.

Fig. 3 Post training information.

The main novelties of this platform are:

• The possibility of **personalizing** the games according to parameters of interest to speech and language therapy (fig. 2).

• **Post-training information** to the speech and language pathologist (SLP) about the child's speech performance according to those parameters (fig. 3).

The platform can be used during **face-to-face** and **online speech therapy sessions**, which makes it a useful tool for times like those lived during the Covid-19 pandemia.

Since the games include **automatic speech recognition systems** or **automatic voice analysis**, the platform can be used for **intensive training at home**, without the SLP or parent supervision.

Acknowledgments