Lecture-style presentations play a central role in the educational, civic, cultural, medical, and the workplace lives of all people, yet access to the content of these lectures often fails to meet the needs of participants who are deaf or hard of hearing (D/HOH) and frequently the availability of qualified interpreters, trained captionists for services such as C-Print, or CART is limited because logistics are challenging and expenses are significant. Computer-driven Automated Speech Recognition (ASR) systems may offer a viable alternative to these systems and reduce communication and educational gaps that still distance D/HOH individuals from the rest of society.

Members of the research team, based on years of teaching experience at RIT and NTID, made the following observations:

- The performance of text-generation services like CART are far from perfect and quite expensive;
- Technologies for ASR text-generation, delivery, and presentation have improved markedly in recent years and could be a viable alternative and;
- Spatial positioning of the text stream and non-text information can have a huge impact on the educational efficacy of these systems.

Based on the hypothesis that present-day ASR systems can be a cost-effective alternative, the research team from NTID and the College of Computing and Information Sciences (CCIS), with a consultant from Georgia Tech Research Institute (GTRI ), are testing this hypothesis by evaluating the accuracy, efficacy, ease of use and cost benefit of three different text-generation systems, and of three different text presentation systems, for individuals with varying degrees of hearing loss under realistic but well-controlled lecture conditions.

The findings we will present will offer expanded strategic options and data-based guidance to service providers, D/HOH students and other community members, in increasing access to educational, cultural and community resources. Results from these studies have the potential for providing enhanced access for people with other challenges such as Low Vision, Learning Disability (LD), and people for whom English is a second language (ESL).

Research Supported by NSF Award Number 0622854