Gaze-controlled communication technology for children with severe multiple disabilities
Parents and professionals' perception of gains, obstacles, and prerequisites

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Introduction

- Children with multiple disabilities often depends on a person to assist them in all daily activities
  (Hewitt-Taylor, 2008; Lancioni et al, 2016)

- Communication is often severely affected
  (Lancioni et al, 2016; De Bortoli et al, 2014)

- Eye pointing is a common communication method
  (Hetzroni & Rubin, 2006; Von Tetzchner et al, 2004, Clarke & Price, 2012)

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Introduction

- Gaze controlled technology can provide these children a way to communicate and perform activities independently (Lariviere, 2014)

- A computer with a speech synthesizer can be used to teach the concept of using symbols for communication (Schlosser & Lee, 2003; Schlosser & Sigafoos, 2006)

Objectives

Explore parents' and professionals' thoughts of how a gaze-controlled computer can be beneficial
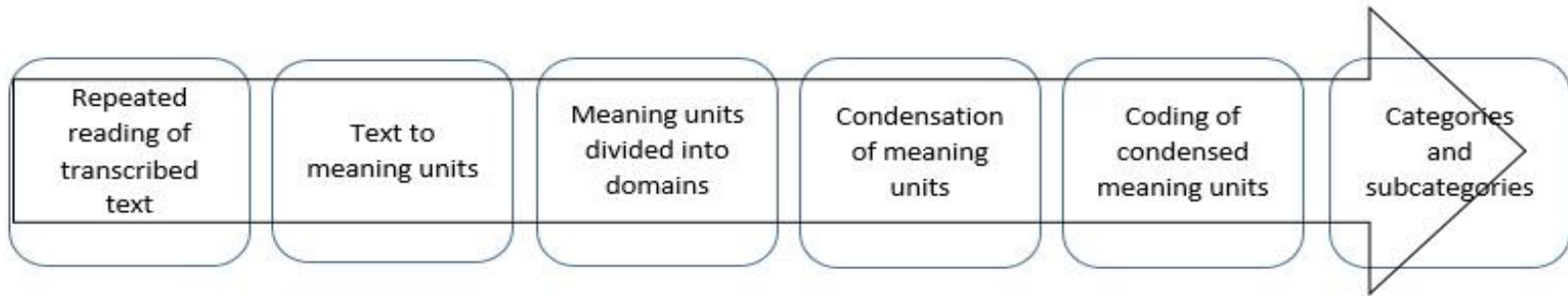
and

their experience of the factors affecting usability

Methods

Semi-structured interviews with parents and professionals, considered as key person in the work with a child on gaze control

Content analysis

Repeated reading of transcribed text	Text to meaning units	Meaning units divided into domains	Condensation of meaning units	Coding of condensed meaning units	Categories and subcategories

Profiles of the children

- 3 – 17 years old when assessment and implementation started

- 5 boys and 6 girls

- Severe motor dysfunction and no ability to use oral speech

- Cognitive level varied

- Diagnosis; severe cerebral palsy, Rett syndrome, mitochondrial disease, TBI, leukodystrophy

Results

Category	Subcategory
Gains	Empowerment, Social interaction, Learning opportunities, Efficient computer use
Obstacles	Inaccessibility, Liability issues, Technical failure
Prerequisites	Time, Collaboration, Stimulating content, Know-how, Opportunities

Conclusion

The technology gives new possibilities for children with severe multiple disabilities, as long as conditions are right

Children with severe motor, communicative and cognitive problems should be offered the opportunity to try using a gaze-controlled device. Even though they may find this difficult at first, it may be the only way for them to have access to assistive technology and achieve independence in activities and communication