

A Functional and Semantic Approach to Language Intervention with Autistic Children

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While research has shown that autistic children can be taught to produce new words and phrases in specific contexts, few studies have been able to show generalization of newly learned language to spontaneous use in everyday settings [1], [2]. The purpose of this study was to investigate whether the frequency and diversity of the spontaneous speech of autistic children could be increased by an intervention program that taught "target" combinations of "new" and "old" words, semantic relations and functions within everyday activities.

Subjects were six mildly to severely retarded [3] 4- to 16-year old males in a public school autism program, who met DSM III criteria for autism and who scored as severely autistic on the CARS [4]. Five of the children spoke in single words or simple phrases, the sixth child used 1- and 2-element signs.

Language samples were obtained for two entire school days and one hour at home for each child at baseline and at the end of each experimental condition. Only completely spontaneous and communicative utterances and signs were included in the language samples. No echoes, jargon, self-directed speech or elicited responses to routine questions or language activities were included. Samples ranged from 4 to 180 utterances. Data collection was carried out by teacher-researcher pairs. Agreement between judgements of both adults was never less than 85 per cent for individual words, relations and functions.

A single subject, multiple baseline design was employed with replication across subjects. One randomly-assigned group received the semantic-functional intervention at school for 1 month, while the second group received no special intervention. During the second month, both groups received intervention at school, and two children in the first group received the intervention at home as well. Through a procedure involving a gradual shift from teacher-produced prompts to more natural contextual cues, each child was taught 2 or 3 "targets", which consisted of a specific combination of three components: words(s), semantic relation(s) and a function. Functions adapted [5] included: regular others' behaviour, interact with others, express feelings, get permission and get or give information. Brown's [6] Stage I semantic relations were used (e.g., objects, actions, locations).

Targets were composed of one new component and two "old" components consisting of words, functions or semantic relations that the child already expressed spontaneously. For example, if a target intervention was aimed at teaching the use of a new semantic relation, (e.g., child's own action), then a word (e.g., open) and function (e.g., get permission) that the child already expressed were selected as "old" parts of the target. This target would be used in the context of the child getting permission to open a carton of milk or to open a cabinet. School interventions were carried out by the classroom staff at least twice each school day. Home intervention was carried out by the child's caregiver(s) at least once each day.

Fourteen out of a total of 15 targets were acquired to the point of independent production in the context in which they were taught over 6 consecutive days. Eight targets were also used spontaneously in other contexts. On the average, targets with new semantic relations and functions were acquired faster and produced spontaneously more often than targets with new words.

After 4 to 8 weeks of intervention, the number of words (tokens), utterance types and semantic relations spontaneously

produced at school increased for all six children. These changes were greater than could be accounted for simply by increased use of the targets. Changes in the number of different functions and mean length of utterance showed less consistent trends across subjects. Patterns of change in language at home were similar to changes at school.

In summary, interventions based on old/new combinations of words, semantic relations and functions taught in everyday situations were acquired in less than 2 months and were associated with increases in the frequency and diversity of spontaneous speech of all six children with autism. Implications for language programs for children with severe social and language impairments' were discussed.

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