Using a Naturalistic Time Delay Procedure
to Teach Nonverbal Adolescents With
Moderate-to-Severe Mental Disabilities
to Initiate Manual Signs

Carmen Miller, Belva C. Collins, and Mary Louise Hemmeter

This investigation focused on teaching three nonverbal adolescents with moderate-to-severe mental disabilities to initiate manual signs for the purpose of communication with others. The teacher introduced a naturalistic time delay procedure in a multiple baseline design, counterbalanced across students. She taught three signs to each student over three separate sessions throughout the day. Data show that the students increased signing over baseline condition in a variety of settings and throughout the day.

KEY WORDS: milieu strategies; naturalistic time delay; manual signing.

Individuals with severe disabilities typically have deficits in their skill development across domains, including both expressive and receptive communication skills. Limitations in speech and communication result in fewer opportunities to interact socially with others across environments. This, in turn, may result in a lack of social skill development, further isolating individuals from their families, peers, and community (Kaiser, 1993). To positively reduce this effect, it is important to teach communication skills.

1This investigation was conducted to meet, in part, the requirements for a Master of Science degree in Education at the University of Kentucky, Lexington, Kentucky.
2Franklin County Schools, Frankfort, Kentucky.
3Department of Special Education and Rehabilitation Counseling, University of Kentucky, Lexington, Kentucky.
4To whom correspondence should be addressed at Department of Special Education and Rehabilitation Counseling, University of Kentucky, 229 Taylor Education Building, Lexington, Kentucky 40506-0001; e-mail: bcoll01@pop.uky.edu.
Teachers and other professionals who work with students with severe disabilities often teach sign language as a means to communicate needs and wants to others. According to Bryen and McGinley (1991), use of sign language with individuals with severe disabilities is likely to continue because more students with severe disabilities are being identified and served by the school system. In a comparison study, Sisson and Barrett (1984) found that using a total communication approach (speech plus sign language) was superior to using oral speech alone with three elementary-school-aged children with mental disabilities.

Carr and Kologinsky (1983) have stated that children with developmental delays often fail to use language spontaneously to communicate with others unless directed by an adult. In addition, Charlop et al. (1985) have stated that students are often under the control of the verbal behavior of others; therefore, it is important to increase language use in those students who do not initiate language for communication purposes. According to Sisson and Barrett (1984), many persons with language deficits and autism can benefit from instruction in manual signing for communication.

Several naturalistic instructional strategies have been used to teach language development and communication skills. These procedures include (a) model, (b) mand/model, (c) incidental teaching, and (d) naturalistic time delay (Kaiser, 1993). All of the naturalistic teaching procedures use immediate feedback and access to the desired material or activity as reinforcers. Much of the current research in naturalistic teaching procedures focuses on intervention with younger students with language deficits (Hemmeter et al., 1996). For example, incidental teaching procedures have been used with pre-school-aged children with autism and severe language delays (McGee et al., 1985), and mand/model procedures have been effective with pre-school-aged children (Warren, 1992) and elementary students (Hemmeter et al., 1996). In discussing communication intervention for persons with severe disabilities, Reichle (1997) recommended naturalistic (or milieu) procedures and multimodal communication intervention (i.e., verbal, graphic, gestural).

Halle et al. (1981) taught classroom teachers to delay their offers of help in naturally occurring situations to increase children's verbal initiations. Teacher behaviors also generalized and maintained. Halle et al. (1979) used a time delay procedure to increase the requests of children with mental disabilities during meal times in an institutional setting. Carr and Kologinsky (1983) employed an incidental teaching procedure to teach six young children with autism and poor communication skills to use their manual signs to make spontaneous requests of adults that generalized.