Department of Communication Sciences & Disorders Colloquium Series

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Factors affecting accuracy and intelligibility of transliterators

Abstract

Some deaf individuals access spoken information via transliterators, or interpreters who use an English-based communication system, such as Cued Speech (CS), Signing Exact English (SEE), or Conceptually Accurate Signed English (CASE). In this presentation, the accuracy and intelligibility of 36 transliterators (12 CS, 12 SEE, 12 CASE) with varying degrees of experience are examined. Accuracy, or the percentage of manual units (signs or cues) correctly produced, was evaluated at three different speaking rates (slow, normal, fast), and intelligibility, or the percentage of words correctly received, was measured by presenting the transliterated materials to deaf individuals highly skilled in the given communication system (CS, SEE, or CASE). Results show that speaking rate had a large negative effect on accuracy, caused primarily by an increase in omissions, while increased experience level was generally associated with increased accuracy. Intelligibility was higher than accuracy for CS and SEE transliterators, with accuracy accounting for substantial portions of the variance in intelligibility scores, but not for CASE transliterators, where accuracy explained little of the variance. We conclude by discussing possible reasons for these differences and factors such as speechreadability that could explain additional portions of the variance.

Biography

Jean C. Krause holds a B.S.E.E. degree in Electrical Engineering from the Georgia Institute of Technology and the S.M. and Ph.D. degrees in Electrical Engineering from Massachusetts Institute of Technology (MIT). At MIT, her research focused on speech perception and the acoustic properties of clear speech, and she co-invented an "Automatic cueing of speech" system (US Patent # 6,317,716). Since arriving at the University of South Florida in 2003, she has developed a number of instruments for evaluating expressive Cued Speech skills, including a Cued Speech version of the Educational Interpreter Performance Assessment. Her current research is concerned with the visual perception of signed and cued communication, as well as the auditory perception of speech by normal hearing listeners and listeners with hearing loss. This work is aimed at increasing our theoretical understanding of intelligibility as a perceptual phenomenon independent of modality and could have practical applications for hearing aids, cochlear implants, and interpreting/transliterating services for deaf children.