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Language and mental handicap: points and programs

Gary Bunch

In the early nineteenth century, a wild boy was found in the woods near Aveyron in France. The boy, Victor, eventually was transported to Paris where the Abbe Sicard at the National Institute for Deaf-Mutes received him for the purposes of study and education. It was to the physician Jean-Marc Itard that Victor was entrusted for direct instruction. Itard developed a number of approaches based on teaching deaf children in his unsuccessful attempts to teach language to Victor. However, these pioneering attempts were to have far-reaching effects. One chain of events led eventually to the work of Maria Montessori who was influenced by the writings of Itard and also the work of one of Itard's students, Edward Seguin. It was Seguin who carried Itard's methods into the embryonic field of education of people with mental handicaps and who furthered these methods in the United States in the general field of language development. Since the mid-nineteenth century and the work of Seguin, the field of mental retardation has undergone many significant changes. One thing that has not changed, however, is the effort to assist the handicapped individual in the development of language. It began as a challenge to those who worked with Victor, and is a challenge today to those who work with mentally and linguistically handicapped individuals.

Mental handicap and language development

Contemporary views in mental retardation emphasize the concept of adaptive behaviour which deals with the world about the individual and the individual's reactions to it. Kirk and Gallagher (1983) phrase it nicely when they refer to interaction with "the environmental envelope in which the [person] exists" (p. 123).

One of the most important areas of adaptation is that of language. Numerous studies have consistently indicated receptive and expressive linguistic problems across the range of categories of mental handicap. However, as Bloom and Lahey (1978) point out, there is little evidence of any particular language pathology associated with any category of mental handicap. In many respects, language is delayed in developing but when it develops, the sequence of that development appears similar to that found

in non-handicapped children. It is not clear, though, if the problem is simply one of general language delay. Studies have not clearly described the development of receptive and expressive abilities against the backdrop of cognitive abilities. Yoder and Miller (1982) provide a useful and thoughtful discussion of this point which, although a bit old now, continues to describe the state of knowledge on this point fairly well. Miller (1978) presents an example of the variation in the language abilities and needs of mentally handicapped children. He notes "the developmental patterns of each . . . is different, indicating that treatment considerations should be different for each child" (p. 312). Each child in his example has language problems in comparison with cognitive level even though cognitive level is well below chronological age.

These are examples of children with language problems embedded within the more apparent problem of mental handicap. Other children, as Schiefelbusch notes, and as one of his examples indicates, may have a mental handicap but their language levels are consistent with their cognitive levels. Do these children have a language problem or are these simply children who are not progressing at their chronological age level across the board? Do some children suffer various types of language delay when viewed against the backdrop of cognitive ability while others do not? The answers to questions such as these will influence basic decisions regarding language programming.

The theory-practice gap

The above remarks are given with a purpose. The thrust of contemporary pedagogical thought (as far as language development is concerned) is that language teaching methods for persons with mental handicaps should reflect current linguistic knowledge. That is, teachers should pursue a developmental approach focussing on individualization and manipulation or adaptation of the environment in a meaningful way. This point of view has been evident since the early 1970s at least in works by McLean, Yoder and Schiefelbusch (1972), Schiefelbusch (1972) and Schiefelbusch and Lloyd (1974). It has not, however, been forcefully evident in the initial preparation of, or in the in-service education of many teachers of handicapped children.

Examination of the training curricula for mental retardation of various professional programs and the curricula of various boards of education indicate a lack of what might be judged a sufficient emphasis on normal language development, language disorders and contemporary approaches to remediation of language difficulties in the general exceptional population and, more specifically, in the mentally handicapped population.

Preparation in Ontario is a case in point. A certified teacher with minimal introduction to the concepts and methodologies of exceptionality may undertake a half course of 35 to 40 hours and be deemed qualified to teach the full range of children considered handicapped. Language is included as one component of what can only be described as a wide-ranging course. Fortunately, many individuals pursue further training. Unfortunately, little opportunity exists to pursue rigorous training in courses focussed on the language needs of mentally handicapped children under instructors well-versed in contemporary language approaches. Other jurisdictions range up and down the scale from more appropriate and sufficient professional study opportunity to even less (Bunch, 1984).

Teachers, and others, must become familiar with the most up to date approaches to language intervention if they are to maximize their effectiveness with their students. One major position to emerge recently is that of non-categorization. As Illerbrun (1981) suggests, "The major reason for this change is that the categorization tells little about the actual linguistic behaviour that is markedly disordered" (p. 19). The language needs of children tend to be varied and much more dependent on conceptual, cognitive and behavioural characteristics than on categorization into a rather heterogeneous grouping such as people with a mental handicap.

In past years much emphasis was placed on rote training, the learning of lists of words and the continuous demand for the modelling of grammatically correct English. One has only to refer to texts such as Garton's (1964) and Hallas' (1967) to find examples of a view which appeared to regard mentally handicapped individuals as subjects to be treated in a rather standard manner to produce standard results. There was little evidence of concern for the person as a linguistic individual nor for individual play of abilities and interaction with "the environmental envelope." This is not to unduly criticize previous practice. Each field is a growing, dynamic area. In past years, professionals acted on knowledge available to them to the best of their ability. At this point in time we have moved forward to a different viewpoint, that of a much more individualist position, a concern with the interplay of abilities.

Type programs

This concern with an interplay of abilities has yielded a number of general approaches or orientations to language intervention. As Illerbrun (1981) has summarized, these approaches may be termed linguistic, cognitive and communicative. The linguistic approach began with the work of Chomsky and embraces all aspects of semantics, phonology and syntax. Chomsky believed that linguistic capacity and acquisition ability are innate to

humans. This view was expanded and resulted in a program approach exemplified by the work of Miller and Yoder (1974), Lee, Konigsknecht and Mulhern (1975) and Wiig and Semel (1980). A sample program is summarized later in this article.

The cognitive approach takes issue to some degree with the linguistic. Individuals such as Slobin (1973) and Muma (1978) argued that one cannot regard language development without regard for cognitive development and cognitive correlates of language. Piaget (1958) makes it clear to many that as cognitive ability develops, a reliance on representational systems develops. One of these is language, which cannot be divorced from cognition. Among those who have based language instruction approaches to some degree on cognitive instruction and development are Bricker, Ruder and Vincent (1976), Kent (1974) and Stremel and Waryas (1974).

The communicative approach means considering the individual as a member of a group or society (sociolinguistics) and as a person communicating with, reacting to and taking turns with members of that society (pragmatics). The basic position is that language exists solely for the purpose of communication (Rees, 1974). This view has resulted quite recently in an emphasis on pragmatics and the training of communicative competence. At this point, there are few programs with this specific orientation. Those that do exist make use of systems of turn-taking, storytelling, role-playing and the general manipulation of natural communicative events.

None of the above general approaches as exemplified in actual programs are devoid of influence from the others. They are intensively interrelated in an eclectic fashion. A number of type programs follow. In these may be noted aspects of the generic approaches mentioned above and of the inclusion of principles from fields such as behavioural reinforcement. It is refreshing to note the growing number of professionals employing methods such as those summarized below and the increasing interest in such methods within the field of mental retardation.

Behavioural-psycholinguistic approach to language training

(Stremel, K. and Waryas, C.)

Theory

Stremel and Waryas's approach to training language consists of a series of sequential language training programs and assessment procedures for the child who displays delayed or inadequate language structures. The individual programs are based on a psycholinguistic theory which purports that the child acquires language in a sequential pattern, building upon previously learned structures. Procedural principles drawn from the theory include:

- Expansions are used to extend the child's utterances (e.g., Child: "Girl eat." Teacher/Clinician "That's right. Girl eat cookie.")
- Imitation procedures are kept to a minimum.
- Comprehension is tested before production is taught.

Also used are techniques common in behaviour modification programming and a criterion level system focussed on an 80% achievement level.

Description

- **Early training program**

The program is designed to train comprehension and production of:

- The individual constituents of the basic grammatical relations—nouns and verbs, i.e., "Sit chair."
- Single word responses to wh-questions i.e., What (is that) – "Ball." What N doing – "Running."
- The basic grammatical structure (subject + verb + object responses).
- A limited set of pronouns, adjectives, prepositions and articles.
- Inclusion of the above in the basic grammatical structure.

Prior to entering this program, the child must be able to produce required entry behaviours. If he is unable to do so, a program emphasizing earlier developing language skills is recommended. Such a program is *An Intervention Strategy for Language Deficient Children* (Bricker, Ruder and Vincent, 1976), also discussed in this article.

- Minimal entry behaviours
 - Gross attending (stays in chair and demonstrates eye contact).
 - Follows simple directions such as "Look," "Sit down," and "Put coat on."
 - Comprehends at least 10 functional nouns.
- Preferred entry behaviours (in addition to above)
 - Attends to stimulus materials.
 - Imitates a sequence of finer motor actions (for manipulation of objects).
 - Follows directions such as "Show me," "Point to," and "Match."
 - Comprehends 25 functional nouns.
 - Consistent (8 out of 10 trials) approximate imitation of a set of phonemes.

- **Early intermediate language training:**

Children who have met the criteria of the first training program may enter the Early Intermediate Language Training Program.

- Pronouns – i.e., third-person
The structures are used in increasingly longer and more complex phrases. Pronouns in the objective case are taught prior to those in the subjective case.
- Article and possessive pronoun.
- Copula and auxiliary verbs.
- Wh-questions – i.e., what, who, where
- Negation

Note: Each structure is broken down into finer elements in the program.

- **Late-intermediate language training:**

The last program in the training sequence deals with the following structures:

- Interrogative reversals
- Conjunctions
- Plurality
- Noun-verb – singular plural agreement
- Verb tense marks
- Present
- Past
- Future
- Relative clauses
- Embedded sentences.

The authors recommend that spontaneous language samples be taken weekly at this third level. Such samples permit the teacher/clinician to investigate whether the structures taught appear in the child's daily language.

Evaluation

Stremel and Warays have developed a highly structured, thorough language development program for mentally handicapped and other linguistically handicapped groups. The program uses mostly a linguistic approach (Illerbrun, 1981) incorporating sequences found in normal language development. Bloom and Lahey (1978) note, however, that the developmental sequence employed by Stremel and Waryas may vary from that suggested by other authors.

The program's strong points are its emphasis on teaching linguistic forms within a meaningful context (Bloom and Lahey, 1978); the program detail available in the program description (Lloyd, 1976); the use of weekly samples; the use of criterion levels; and the thoughtful employment of behaviour modification techniques.

Interactive language development teaching

(Lee, L.L., Konigsknecht, R.A. and Mulhern, S.)

Theory

Interactive Language Development Teaching is based on the development model of grammar described in Lee (1974). The Developmental Sentence Scoring (DSS) Chart (Lee, 1974) is used to assess the child's current stage of syntactic development and to determine the child's placement within the program. The program has a definite linguistic approach (Illerbrun, 1981).

Lee et al. (1975) believe language development evolves in two ways:

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- as more mature grammatical forms appear,
- as the child is able to combine more types of grammatical structures in a single sentence.

Description

Lessons are constructed in story form with provisions made for conversations in order to capitalize on the features of normal language acquisition.

In *Interactive Language Development Teaching* children respond to questions or prompts which develop out of the plot line of the narrative. They are not merely asked to repeat pre-selected lists of sentences. The teacher/clinician reads a few lines of the story and then asks the child a question to elicit a target response containing one or more of the grammatical goals of the lesson. A variety of prompts may be used. These may include:

- Complete model: The teacher repeats part of the desired target response. The child imitates.
- Reduced model: The teacher repeats part of the desired target response, usually an element omitted in the child's original response. The child is expected to reformulate the response to include the elements represented in the reduced model.
- Expansion request: The child is encouraged to be more independent and to "Tell me the whole thing," or "Tell me more."
- Repetition request: The repetition request is less specific than the expansion request because the child is not told that anything has been omitted from the response. The repetition request typically takes the form "Tell me that again," or "What did you say?"
- Repetition of error: By repeating the child's error in a questioning voice the teacher asks the child to pick out the error in the response and reformulate it correctly.
- Self-correction request: The clinician asks the child whether the response is correct or incorrect.
- Rephrased question: The teacher restates or rephrases the original question to re- elicit the target response.

Evaluation

Interactive Language Development Teaching is a suitable program for a child with good receptive skills and a variety of verbal expressive structures reaching to the sentence level. The story form and prompt procedures elicit relatively mature responses from the child and increase the chance of the formulation of generalizations in language. Leong and Illerbrun (1977) in a study with six young developmentally delayed children found an eleven-month gain in both reception and expression of language over a four-month period using Interactive Language Development Teaching.

The materials for the program include two sets of thirty lessons, lists of flannel board materials suitable for each story and an index to levels of lessons compared to Lee's Developmental Sentence Scoring Chart (1974). Lessons are well-organized and adaptable. Though ideas are given, no actual teaching aids are provided.

Teachers may find it useful to set a criterion level as a yardstick to determine when a target structure has been mastered satisfactorily. The evaluation guidelines given by the authors are, perhaps, too general.

Intervention strategy for non-verbal children

(Bricker, D., Ruder, K. and Vincent, L.)

Theory

Bricker, Ruder and Vincent's language program focusses on the very early stages of language acquisition. Essentially, the program has been developed for the non-verbal child. The authors believe that the following features should be included if the training is to be successful.

- Assessment of the child's repertoire in a specific area.
- Acquisition of prerequisite behaviours before moving to more complex ones.
- The training stimuli should be useful for the child.
- Training should occur in a situation which provides maximum generalization.
- Children should be trained in small groups.

Some consideration of cognitive skills underlying language acquisition is provided.

Description

The program is divided into two parts, with the first part training the child in comprehending and producing the initial agent-action-object constructions such as "boy push car." The second part teaches expansions of the agent-action-object constructions, i.e., "truck no go."

Part I—Part I has three critical components: verbal imitation, comprehension and production. Verbal imitation ranges from imitation of a single sound such as "a" to the production of a sequence of several words. The program begins with training in the functional use of common environmental objects such as "cup," "spoon," and "pan." When the child reaches the criterion level for this phase verbal imitation of sounds is introduced.

The authors also suggest that some phases be taught concurrently. Each phase in both Parts I and II has been organized to contain the following steps:

- Baseline probe—an individual assessment to see if the child meets criterion level;

- Training;
- Training probe.

Part II—In Part II, verbal imitation is not specifically indicated as a part of the training sequence. Otherwise, the same basic procedures are used for introducing the more complex structures. An outline of the grammatical sequence is provided, as well as general ideas for training.

Evaluation

Bricker, Ruder and Vincent's language program appears to be well suited to the non-verbal child. It is presented in enough detail that a novice might implement it and yet there is enough flexibility that a teacher can use the surrounding environmental conditions to the maximum. The program could successfully be implemented either in a classroom of children with moderate mental handicap or within an individualized setting. It should be noted, however, that if the teacher/clinician is conducting an individualized program, efforts should be made to provide generalization training in the home.

The authors comment that the program need not be followed rigidly. The teacher may incorporate the principles and procedures into other programs, if so desired. Schiefelbusch (1978) notes that programming ideas, such as those used in an integrated language arts approach, are provided.

Language acquisition for children with severe handicaps

Theory

Kent relies heavily on behaviour-shaping methods and positive reinforcement to elicit behaviours conducive to the learning of language in children having difficulties in this area and also having additional attending and behavioural characteristics. Interlaced with the above methods is a basically psycholinguistic approach (Illerbrun, 1981) and a generalized cognitive orientation. Basic to the approach is the realization that behaviour must be controlled before efficient teaching can be initiated.

Description

The program is divided into three major sections: Pre-verbal, verbal-receptive, and verbal-expressive. The pre-verbal section emphasizes learning attending behaviours and motor imitation. The verbal sections introduce rudimentary receptive and expressive language skills. Although it is fundamentally auditorily based, the program also includes an adaptation to sign language. Each section is divided into phases and each phase into parts.

Detailed lesson plans are provided for each part so that the program need not be implemented only by an experienced teacher. Each lesson has

its objects and also includes activities for generalizing the language structure.

Evaluation

The language Acquisition Program appears to work very well for non-verbal children. It follows a logical instructional sequence: (1) attending behaviour, (2) receptive language, (3) expressive language. In addition, the instructional steps are minute, emphasizing success for the child. The criterion levels and generalization training also add to the strength of the program. The inclusion of a sign language component serves to increase program flexibility and widen its scope.

Note: The program descriptions above are based on descriptions appearing in Robertson, G. and Bunch, G. (1983). *Selected educational programs*. Orillia, Ontario: Ptarmigan Publishing.

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