

A Personal Narrative Support Tool for School Staff and Parents of Children with Complex Communication Needs

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Abstract

Children start learning to tell personal narratives even before becoming verbal and can usually engage in fully developed story telling when starting school (Bruner, 1975; Peterson and McCabe, 1983). In contrast, children with communication disorders, especially when relying on aided Augmentative and Alternative Communication (AAC), tend to use single words or phrases and need a communication partner's support (Soto and Hartmann, 2006; Waller, 2006). At school, teachers of children with complex communication needs (CCN) use a variety of tools (home diaries, etc.) to support personal narrative of school experiences, a form of personal narrative which has been recognised for its role in language acquisition (Peterson et al., 1999).

A prototype narrative system for school children with CCN has been developed that automatically generates stories using environmental sensor data and supports conversations about the child's school day. A user centred design approach was followed throughout, with staff and children of a special school, their parents and other expert users being closely involved in the development (Black et al., 2008; Reiter et al., 2009; Black et al., 2010). The child can personalise these narratives and tell them interactively with a communication partner.

During a feasibility study, the system was evaluated with three children in a special school. The system creates a sequence of sentences about school day events using natural language generation based on sensor data, such as interaction with people and objects and location of the user. Voice recordings from staff with additional information are automatically integrated into the generated stories, which the child can edit and tell during an interactive conversation using an accessible interface (touch screen and row/column scanning). The system was evaluated with three children with complex communication needs in a special school and successfully supported the personal interactive narratives about the school day of the children.

In a current project, the initial prototype system is being adapted to allow for long term use in a special school with little technical support from researchers. The narration interface will be flexible to allow narration support for use with a wider spectrum of intellectual disabilities. The project aims to support children with communication and developmental support needs ranging from those with

severe learning disability to children who are able to request more control over the generated narratives.

We will present and discuss results from the feasibility study and report on the current prototype development.

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