CBS Research Seminar
Applications of Generative Grammar in Disability and Language Learning

Presented by

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ABSTRACT

Children with speech disabilities, such as autism, have difficulty communicating and learning language through traditional methods. Picture-based communication systems have been used with some degree of success to enable access to augmentative and alternative communication (AAC), but these systems have been more successful in single-word communication than for grammatically complex multi-word sentences. Our research focuses on the use of generative grammar principles to develop communication aids that help children create complex sentences even without a knowledge of the words and patterns of language. We developed a system called FreeSpeech, which lets children create a picture map of the meaning they want to convey, and then converts the map automatically into a grammatically correct sentence. In clinical trials, FreeSpeech showed more than a 2x improvement in language generational capabilities for children with disabilities.

In further research, we examined the use of FreeSpeech in language learning (for non-disabled populations) - particularly in classrooms implementing some form of Communicative Language Teaching (CLT). FreeSpeech showed particular promise as a scaffolding technique, to provide language support to early learners while simultaneously supporting learner autonomy.

FreeSpeech therefore holds considerable potential as a computer aided language learning system for disability and L2 learning communities.

ABOUT THE SPEAKER

Mr Ajit Narayanan is the founder/CEO of Avaz Inc, a company headquartered in Palo Alto, California.   His primary research interests are in the pictorial representation of language and grammar, and the creation of assistive technology that converts these pictorial representations into grammatically correct natural language.   He has given a TED talk (https://www.ted.com/talks/ajit_narayanan_a_word_game_to_communicate_in_any_language) in 2013 and was invited speaker at a few international conferences.   In 2011, Mr Narayanan was listed in *MIT Technology Review* 35 under 35.