Inclusive Glossary of Mathematical Terms

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Abstract:

The project main goal is to contribute for deaf children integration in bilingual pre-schools, through a bilingual glossary accessible to deaf and hearing people.

During 18 months a multidisciplinary team developed, tested and validated a bilingual glossary named GIM. It is a revised version of the classic memory card game, where the matching cards are not the same to allow a narrative about them. The matching is based on the first and last images of an animation video, seen by the children on a screen by inserting the card in an interface, developed in the scope of the project with FabLAB technology. Besides the animation explaining each concept, the videos include the written word and the LGP gesture, materializing the game also as a bilingual glossary. The current version of the game is composed of two sets of cards and respective

animations: the numbers between zero and nine and ten actions related to localization terms (e. g. above, below, in front of, behind).

There is still work to be done about the direct impact of the game in the deaf children learning concepts and interaction with earring pairs, but some valuable conclusions from educators feedback study can be assumed. The general belief in the potential of games in the educational process, namely for literacy and numeracy, is accompanied by a lack of accessible games for DHH children, and an overall lack of digital access in schools. Therefore, even if science increasingly sustains the implementation of games in schools, a long way must be completed, to ensure this can be a feasible reality, even more, when we consider students with such specific needs as deaf children.

The inclusion of teachers and educators in the game design and game development process, through ideation, discussion, and effective implementation seems to be a feasible strategy to respond to some of the previously explored concerns. Also, while extensively discussing the specificities of their students' educational needs, teachers are supporting the accessibility of the developed resource, operationalizing a proactive and inventive approach to digital inclusion. This approach also seems to address the inclusion pillars of representation and participation.

As result of a collaboration with the Brazilian University UNICAM – Campinas, GIM as also a Brazilian sign language version (LIBRAS) that is being tested by researchers coordinated by PHD Lilian Cristine Ribeiro Nascimento.

GIM plans, app and instructions can be found here.

Partners:

Fig1: interface and game cards

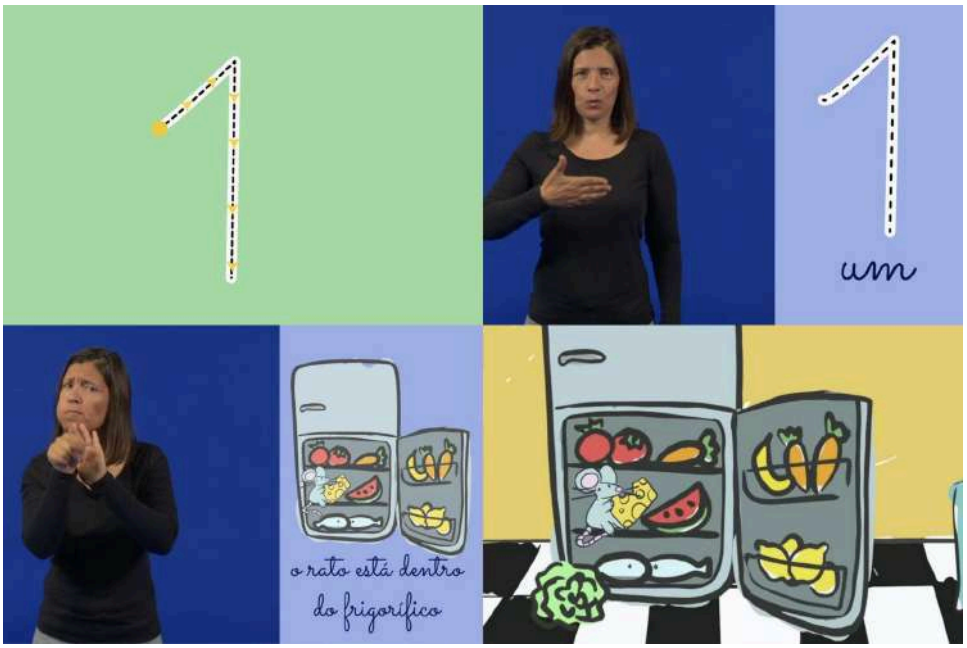

Fig2: 2 images from the video relating to number 1 ; 2 images from the video relating to the concept of “inside” .