PREFACE

A few years ago a forum on microcomputer applications for school-based clinicians appeared in *Language, Speech, and Hearing Services in Schools* (July, 1995). In one of those articles (Masterson, 1995), I speculated about future uses of microcomputer technology in our field. Ever the pragmatist, I offered a less than flashy prediction: we will do with computers those things that cannot be done as well without them. This issue of *Seminars in Speech and Language* provides a rich source of ideas and applications that illustrate assessment activities that are facilitated by microcomputer technology. Some of the methods discussed would simply not be feasible without microcomputer support.

The most recent Omnibus Survey (1997) conducted by the American Speech-Language-Hearing Association did not include an item that specifically asked about computer use in assessment. There was, however, a question about using computers for research/data analysis, and a large majority of respondents (79.5%) indicated that they *never* use computers for this purpose. Although computer use in assessment can involve more than data analysis, these responses suggest that their use in assessment is infrequent. McRae and Fitch (1996) did ask specifically about computer use in assessment in their survey of public-school speech-language pathologists (SLPs). Only 13% reported using a computer for assessment purposes. On the other hand, a majority of respondents to both surveys indicated they used computers for office administration, and almost half reported their use in treatment. Given their frequent use in these other areas, equipment costs would appear to be an unlikely barrier to their use in assessment.

Insufficient training has also been suggested as a reason for their limited use in assessment (Cochran & Masterson, 1995; Fitch & McRay, 1997); however, I doubt that training alone would increase the use of microcomputer technology by SLPs. I believe the issue is more basic, they need to be convinced that the data they get from microcomputer-assisted assessment are *better* than the data they can get without it. They also must be convinced that the cost—not just in dollars, but in time and effort—is worth it. Fitch and McRae (1997) listed *motivation* as the primary element necessary for integration of computer technology. A majority of the respondents to their questionnaire (1996) indicated that computer use was important, but they did not specify the ways in which its use is beneficial. I have met few people who, after seeing how word processing works, choose not to use it, and the large number of SLPs who reported using computers for administrative tasks supports the notion that most are convinced of its benefits for these tasks. By contrast, the relatively low number of SLPs who reported using computers in assessment suggests that this technology is currently perceived to offer only limited benefits for these clinical tasks. The articles in this issue describe a broad range of assessment activities, which are made possible, or at least easier, with computer technology, as well as those that are not. Each article concludes with a case study, which illustrates the specific clinical decisions that were made possible using technology-based assessment tools.

The possibility that software might assist in language sample analysis was the application that got me hooked on computers in the first place. Early in my doctoral program, I was taking a course in computer

programming the same semester I was in a seminar on language assessment. I spent over 50 hours analyzing a language sample for the seminar and, thus, was quite motivated by the prospect of applying computer programming to similar future activities. I played around a little, programming some basic morphological analyses, but soon experienced the challenges that had to be addressed in such a task (e.g., how to tell a computer that "seed" is only one morpheme but "freed" is two). Fortunately, I learned that Jon Miller and Robin Chapman had devised clever ways to deal with such issues and were developing software to aid in language sample analysis. Their software, *Systematic Analysis of Language Transcripts* (SALT), continues to be widely used in the field. In this issue, Evans and Miller briefly discuss the historical roots of SALT, focusing on the rationale for the program and its continuing developments. SALT automatically calculates several linguistic measures that are routinely used in both clinical practice and research. Access to reference data and the relative ease of developing local norms remain among the major strengths of SALT. Additionally, Evans and Miller discuss a second analysis tool, CLAN, which was developed by MacWhinney and his colleagues to assist in the CHILDES project. This impressive project allows language samples that were collected from children who are acquiring and adults who are using a variety of languages, both typically and atypically, to be shared by clinicians and researchers throughout the world. Evans and Miller illustrate how the differing rationales for each program led to the similarities and differences found in the packages today and discuss the emerging technologies that assist in sample transcription, which is still one of the most time-consuming aspects of language sample analysis (LSA).

While Evans and Miller focus on the unique rationales that led to the development of these two LSA packages, Long takes a different approach. His article focuses on the various linguistic components that are likely to be of interest to clinicians and researchers during assessment, each of which is then followed by a discussion of several computer-based methods for determining the client's abilities in that area. In addition to SALT and CLAN, Long discusses routines from Computerized Profiling, which is a comprehensive set of modules that perform a variety of linguistic analyses and allow the exploration of interrelationships among components as well.

I had the privilege of teaming up with Kim Oller in preparing an article on computer-aided phonological assessment. We discuss computer solutions for examining the phonologies of children who use primarily meaningful speech as well as those who have not yet reached that stage of development. One of the key benefits of computerized phonological analysis, which we emphasized, is the option to tailor the type of analyses conducted to the profile presented by a specific client or the questions of interest to a specific researcher.

Hallowell and Katz agreed to tackle a tall order for a single article by covering the tools available for assessing clients with neurogenic speech-language disorders. Thus, their discussion includes the software designed to assist clinicians in collecting case histories, administering and scoring tests, performing various analyses, making normative comparisons, profiling diagnostic results, and making diagnostic decisions. Especially exciting is the use of eye movements to evaluate comprehension in clients whose severe motor limitations make traditional response modes, such as pointing, impossible.

Case describes several technology tools currently used for conducting voice assessment. Sprinkled throughout his article are patients' comments, reflecting concerns that clinicians commonly hear from voice patients. After reviewing the types of measures that clinicians might use to address such concerns, Case describes the current technological resources that can be used to support obtaining each measure.

Bakker's article on computerized methods for fluency assessment provides a

clear example of how one's theoretical foundation should serve as the driving force for assessment methods, whether technology-based or not. There are several new tools that can be used to assist in fluency evaluations; however, Bakker cautions clinicians to be critical, wise consumers and to determine how well new tools meet validity criteria before investing time and money in their purchase.

One of the most exciting developments in recent American Speech-Language-Hearing Association annual conventions is the inclusion of lab presentations, which allow attendees to gain hands-on experiences with the latest technologies available in the profession. In 1999, the ASHA Convention will be in San Francisco, and laboratory experiences are being planned that correspond to the topics covered by articles in this issue. *Seminars'* readers who attend the convention are encouraged to check the program for information on the sessions scheduled for these topics.

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Guest Editor