Introduction

Children with Down syndrome usually have particular difficulties with, and delays in, language development (Miller, 1987, 1988). They often do not acquire words until their second year, and may not combine words until their third or fourth year. As they reach the age when children without handicaps begin to use grammatical sentences, they typically continue to convey complex meanings through simple sequences of words in telegraphic speech. Many fail to learn the rules they need to form grammatically correct sentences. Even when children with Down syndrome seem to have mastered some language skill, they will often use their new vocabulary or language structure inconsistently, while continuing to use the kinds of words and structure characteristic of much younger children.

There are many causes for language delay in children with Down syndrome, affecting development of both comprehension and production of language. These include:

1. a greater frequency of otitis media, serous infections, and fluid in the middle ear (Berko-Gleason, 1983; Bess, 1983), a greater incidence of mild to moderate hearing loss, structural differences in the middle ear and ear canal, and an increased build up of wax in the ear canal. All of these problems can impair hearing acuity, resulting in delayed and deviant development of comprehension of language (Chapter 3, this volume; Downs, 1981; Klein, et al., 1984)

2. delayed and/or deviant motor development, with prevalent hypotonia, which can cause problems with control of the tongue, lips, and breathstream for speech. These problems can result in delayed and deviant articulation, as well as deviant and delayed development of production of language (Miller, 1987, 1988)

3. moderate to severe retardation in cognitive development that may make it difficult to learn to understand the meaning of the complex, rapid, auditory stream of speech (Marcell & Armstrong, 1982; Morss, 1983; Silverstein et al., 1982; Smart et al., 1982)
Results of Language Assessment of Children with Down Syndrome

What Is Language?

In order to understand the results of language assessments reported here and in the literature, it is useful to first review the system of language as a whole. Language is a formal system of rules that children and adults use to convey meaning through sound. The function of language is to communicate to another person an intended meaning through sound. When children have constructed an internal set of language rules, or grammar, they can understand sentences that they have never before heard and produce sentences that they have never before said.

Language has a number of components. The components of language are:

Vocabulary. Does the child have the number of words expected for her/his age? Does the child know the different kinds of words needed to construct sentences, including names of objects and people (nouns: ball, Dad), names of actions (verbs: eat, sleep), words about locations (prepositions: into, under), descriptive words (adjectives: big, green), articles (the, a), time words (adverbs: tomorrow).

Phonetics. This area covers how well sound is used in understanding and speaking. Can the child intentionally articulate the sounds needed to communicate? Can the child discriminate the sounds of English?

Phonology. This area covers how well the child has mastered the meaningful sounds of language. Does the child know which sounds make a meaning difference in the language? Does the child know that bat, cat, pat, hat, fat, sat, mat, and rat all mean something different, so that substitution of one sound for another makes a difference in meaning in the language?

Morphology. Children know the morphology of their language when they know the rules for adding markers to nouns and verbs to add the meaning of plural, time etc. Does the child know how to form regular plurals, adding -s (cat → cats), or how to form irregular plurals (child → children, woman → women)? Does the child know how to form regular past tenses, by adding -ed (stop → stopped), or how to form irregular past tenses (go → went, eat → ate)?

Syntax. Syntactic rules of language let the child construct sentences with correct order of words. Does the child know how to sequence words into developmentally appropriate sentences? (Example. “I can see the dog” is syntactically correct, “See the can I dog” is not.) Does the child know that the word order is different for statements and questions (“I can see the dog?” → “Can I see the dog?”)