

Exploring the relationship between cognitive development and use of eye-gaze control technology in typically developing children

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The use of eye-gaze control technology as a method to access computers and AAC devices is increasingly widespread for children with severe motor impairments. Often such technologies are introduced to children at a young developmental age, with the goal of teaching them the core skills needed to make use of the access method.

To date, there exists comparatively little evidence regarding the underlying cognitive skills needed to understand the concept of using the eyes as an access and control method (Light & McNaughton, 2013). This pilot project looked at the ability of typically developing children (n = 30) aged 18 - 47 months to learn to play a simple game consisting of learning the functions of two different onscreen buttons – during two learning phases – and using this knowledge to complete a sequenced task. The cognitive and receptive language ages of all children in the study were also tested using standard instruments, and these results were contrasted with performance on the eye-gaze control game.

The results of this pilot study showed that typically developing children with a developmental age of below 24 months were not able to reliably complete the task. Children aged developmentally over 32 months were able to complete both the learning phases and the final task.

This presentation will provide background to the study and the underlying cognitive processes necessary to make use of the technology. In addition, presenters will demonstrate some of the resources used, present the findings and discuss the implications of this study for future research design and clinical practice.