

Multimodal communication, communication disorders and communication support (AAC)

Multimodal communication, yes. But what about interaction?

In the last decade we have seen a huge increase in tools and devices for multilingual communication, especially in the area of e-health and care, such as Universal doctor Speaker, Universal Nurse Speaker, Refugee Speaker and Universal Woman Speaker (all available in Google Play or i-Tunes). These intra-semiotic (verbal-verbal) tools and devices provide us with up to 17 language combinations for conversations between health care providers and their clients. Such tools are designed for people who may not share a common language, but do share comprehending and sensorial abilities; they are substitutes for interpreters in face-to-face verbal exchanges (Vandeweyer, 2017).

More recently a new set of tools and devices have been launched for augmentative and alternative communication (AAC), such as Point One and the recently launched EC+ Enhancing Communication (both available in the Google Play Store). These inter-semiotic devices (some of which mix words, speech, pictograms, photographs, video-recording and sign language) provide us with verbally monolingual (e.g. Spanish, German) sets for exchanges between caretakers (educators, members of the family, friends) and their clients (persons with a mild to severe disability). Such tools have been designed for people who, due to some sensorial and/or intellectual disability are unable to read, write or even speak in their native languages, but who are able to understand communication through sound, drawings, gestures, pictograms or a combination of them. They aim to serve as substitutes or aids for caretakers, educators and relatives in their exchanges with their clients or family members. They even aspire to become devices that persons with a disability carry around with him them in their daily exchanges with family, educators and caretakers.

Even though the benefits of such tools appear to be beyond debate, given that major barriers are lifted, they do raise an important issue of interaction, asymmetry and client-centeredness. Are people who speak a different language and people with a disability on an equal footing with their interlocutors when a service provider makes use of a digital tool?

A first set of questions concern 'opportunity barriers' (Beukelman & Mirenda, 1998):

- Who owns the tool (or not) and is trained (or not) to use the application?
- Who is aware of the possibilities and the limitations of the tool, who can solve gaps and can avoid frustration among participants?
- Is the application designed to be equally interactive (reception/production) on both sides of the exchange?
- Is the design ethical, in the sense that it stimulates decision-making by the vulnerable participant?

Starting from these general research questions, I would like to analyze the possible barriers to full access (Beukelman & Mirenda, 1998) and specifically for interaction using the above mentioned intra-semiotic and inter-semiotic devices. It seems clear from the outset that, for practical reasons, the interaction will be through one computer only. Moreover, following Beukelman & Mirenda, we have to assume that each device has its operational requirements and a capabilities profile that not every disabled person can meet.

My aim is to further analyze 'access barriers' and more specifically the interactional strength of the aforementioned devices. This research wants to find answers to the following questions:

For intra-semiotic devices:

- Is there a clear identification of its target users?
- Is the interaction structure explicit from the front page of the application?
- Are both participants given equal opportunities to add comments, questions or answers through the device (expected balance between production and reception)?
- Does the application provide adjacency pairs for each exchange, be it in the form of an answer, a comment or another question?
- Is there some instruction encouraging the service provider to share turns with the client?

For inter-semiotic (AAC) devices:

- Is there a clear identification of its target users (disabled people, caretakers)?
- Is the device based on scientific criteria clarifying its cognitive complexity?
- How easy or difficult is its operational access?
- Is the interaction structure explicit on the front page of the application?
- Are there any adjacency pairs or yes/no answers? If not, how are disabled users supposed to express their feelings or decisions?
- Are there different ways of accessing communication for both participants?
- How "rich" is the multimodal design? Does it promote comprehension, or is there a risk of the cognitive load being too heavy?
- Is the multimodal design playful, inviting the disabled user to enjoy it for its own sake (while training simultaneously motor, sensory, linguistic and cognitive capabilities)?
- Is there some instruction encouraging the service provider to share turns with the disabled person?

The aim of this analysis is first to identify strengths and weaknesses of the aforementioned digital communication devices, particularly focusing on asymmetry that may be left in their access when vulnerable persons are involved. The second aim is to formulate recommendations for digital communication tools developers.

Bibliography

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