for Language Impairment

Mabel L. Rice

When I first heard of the intervention program, Fast ForWord, it reminded me strongly of similar initiatives that I encountered early in my clinical career, in the late 1960s and early 1970s. For this reason, the program strikes me as Fastbackward. Just as now, there was a great deal of interest in new language intervention programs for children with language impairments, and a hopeful enthusiasm for the potential of short-term intensive programming. Just as now, there was an emphasis on auditory processing causal mechanisms, and, somewhat independently, an interest in individual language programming based on operant behavioral teaching methods. After an enthusiastic and widespread try-out period over a period of 5–10 years, these methods were set aside as their limitations became known. Because many of the former issues remain unresolved, they are worth revisiting.

The Fast ForWord intervention program rests on three highly debatable scientific assertions, which carry forward to some extent unchanged from the earlier period of language intervention methods. The first is a particular model of the way the brain processes acoustic properties of incoming speech signals. The second is the claim that defects in certain acoustic processing mechanisms cause language impairments in children. The third is that the intervention program causes language impairments to disappear, because of improved auditory processing.

Each of these assumptions is under heavy challenge from scientists and scholars working on acoustic processing mechanisms underlying speech, on the nature of language impairment in children, and on best practice methods of language intervention. Simply put, not one of these three assumptions is proven.

One could ask if the methods of scientific inquiry are simply too slow and too conservative in this case. In the spirit of today's rapid reporting of scientific

breakthroughs, immediate communication to potential consumers, and instantaneous adoption into clinical practice, it could be argued that we should just go ahead. Maybe the intervention program is effective for unknown reasons and the underlying assumptions really don't matter.

My clinical and research experience says the assumptions do matter, and they matter deeply. Consider that the innovative feature of this program is the claim that a certain kind of acoustic processing training will enhance language acquisition. If this is not true, and the program still has an effect, maybe it works for different reasons. The risk is that we confuse the reasons for the effectiveness and develop other intervention programs that purport to enhance acoustic processing (and thereby enhance language acquisition) but don't incorporate the unknown factors that make this program effective. It would be like concluding that helpful benefits of exercise come from the music piped into the exercise room. New exercise programs could adopt the music part without the physical activity part and lead to very different consequences. The point is that this assumption carries strong and undesirable implications that will matter a great deal and should be tested.

Maybe the effectiveness is attributable to the form of language intervention employed, but there are reasons to be skeptical. Fast ForWord incorporates many of the principles of operant conditioning that were fundamental to the earlier era of language intervention. This

includes a large number of practice trials, a system of token reinforcement with prizes for performance, and training decontextualized from actual interactive communication. Scientists and practitioners learned then that immediate change on language tasks can be achieved with a large number of practice trials and this can sometimes be achieved in relatively little time. Along the way they also learned that many children tire of these methods, even in the face of earned points for prizes, which means that the methods can become difficult to sustain. Another important problem was how "real" this apparent change was, for the children who in fact had real language limitations at the outset. They found the following: a) the children who seemed to have improved so much were not likely to sustain those changes in the form of continued progress, b) were not likely to incorporate new speech or grammatical skills in their everyday conversations, and c) had no improvement in the social or academic consequences of language impairment. In short, the immediate gains proved to be disappointing and misleading over time, and children ultimately found the methods boring and unrelated to their everyday communication needs.

The conclusion is that the lessons from the past tell us to proceed with professional caution. High expectations and hope do not guarantee effectiveness. A new computer-based technology does not solve the fundamental limitations that will continue to challenge the basic approach. Fast ForWord could be a big step Backward. ◐

Mabel L. Rice, a certified speech-language pathologist, is University Distinguished Professor in the Department of Speech-Language-Hearing: Sciences and Disorders, and director of the Child Language Doctoral Program, University of Kansas, Lawrence. Says Rice: "At Tallal's request, I acknowledge I am not trained to run Fast ForWord, nor have I personally observed children using this program. Because I was interested in learning about it, I visited her lab. At that time we saw the intervention programs that were subsequently reported in Science." *Contact Rice via email: mabel@ukans.edu*