Joke-making software may help children beat language barriers

Children who have to speak through computerised aids could improve their communication skills by using new software which encourages them to play with language and make up their own jokes. Researchers at the Universities of Edinburgh and Dundee, who are developing the package for children who use speech technology like that used by the physicist Stephen Hawking, hope to improve the children's social and emotional well-being as well as their language skills. Staff in the School of Informatics in Edinburgh and the Division of Applied Computing in Dundee have been awarded £364,000 by the Engineering and Physical Sciences Research Council to complete the three-year research project.

Research shows that computerised speech aids, although very helpful, can restrict how a speaker's language skills develop, as his or her speech tends to stick to absolute essentials and lack spontaneity. Children often use humour to experiment with words and improve their social skills, but those who speak through computer aids are often denied these forms of fun. Research suggests that limiting communication in this way means the child does not become as fluent, nor as adept at conversation as children who have no language limitations.

The STANDUP project - "System To Augment Non-speaker's Dialogue Using Puns" - will create software which encourages children to experiment with words. It will contain dictionaries and information about words, plus simple rules about the structure of jokes, primarily puns. Once the software is built, it will be tested on children with and without language limitations. STANDUP builds on earlier research at Edinburgh that produced one of the first joke-creating computer programs called JAPE, which can produce simple riddles such as "What do you get when you cross a monkey and a peach? An ape-ricot."

Dr Graeme Ritchie, in the University of Edinburgh's School of Informatics, said: "It is possible to program a computer to make simple puns by having it look for suitable patterns in the words and phrases which are available to it. In this project, the computer will act as a helper to the child, by letting them browse through joke forms, and try out words and phrases. "

Dr Annalu Waller, of the Applied Computing Division at the University of Dundee, said: "Many communication aid users tend to be passive communicators, responding to questions with one or two word answers. Our previous research into providing individuals with a tool to tell their own stories resulted in increased initiation and an enhanced sense of self. "

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