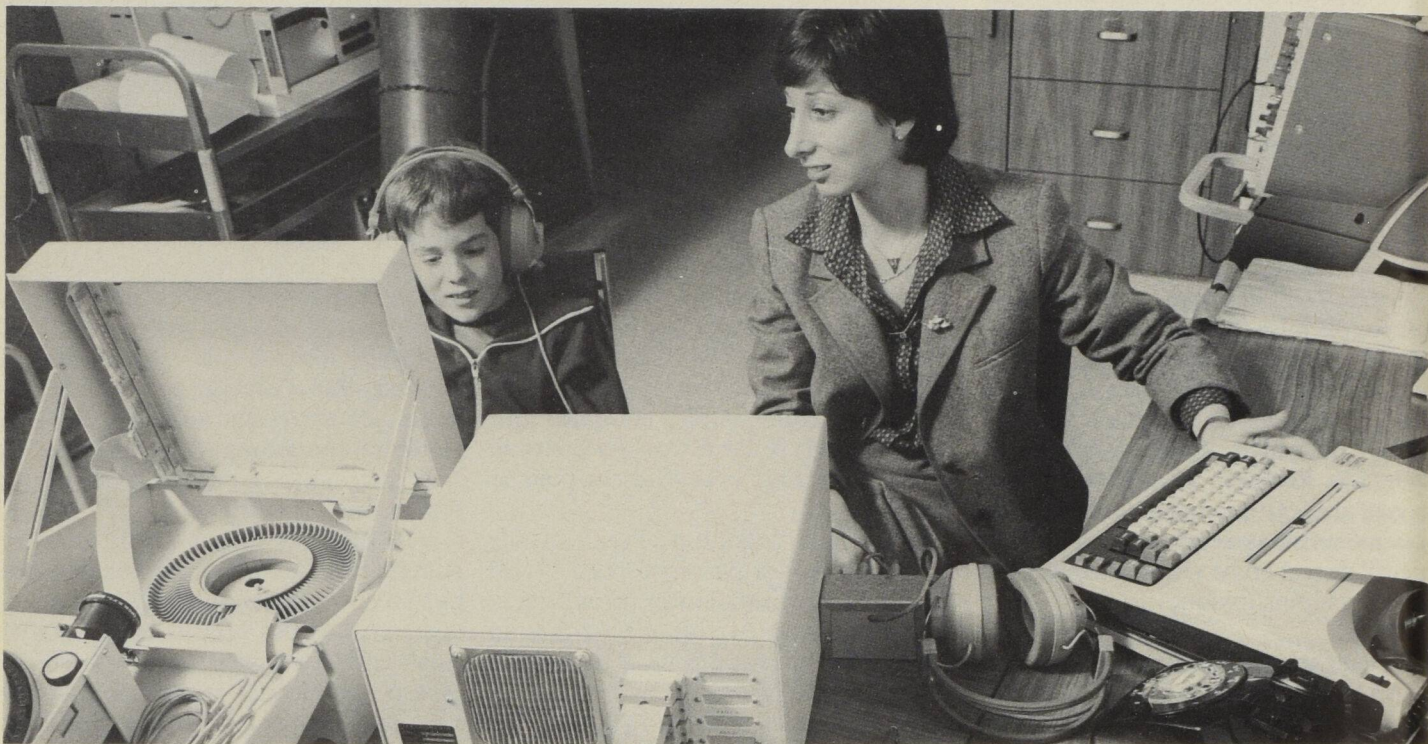


Auditory discrimination

"Do you hear what I hear?..."



NRC develops prototype terminal for testing children's receptive language skills.

Everyone has experienced it at one time or another: you go to the butcher and ask for two pounds of *ground* steak and later discover you have two pounds of *round* steak; or you go to the hairdresser's and ask to have your hair *thinned*, but find it has been *trimmed*. You ask a child to bring you a *doll*, but are given a *ball*. Inattentiveness? Incorrect pronunciation? Or poor auditory discrimination?

Auditory discrimination, or how one perceives sound differences, is only one of the many auditory skills which youngsters must acquire in order to develop language appropriately in the pre-school and early school years. Current figures show that as high as 10 per cent of the pediatric population require at least an evaluation of speech and/or language abilities and roughly five per cent have language problems severe enough to interfere with learning once they reach school. Although resources are usually available in urban areas, they are quite often limited and, like the Children's Hospital of Eastern Ontario in Ottawa, waiting lists for diagnosis and treatment number in the hundreds. In rural communities, services are virtu-

ally non-existent and parents are faced with travelling long distances to obtain help. At the present time, only six training programs in speech pathology exist at the graduate level in Canada (at McGill, Université de Montréal, Dalhousie, Toronto, Western, and the University of British Columbia) and many of these take less than two dozen students annually.

For many years, the National Research Council has been involved in a long-range program of research, development and evaluation in the field of computer-aided learning systems, collaborating with teachers and educators in an attempt to gain insight into the range and nature of problems that might be tackled. Since no work had been done in the field of clinical speech pathology, Dr. Elaine Pressman, Director of the Department of Language/Speech Pathology at the Children's Hospital of Eastern Ontario (also Assistant Professor of Otolaryngology, University of Ottawa and Associate Professor of Linguistics at Carleton University), naturally approached the Council. She needed additional resources which made use of the most recent available technology. Tests which evaluate such skills as auditory discrimination, auditory memory, sound blending, sound/symbol relationships, selective atten-

tion testing with 10-year-old Jeff Whetter. The system incorporates a random access slide projector, a random access audio unit and a touch-sensitive screen device. The terminal is packaged in portable units which can be easily relocated and reassembled. (Photo: Children's Hospital of Eastern Ontario)

Le Dr Elaine Pressman fait subir des tests de discrimination auditive à un garçon de dix ans, Jeff Whetter. Le système utilisé permet un accès aléatoire à des diapositives et à des messages préenregistrés et comporte un dispositif avec écran sensible au toucher. Le terminal se compose de modules qui peuvent être facilement transportés et réassemblés. (Photo: Hôpital pour enfants de l'Est de l'Ontario)

tion (auditory discrimination in a controlled noise environment) are presently administered by hand by trained professionals. If these could be standardized through automated administration and integrated with a portable terminal, screening programs providing assessment facilities for larger numbers of children could be initiated. In outlying areas, tests could be administered under computer control by trained volunteers or para-professionals, thus increasing the access to early evaluation. In addition, practising professionals already functioning under the pressure of long waiting lists for clinical services would have a tool to assist them in utilizing