their already limited time more effectively.

"Our aim," says Dr. Pressman, "is to facilitate early detection of language disorders, increase access to evaluation procedures in urban and rural areas, provide testing support for practising clinicians, and commence treatment, when required, as soon as possible."

Continuing work which had been carried out previously, NRC's Information Science Section (which, in collaboration with Dr. R.M. Knights of Carleton University's Psychology Department, automated for the first time the Peabody Picture Vocabulary Test see Science Dimension, 1972/4), agreed to give its support to the project.

A terminal and related software were subsequently developed and the programming completed under NRC's Program for Industry/Laboratory Projects (PILP). The objective of this collaborative program with industry is to bring about the application and use of NRC scientific and engineering knowledge in situations where significant economic and social benefits to Canada can be foreseen. Contracts are negotiated with Canadian companies covering activities to carry forward agreed-upon projects to an eventual marketable product. Development of a prototype portable terminal was undertaken by Lektromedia Ltd. (now a division of Goodwood Data Systems Ltd.). The terminal is packaged in portable units which can be easily relocated and reassembled. The system incorporates a random access slide projector, a random access audio unit and a touchsensitive screen device. It permits tests to be administered by a trained nonprofessional, only requiring the child to make a finger-pointing response after an appropriate audio message is presented with an accompanying slide. The system provides a printed record of the test scores together with a profile of the child's performance in all tests administered, and an analysis of the results and interpretation. This written record, available immediately after testing, is suitable for insertion into a child's hospital or school files or as background information with a further referral.

Dr. Pressman and her research associate June Cunningham (who worked with Dr. Knights) are currently evaluating the reliability and validity of the computer-administered tests. The Ottawa and Carleton Boards of Education are cooperating in the evaluation of the technique, and preliminary tests were



Students at Carleton Heights School took part in preliminary testing last Spring so that researchers could evaluate the reliability and validity of computer-administered tests. Here, June Cunningham, research associate for the project, obtains background data from Bradley Browne, Grade 2, prior to testing.

begun last Spring at Carleton Heights School, at a children's camp near Ottawa last summer, and were continued in the Fall. In all, some 200 children will be involved in the program.

"We are investigating receptive auditory processing skills," says Dr. Pressman. "In the case of auditory discrimination abilities, for example, we evaluate if the child is able to distinguish minimal sound differences. A child may be presented with two pictures which differ by a sound, e.g., a pear and a bear. He/she is asked to point to which word was spoken. Other tests measure the child's ability to associate a sound and a symbol. This ability has been found to have important implications for possible success in learning to read. Tests to measure auditory memory abilities have also been automated. These tests will indicate if a child remembers what words have been presented auditorily, and the order in which words were presented. An associated memory test will indicate if a child can identify if he/she has heard a word presented previously in a test." Dr. Pressman stresses, however, that this is not a total psycholinguistic evaluation of a child's

Des étudiants de l'école Carleton Heights ont participé à des essais préliminaires au cours du printemps dernier pour permettre aux chercheurs d'évaluer la fiabilité et la validité des tests administrés à l'aide de l'ordinateur. On voit ici June Cunningham, attachée de recherche pour ce projet, qui recueille des renseignements de Bradley Browne, élève de deuxième année, avant qu'il ne subisse un test.

language abilities, but evaluates only some receptive auditory skills.

Long-range plans include use of the computer-aided tests as an adjunct to the language-speech pathology program at the Children's Hospital. It is hoped that the automated battery will function as part of the diagnostic testing protocol for those children referred to the service with language learning disabilities and for delays in language acquisition skills.

This is the first time such a battery of tests has been automated, and the publishers who granted permission to adopt and automate them are not only excited with the results but feel Dr. Pressman is in the forefront in this area. Researchers and clinicians from both Canada and the United States are now seeking input and advice from her in instituting other developments of this kind. Concludes Elaine Pressman: "NRC is to be commended for supporting such innovation in this applied field of research integral to the futures of so many of our young children."

Joan Powers Rickerd