

LANGUAGE INTERVENTION WITH NON-VERBAL
RETARDED PERSONS: A REVIEW OF RELATED
THEORY AND SELECTED CURRICULUM PRACTICES

CENTRE FOR NEWFOUNDLAND STUDIES

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LANGUAGE INTERVENTION WITH NON-VERBAL RETARDED PERSONS:
A REVIEW OF RELATED THEORY AND SELECTED CURRICULUM MATERIALS

by



Anne Nagy, B.A.

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Education

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ABSTRACT

This thesis is concerned with teaching severely and profoundly retarded persons to begin to use expressive language in some form. A review of the literature on normal language acquisition and on the relevance of normal data to the retarded population leads to the construction of guidelines for content and methodology in language curriculum materials.

Based upon these guidelines, six books or manuals and one curriculum kit are examined under the following headings: format and contents, structure and flexibility, recognition of the cognitive and social bases of language acquisition, approach to child language, generalization components, and intended population, both students and teachers. Two of the items examined are rejected, three are found to be of some merit, and two items are highly recommended as curriculum materials consistent with the principles of effective language intervention.

ACKNOWLEDGEMENTS

I would like to thank my husband for his encouragement, expertise and criticism over the past two years. This has been the most prolonged, if not the most difficult, birth at which he has assisted.

I am also most grateful to Dr. Frank Wolfe, my advisor, for his unfailing enthusiasm, his gentle criticism, and his ability to challenge even the most solid-seeming intellectual foundations. Thank you.

We walked down the path to the well-house, attracted by the fragrance of honeysuckle with which it was covered. Some one was drawing water and my teacher placed my hand under the spout. As the cool stream gushed over one hand she spelled into the other the word water, first slowly, then rapidly. I stood still, my whole attention fixed upon the motions of her fingers. Suddenly I felt a misty consciousness as of something forgotten - a thrill of returning thought; and somehow the mystery of language was revealed to me. I knew then that "w-a-t-e-r" meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free. There were barriers still, it is true, but barriers that could in time be swept away.

Helen Keller
The Story of My Life

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PART ONE

REVIEW OF RELATED THEORY

CHAPTER ONE
LANGUAGE AND COMMUNICATION

Introduction

A child's first words are met with excitement and pride, perhaps recorded in an album, usually reported to grandparents and friends. His achievement marks a milestone on the road to adulthood, with the promise of further intellectual and emotional growth to come.

For some mentally retarded individuals, however, development does not reach this point by school age, by adolescence or, perhaps ever. These persons, and the efforts made to remediate their language deficiencies, are the subject of this thesis.

Part One of the thesis presents a review of theory on normal and retarded language acquisition, with implications for the content and methodology of language curricula for the severely and profoundly retarded.

In Chapter One, an attempt is made to clarify the notions of language and communication, and to offer a brief rationale for the choice of language intervention with the retarded as thesis topic.

The second chapter explores the literature on the processes of normal language acquisition. Perspectives from linguistics, cognitive psychology, behavioral psychology and psycholinguistics provide very different

views of how a child begins to be able to use language and how that language is expanded.

Chapter Three addresses the relevance of a model of normal acquisition to retarded language development. At this stage the definition and categories of retardation are discussed.

From Chapters Two and Three general guidelines may be drawn for the content of language curricula. Similarly, a review of the literature on techniques of instruction, in Chapter Four, provides guidelines for curriculum methods. The implications for content and methodology are summarized in Chapter Five.

In Part Two, these guidelines are applied in reviewing books, manuals and other curriculum materials currently available for language intervention with the mentally retarded. Conclusions of the review and suggestions for further study are testament to the need for continued efforts in both theory and application.

Functions of Language

In ordinary use the terms "language" and "communication" are often interchanged. Within the literature too, authors may write of "language intervention" (Schiefelbusch and Lloyd, 1974), "language training" (Bricker and Bricker, 1974), "language training" (Miller and Yoder, 1974), or "training communication"

(Voder and Reichle, 1977), to offer but a few examples.

One means of clarifying the distinction between the notions of language and communication is to examine the functions of each, as described by James Britton and Eve Clark, respectively.

In his account of language functions, Britton (1971) describes a continuum of three typical functions of extended discourse from the speaker's point of view. Very briefly, in "poetic" language the speaker is concerned with the utterance for its own sake. "Expressive" language functions to allow the speaker to rehearse and analyse his experience. At the opposite pole from poetic language, the "transactional" functions to inform and to persuade in a utilitarian rather than aesthetic mode. It is with the transactional function that early language curricula are most concerned.

Clark (1977) recounts views of communicative functions, again as based on the intentions of the speaker. Utterances may be categorized as "performative" or "constative". With performatives there is no separation between the utterance and the act that it describes, for example, "I promise...". Constative utterances, on the other hand, describe or report an act outside the speech act. Clark cites studies to show that a child's first two-word utterances are explicit performatives, related to the child's own needs. Later statements may more often be constative, a commentary on and description of what goes on

around the child.

A comparison of the work of Britton and Clark shows some correspondence between the functions of speech as language and as communication. The performative function of communication closely parallels Britton's transactional function of persuasion. Constative utterances may fulfill the transactional function of informing, and, in later development, may function as expressive language. Without assuming too neat a correlation, it can be suggested from a comparison of Britton and Clark that communication is one, though not necessarily the only, function of language.

Symbol and Signal

Further distinction between language and communication may be drawn from a consideration of the nature of the units or media through which these functions are accomplished.

Dubose (1978) defines communication as "the passing of meaning from one source to another," through symbols or signals, while language is "an arbitrary system comprised of sets of vocal symbols which represent a conceptual system used by man to communicate." A symbol, she goes on to explain, "represents an idea, a place, an experience, but is not tied to the immediate perceptual event." A symbol, then, may be contemplated as well as perceived. Signals, on the other hand, are "carriers of meaning at a

sensation or perceptual level" (Dubose, 1978, p.37).

Both signals and symbols are means of communication. A child reaching for an inaccessible object signals the mother that there is something he wants. Later, the child learns that a symbolic gesture, that is, pointing, will accomplish the same purpose. The most frequent form of symbol used in communication, and possibly the most sophisticated in terms of layers of meaning, is the word.

Verbal language is not the only symbol system available for communication. Mathematics is the medium of information and instruction in computerized transaction. Persons with sensory, physical or mental handicap may employ Blissymbolics (graphic symbols), American Sign Language (gestural symbols) or other alternative symbol systems in order to communicate. These forms are the approximation of verbal language symbols in that they express a mental representation of an object, event or idea. In this sense, these symbol systems may also be considered language.

Why Language Intervention?

To sum up, communication is one of the functions of language, and language is one means by which communication can be effected on a symbolic level. This being said, a few comments are called for on the importance of language development, at least in its communicative aspect, for the

mentally retarded.

In a general sense, some use of expressive language is important for the acceptance of severely retarded persons as fully human. Britton (1971) has said that it is not language, per se, but the ability to symbolize or mentally represent that separates man from the animals. In spite of Britton's statement, conceptions of human (versus animal) nature have generally emphasized both language use and symbol generation, rather than, for example, moral and spiritual qualities (Ryan, 1977). In addition, Ryan suggests that verbal intelligence, whether formally or informally assessed, is the general criterion for stratification in our society. Thus language not only admits one to the human society but may also determine one's place within the group. The situation is further complicated by the research of Premack (1971) and others who have successfully taught chimpanzees and gorillas to use certain symbolic elements of American Sign Language, while many retarded persons remain without expressive language. Remediation of deficiency to the fullest extent possible is necessary if the retarded, generally and individually, are to assume full status as human persons with rights and responsibilities.

On an individual level the frustration and loneliness of a person with little or no communicative skill can only be assumed. The development of self-help and motor skills certainly must add to the independence and enhance the

image of the retarded person, as well as reducing frustration, but this process itself is facilitated by communication.

The development of language is thus a crucial aspect of the education and training of the retarded. In the following chapter the processes of language acquisition will be examined in greater detail.

CHAPTER TWO

PROCESSES OF LANGUAGE ACQUISITION

Strands of Development

The study of linguistics aims to provide insights into the nature of the rule system of language, while psycholinguistics attempts to understand how these rules are applied in the production and comprehension of language (Schlesinger, 1977). While Schlesinger warns that linguistic theory cannot be equated with the actual performance of speakers, linguistics and psycholinguistics provide a framework in which four strands of language development can be seen: phonology, syntax, semantics and pragmatics.

Development in these areas is apparently simultaneous. For example, Schlesinger (1977) calls the conversion of words into speech sounds the final phase of production. While this conversion is final in the sense that it is governed by semantic, syntactic and pragmatic choices, it may also be considered basic in that phonemes are the units through which utterances are realized. The strands of development are thus interdependent.

A. Phonology

Phonology is the study of speech sounds employed by native speakers. (Stageberg, 1981). The study of

phonological development was pioneered by Jakobson, who found that phonemes are apparently acquired through contrasts. He stated that the most distinctive contrasts appear first in all languages (Fletcher and Garman, 1976). After an initial period of babbling, in which the child produces a wide variety of sounds, the child seems to engage in vocal play, uttering intonated strings of sounds without identifiable, consistent meaning (McLean and Snyder-McLean, 1978). There may be a period of relative silence before phonological development proper begins with the production of speech sounds.

The role of perceptual factors in the acquisition of phonology, and in particular the question of whether perception precedes production, are areas in which research is continuing. Clark (1977) mentions stages of perceptual development: a) the child localizes and discriminates speech sounds; b) he responds differentially to affective voice qualities; c) he becomes sensitive to intonation and rhythm; and d) he distinguishes oppositions or contrasts. Perception and articulatory ability, however, are not sufficient to account for phonemic development. "It is only when the child realizes that a different meaning is at issue that he will learn systematic oppositions among the sounds of his language" (Clark, 1977, p. 48). Thus the child learns to contrast /pɪt/ and /pɪt/ because the meanings are different.

B. Syntax

Syntax deals with the ways in which words are arranged to form sentences (Stageberg, 1981). Syntactic development, especially in the early stages, has been the most heavily studied strand of language development. Only a brief outline of the stages of expressive syntactic development, as summarized by McLean and Snyder-McLean (1978), will be given here.

Their first stage begins with the production of single-word utterances. Although these utterances can be given a "rich interpretation" (Bloom, 1970, cited in McLean and Snyder-McLean, p.98) and analyzed as if they were part of more complete, unspoken sentences, one-word utterances can more validly be described in terms of their form class (i.e., noun, verb, etc.), context, and communicative function. Even in the earliest stages, the child's vocabulary includes a variety of form classes, which can generally be grouped as substantive or functional forms. Substantive forms serve as labels for objects or actions while functional forms describe relationships.

The second stage is the transition to grammar. Pairs of words are juxtaposed but in inconsistent word order. At first, successive single words are predominantly linked by the temporal order of the event they describe. Later utterances predominantly follow a topic-comment order.

Stage III is marked by two-and three-word grammatical utterances. These utterances may be described as

"telegraphic" since they contain only the essential words for communication of a message. Examination of children's telegraphic speech has provided the empirical basis for semantic grammars, which show agent-action and action-object structures to be the most frequently occurring of nine two-word utterance types (Bloom, in McLean and Snyder-McLean, 1978). Three-word utterance types include: agent-action-object; agent-action-location; action-object-locative; and agent-object-locative. The syntactic form of these utterance types can thus be seen to follow the simple declarative pattern.

Post-telegraphic development in stage IV consists mainly of elaborations of earlier syntactic forms. The child now includes many of the small function words such as articles and auxiliary verbs in utterances which are still primarily of the simple declarative type. Morphemic inflections for tense and plurality and simple specific interrogative forms are also evident (McLean and Snyder-McLean, 1978). Later the child acquires more sophisticated negative structures, and develops the passive and interrogative forms (Ruder et al, 1975). Beyond Mclean's stage IV, syntactic development increasingly approximates mature forms.

C. Semantics, Meaning and Cognition

The third strand of language development is the acquisition of semantics or meaning. Verbal signs express

meanings intended by their speaker or author, but without cultural conventions these meanings would be impossible for others to identify. Communication requires that the meaning of verbal signs be coded and decoded according to a cultural context of beliefs, values, thoughts and emotions. The semantic meaning of a sign may then be described as "the meaning it has on its own...its dictionary meaning" (Seung, 1982, p. 38).

McLean and Snyder-McLean (1978) describe three phases in the development of lexical-semantic comprehension. At about ten months of age, the normal child responds differentially to ritualized words or phrases, depending heavily on context, intonation, phonemic and gestural cues for comprehension. At the time of the emergence of the first words, the child identifies referents for specific lexical items. These items are usually important persons or objects in the child's world. Later the child learns to respond to multiword linguistic stimuli on the basis of semantic features without yet responding to word order.

Semantic development is based on cognition, both during the phases of comprehension and production described above, and during the prelinguistic phase of a child's development.

The most influential description of the stages of cognitive development is that of Piaget. He describes four periods: the sensorimotor period, preoperational thought, concrete operations and formal operations. The

sensorimotor period, which in non-retarded children generally covers the first two years of life, is further subdivided into six stages. Through interaction with his world the infant gradually comes to differentiate between self and non-self, to achieve certain concepts such as causality and object permanence, and to achieve the ability to mentally represent objects which are not present or visible (Morehead and Morehead, 1974). This ability to represent or symbolize is characteristic of the sixth stage of the sensorimotor period (Thomas, 1979). It is at this age that most children begin to use oral symbols, that is, to talk.

Several authors have outlined parallels between linguistic and cognitive development. Fletcher and Garman (1976) describe semantic stages in Piagetian terms: a) an early sensorimotor stage, in which vocalizations become stable before mental representations are precise; b) a later sensorimotor stage, in which stable object/action schemas develop, some of which are enclosed as distinctive vocalizations; and c) a pre-operational stage, in which semantic representation of the word is built up between the sound schema and the object/action schema.

Meaning is gradually detached from the properties of the object/action schema so that the word may be used with adult flexibility. For example, in the first stage, "cup" may refer to any drinking vessel; in the second stage a distinction between "cup" and "glass" may develop based on

physical characteristics; in the third stage the development of the semantic schema allows the flexible use of either word characteristic of adult language.

In describing these features Fletcher and Garman have set aside the earlier model of semantic acquisition by features (for example, where "dog" may mean, for a child, any quadruped). They have not matched their description as closely to Piagetian stages, however, as have Edmonds (1978) and Dubose (1978). In great detail, Edmonds shows the evolution of symbolic function to parallel development of self-concept, knowledge of the environment, social relationships, and communication patterns. Dubose also outlines parallels between Piagetian substages and prelinguistic communicative behaviors. In particular, the sixth substage of sensorimotor intelligence is described as characterized by the ability to make mental representations of objects and actions instead of having actually to experiment with them. This cognitive stage is accompanied by the emergence of symbolic communicative behaviors, including the first words.

In summarizing the discussion of participants at the Chula Vista Conference, Bowerman (1974) reports that the primacy of cognitive growth was stressed for the whole of language development. Four dimensions of the cognitive-linguistic relationship were described. First, the ability to represent was considered a cognitive prerequisite, though not the sole factor, in the acquisition of

semantics. This position has been supported in studies by Kahn (1975, 1977) and Corrigan (1978), although Corrigan cautions that Piaget's stage six must be regarded as a series of behaviors rather than a single behavior. Secondly, it was suggested that the child's strategies for organizing perceptual input may provide a cognitive foundation for the acquisition of language structures (syntax). Third, linguistic strategies may be derived from general cognitive processes. Finally, the ability to form linguistic concepts, upon which linguistic rules can operate, has a prerequisite in cognitive abilities. These dimensions do not encompass all ways in which cognitive development influences language acquisition, nor are these dimensions independent of each other. The complexity of the relationships is enormous.

D. Pragmatics, Meaning, and Socialization.

Another strand of language development is pragmatics, the study of specific communicative functions realized through language. (McLean and Snyder-McLean, 1978).

The purpose for which a speaker produces an utterance, along with the context of the utterance, superimpose another level of meaning on the semantic meaning already assigned (Seung, 1982). For example, an ironic intent reverses the apparent meaning of an utterance. With young children, however, it may not be appropriate to impute conscious intent: McLean and Snyder-McLean (1978) prefer

to describe early communicative function in terms of the effect realized rather than in terms of presumed intent.

The functions of early language may be broadly characterized as requesting or demanding some overt response, or establishing joint reference with the listener (McLean and Snyder-McLean, 1978). Since the first function specifies its own reinforcer, it is fairly easy to judge the purpose and success of the communication. In the second case, the ultimate intent or function is not specified, so that it is difficult for the outside observer to assess the effectiveness of the communication. Even prelinguistic communication, however, can be observed to be effective in achieving overt responses such as relief from discomfort.

In order to master pragmatic elements of language acquisition the child must be a social being with a desire to communicate and interact with other persons. Social learning theory suggests that the child tends to imitate his caretakers because of the pairing of primary (e.g., food) and secondary (e.g., physical contact, eye contact) reinforcers. Attachment theory proposes an innate predisposition for affective bonding as evidenced by the sucking and rooting reflexes. The realization of this predisposition is facilitated by attitudes of acceptance and sensitivity on the part of the caretaking adult. Both theories lead to an understanding of an environment created by responsive adults with frequent opportunities for

interaction as a prerequisite to the acquisition of pragmatics. (McLean and Snyder-McLean, 1978).

Toward a Model of Language Acquisition

While attempts have been made to describe what is happening in the various strands of language development, theorists have not reached agreement as to a model of how this development takes place.

Initially, theorists may be roughly separated into two camps: those espousing the cognitive-linguistic approach of Chomsky and Piaget, and those taking the behaviorist (Skinnerian) stance. The objections of each group to the other are clear from Bricker and Bricker's (1974) account of the war between the "Muddle-headed Mentalists" and the "Mindless Mechanics."

The positions of Chomsky and Piaget are not to be taken as synonymous. Piaget attends to processes and stages of construction in intelligence, while Chomsky is concerned with rules of construction in language (Morehead and Morehead, 1974). Nevertheless, Chomsky sees the roots of language in reason. Furthermore a parallel can be seen between the centrality of syntax for Chomsky and the centrality of action or logic for Piaget. As the child moves from signal to sign in the first two years, form is differentiated from content and sound from meaning, allowing relational syntax to emerge (Morehead and

Morehead, 1974). Although Chomskian linguistics has given rise to the proposal of an innate language acquisition device (McNeill, 1970), both Chomsky and Piaget present the child as an active participant in his own development.

Ruder (1975) states that the six substages of Piaget provide a framework for a less mentalistic approach to the study of language acquisition. In general, however, this psycholinguistic approach has been criticized for a lack of grounding in observed behaviors and for its emphasis on mental processes to the neglect of environmental or interactional factors.

A contrasting theoretical position is exemplified by Guess, Sailer and Baer (1974). Following the behaviorist model, they suggest that language development be viewed as a reinforcement-based process, including stimulus, consequences and shaping. Emphasis would be placed on the study of language acquisition as learned behavior rather than on the inferring of abstract mental processes or stages.

A resolution to the problem is proposed by Staats (1974) in the form of a neopsycholinguistics. He suggests that psycholinguistic theory be used as the basis for experimental study of language acquisition, using controlled analysis of behavior techniques. Staats proposes that language be accepted as a learned behavior, that context and interaction be accepted as significant factors in language development, and that principles of

learning theory be applied to cognitive issues. The call for a marriage of cognitive, linguistic, and behaviorist approaches to language development has been echoed by Bricker and Bricker (1974), Miller and Yoder (1974), Ruder (1975) and Holdgrafer (1977).

Holdgrafer further points out that since language development reflects the interaction of the child's cognitive, linguistic and social experience, a study of language acquisition should take pragmatics, or reasons for speaking, into account. Clark (1977) describes language as "a system of communication, used to convey both fact and emotion, and bound therefore by cognitive constraints and by social factors" (p.3).

Clark, writing in 1977, complains that "the reader who seeks an integrated view of all aspects of language acquisition may therefore be disappointed by the present state of the art". Nevertheless, attempts are being made to formulate a theoretical approach to language acquisition in which the whole child and his environment are considered.

One such model is that presented by McLean and Snyder-McLean (1978). They title their work a "transactional approach" to emphasize the dynamic relationship between the child and the mature language users in his environment. In their model of language acquisition, the first level represents the intertwining of cognitive, social, and linguistic aspects of the child's interactions with people

and objects. The next level sees the development of cognitive, social, and communicative competence through conceptual organization of the world and the achievement of symbolic function, through development of the desire to communicate, and through comprehension of intents and referents indicated linguistically by mature speakers. At the third level, corresponding linguistic competence develops: semantic concepts based on cognitive competence, pragmatic functions based on social competence, and linguistic structures (phonology, morphology and syntax) based on earlier communicative comprehension. The culmination of the underlying development is the child's actual language performance, whether expressive or receptive.

McLean and Snyder-McLean have provided a coherent and comprehensive model of normal language acquisition based on a well organized and thorough synthesis of theory and research. Their work must be highly recommended reading for anyone interested in the study of early language development.

CHAPTER THREE

RETARDED LANGUAGE DEVELOPMENT

Definitions and Classes of Mental Retardation


It must be pointed out that even if theorists were in agreement regarding approaches to normal language development, they do not agree on the relevance of normal data for the description of language development in the mentally retarded.

Who are the mentally retarded? An excellent survey of responses to that question may be found in the Orientation Manual on Retardation published by the National Institute on Mental Retardation (1977).

Various definitions have been proposed over the years. The definition most often used in North America is that of the American Association on Mental Deficiency (1973):

Mental retardation refers to significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifest during the developmental period.

Intellectual functioning, as measured by IQ, must be more than two standard deviations below the mean for inclusion as retarded. Adaptive behavior, though not defined by the 1973 statement, and difficult to measure, generally refers



to an individual's ability to meet the social, vocational, legal and moral expectations placed on him by family and society. The developmental period was defined as the first eighteen years of life.

It is significant that this definition does not make reference to etiology, does not include the criterion of incurability, and does not view intelligence as static potential. Rather, IQ is considered representative of behavioral functioning at the time of assessment (Chinn et al, 1975; Warren, 1977). Such a view implies that improvement may be possible and education beneficial.

The literature on mental retardation makes use of various schemes of subcategorization to describe the people it studies.

One of the most widely used criteria is symptom severity, as based on IQ scores or on the deviation of IQ scores from the mean. The categories outlined by the A.A.M.D. are designated mild (-2 S.D.), moderate (-3 S.D.), severe (-4 S.D.) and profound (-5 S.D.) retardation. A major problem with this scheme arises from the unreliability of such extreme scores and the difficulties of assessing multiply-handicapped persons.

Similar levels have been developed to categorize adaptive behavior based on a description of motor and communicative performance and the degree of assistance needed. Measurement techniques in this area are in the early stages of development (Chinn et al, 1975).

A third classification scheme is that based on etiology. The ten etiological categories named by the A.A.M.D. include eight medically related causes (e.g., infection, trauma, metabolic disorders, chromosome abnormality, psychiatric disorders), an "environmentally-influenced" group, and "other". The environmental-influence category, also known as cultural-familial retardation, is "essentially categorized by the absence of verifiable structural characteristics," yet comprises 75 to 85 per cent of the total (Chinn et al, 1975). Thus etiology is a rather unsatisfactory criterion for classification of the majority of mentally retarded persons.

Another approach involves the description of syndromes, including physical and behavioral characteristics. Among the most common examples are Down's syndrome, microcephaly, and hydrocephalus. This classification system is particularly medically oriented.

An educational perspective gives rise to categories on the basis of educability expectations. Hence come the terms: educable, for persons who can probably achieve some measure of independence; trainable, for persons who will require some assistance and supervision, and custodial, for persons requiring care and supervision. It is ironic that the "custodial" label has become anti-educational in that it has been used by some persons to mean "no hope."

A more plausible approach for educational purposes

stresses individual assessment of behavior and skills on a criterion-rather than norm-referenced basis. Under this scheme, instead of being grouped, each individual occupies the unique category provided by his own developmental profile. While this system offers diagnostic prescription for individual programming, it is of little benefit in making administrative decisions.

From the variety of classification systems and the shift in definition of mental retardation, it can be seen that this is not an easy area to define. Joanna Ryan (1977), in a footnote to her paper, "The Silence of Stupidity" abandons what she calls "the useless quest for stigma-free labels" (p. 101). She uses terms including "idiocy", "stupidity" and "subnormality" "as the context merits" and avoids "euphemisms such as exceptionality." On the other hand, Gunnar Dybwad (cited in N.I.M.R., 1977) has declared "mental retardation" to be "not so much a clinical designation based on compelling evidence as it is a social status conferred on individuals by whatever societal group has been given, or has taken upon itself, the right to so label people."

What is the worker in the field of "mental retardation" to conclude? Difficulties in defining the area lead first of all to the conclusion that no single, simple condition of mental retardation exists: individual differences must always be expected and looked for. As for stigma, this belongs not to the labels but to the concept

of retardation or deficiency, whatever it be called. The important thing is that in trying to define and describe mental retardation, professionals work not to restrict expectations and opportunities but rather to open the way for remediation if the interests of the retarded are to be served.

Retarded Language Development: Different or Delayed?

One of the most important criteria in identifying mental retardation, whether one considers intelligence or adaptive behavior, is language development. A model of retarded language development would therefore carry implications for an understanding of mental retardation and for remediation of language problems. An understanding of the processes of normal language acquisition may present a starting-point in the study of retarded language development. However it cannot be assumed that retarded persons undergo the same sequence of developmental stages as do the non-retarded. The debaters of this question may be categorized as "difference" versus "delay" or "developmental" theorists.

Developmentalists argue that the retarded differ from normal only in the rate and upper limit of their development, while difference theorists hold that the retarded show deficits which prevent their development from paralleling the normal sequence (Zigler, 1969; Cummins,

1977). Suggested areas of deficit include long-term motor planning (Cromer, 1974; Dodd, 1975), rigidity of cognitive structure (Lewin-Kounin in Zigler, 1969), and modes of information processing (Cummins, 1977).

The support for deficit theorists comes mainly from studies in which the scores of retarded and non-retarded persons matched for mental age (MA) showed discrepancies on developmental tasks (Cromer, 1974). However, matching of subjects by mental age is inappropriate because of corresponding differences in chronological age and life experience (Zigler, 1969; Bateman, 1974). Furthermore, mental age is only a rough indication of cognitive level, reflecting achievement and motivational factors as well (Zigler, 1969). In his review of studies dealing with language acquisition and concept attainment, Sùppes (1972) concludes that "verbal performance rather than abstraction as such is the critical deficiency of retarded persons." This deficiency confounds the assessment of mental age in retarded persons, rendering MA-matching a difficult technique.

Weisz and Zigler (1979) review twenty-eight cross-sectional studies which compare retarded and non-retarded subjects on the order of difficulty of various tasks. In spite of a wide variety of subjects and methods, these studies showed consistent support for the similar-sequence hypothesis, with four minor exceptions. Each study, however, provided at least general support for the

hypothesis. Two longitudinal studies were also included in the review. The first found that subjects responded to laughter-provoking stimuli in an order of increasing subtlety and complexity. The second study found that 39 of 49 institutionalized young profoundly, severely, or moderately retarded subjects exhibited Piagetian patterns of development. The remaining ten subjects had EEG abnormalities as well as deviation from the Piagetian scheme. The data for these subjects may reflect an atypical sequence or may simply reflect difficulty in assessing development in such cases. Shupe (1979) also suggests that central nervous system damage may account for skipping of some cognitive substages in some of her retarded subjects.

Because many severely and profoundly retarded children are multiple handicapped it may be expected that many of them are brain-damaged. On the basis of Weisz and Zigler's evidence however, it may be postulated that for some of these children, if perhaps not for all, cognitive development can be expected to follow the normal Piagetian pattern.

Both Rondal (1980) and Ryan (1977) point out the fallacy of assuming homogeneity within the retarded population. Rondal reviews research comparing retarded and non-retarded persons in their development of phonology (babbling), lexicon (vocabulary), semantic structure (e.g., notions of agent or object), grammatical morphology

(measured by the Grammatical Closure subtest of the Illinois Test of Psycholinguistic Abilities) and syntax (both early and more sophisticated forms). He concludes that neither the difference nor the delay position is fully supported. In any case, he states that there is no real dichotomy: if various aspects of language development proceed at very different rates within an individual, even if the sequence of development is normal, then the overall development of that person must be said to differ from normal.

Ryan also reviews research comparing normals and subnormals, as well as research making comparisons between Down's syndrome subjects and other subnormals. In the latter case, persons with Down's syndrome show relative inferiority in language development. Their high incidence of hearing and respiratory disorders may well account for this result. In normal-subnormal studies, Ryan finds considerable evidence for delay theories in terms of syntax, morphology and semantics. Differences occur mainly in articulation and in coordination of verbal skills such as recognizing and naming. She too finds evidence that individual subnormals show more variability between areas of behavior than do normal individuals. Ryan concludes that the processes of language acquisition may be importantly altered in subnormal children, "even if the overall course of it is roughly 'normal'" (p.11). She suggests that the process may be altered because the

subnormal is less likely to explore his environment and less likely to create for himself a facilitative human environment through social interaction.

The question, then, when one studies retarded language development is not simply one of difference or delay. Research into the cognitive, linguistic and social aspects of language acquisition in both normal and retarded persons is necessary. In the meantime, planners of language curricula for the retarded are left with the compelling, if rather unsatisfying, argument: in the absence of a clear indication of a deviant sequence of language and cognitive development, data on normal development provide the best available guide for the content of language intervention programs.

CHAPTER FOUR

TECHNIQUES OF INTERVENTION

Operant Conditioning

The most efficient methodology for language intervention is generally agreed to be operant conditioning (Bateman, 1974; Miller and Yoder 1974; Ryan, 1977). This technique involves the provision of a stimulus and of consequences, that is, reinforcement, for the subject's response. Task objectives, setting, materials, and verbal instructions are specifically outlined. In most cases, studies in language training have used tangible reinforcers as rewards for correct responses (Snyder et al, 1975). Generally the response is shaped through a gradual narrowing of the criteria for correctness as the subject responds successfully at each level of expectation.

Operant technology offers several advantages. The technique offers a structure around which lessons and programs can be built. Because the objectives are described in detail, task achievement and movement through the program may be readily assessed. Thirdly, the highly structured nature of operant techniques provides for an experimental approach to language training in which many variables may be isolated and controlled (Guess et al, 1974). Finally, behavior modification through operant conditioning has worked "like nothing else has ever worked

in the area, whatever the particular failures" (Reichle, 1977).

At the same time, behaviorist technology is not without its problems and criticisms.

The main problem is that of transfer of learning from the highly-structured training situation to a more generalized environment (Miller and Yoder, 1974; McCormick and Elder, 1978). McCormick and Elder suggest that the problem may arise from an inability of retarded persons to cope with inconsistency in their linguistic environment, that is, with the application of more than one label to a referent (e.g., doll, dolly, Raggedy Ann for the same object.) They propose that a compromise be made between a strictly regulated environment, which tends to be efficient for the task under training but which makes generalization difficult, and a naturalistic environment. The compromise would be based on two factors: a) the feasibility of significantly modifying the child's natural environment to match more closely the training environment, and b) the ability of the child to process information in a naturalistic environment, where objects are not always labelled consistently.

Yoder and Reichle (1977) suggest that the difficulty may arise from neglect of the pragmatic aspects of language learning. Since communication, they say, exists for problem-solving purposes, and since context is an important indicator of purpose, Yoder and Reichle propose that the

program should be carried out in the environment in which it will probably be used.

Stokes and Baer (1977) state that generalization must be deliberately included in the training program. Rather than merely hoping for generalization, modifying the environment if generalization does not occur, or adopting one of several other techniques they find implicit in the literature, Stokes and Baer treat generalization itself as a behavior to be explicitly trained and reinforced.

The problem of generalization, then, can be dealt with through the use and adaptation of operant technology itself. More fundamental criticisms of operant techniques have been made on theoretical and philosophical levels.

For those who view the process of language acquisition as determined by an innate device, language training through manipulation of environmental factors (i.e., stimulus, consequences) could be considered futile. Bricker and Bricker (1974) meet this argument by proposing that innate structures be redefined in terms of "interaction between genetic determiners and the full range of environments encountered by the organism" (p.436).

The roles of imitation and reinforcement in language acquisition have also been questioned. In describing "communicativeness" as a prerequisite of speech, Bruner (1978) states that:

The child does not 'become' communicative as a result of reinforcement or imitation or any extrinsic determinant. There is a reward in sharing a referent, a target, as part of interacting with another. (p. 210)

Closely examined, however, Bruner's observation does not negate the usefulness of imitation or reinforcement as tools for language acquisition, given the communicative prerequisite. Instead he is underlining the importance of the social aspect of language development.

Bricker and Bricker (1974) also deal with objections to the use of imitation and reinforcement. Studies of normal language acquisition have shown that many children produce utterances which are novel rather than imitative of adult speech. The Brickers agree that imitation may not be necessary for normal development but find evidence that imitation is a useful technique with retarded children. Their argument is a practical rather than theoretical one. Similarly, normal development studies have shown parental reinforcement to be based on approval of truthfulness rather than syntactic correctness, thus casting doubts on the validity of the technique of reinforcing for correct responses. Reinforcement based on approval however, is also a demonstration of the importance of natural, social reinforcers. Bricker and Bricker compromise by suggesting that in language intervention, social reinforcers can be substituted for tangible rewards after the latter have increased the child's socially effective verbal behavior.

Alone among the authors read for this thesis, Joanna

Ryan (1977) raises questions about the ethics of operant conditioning. She states that the operant conditioning may be both liberating and oppressive: liberating in that the individual becomes more independent and his caretakers are relieved of some of their burden, and oppressive in that the conditioner makes all the choices. For example, she muses:

"It may be that being dressed and toileted by a nurse are the only pleasurable and sensuous experiences of a barren life, and that the 'freedom' to go to the much less sensuous occupational therapy, for example, as a result of becoming continent and more independent, is no compensation - who knows?"
(p. 120)

Decisions regarding what is to be taught and how it is to be taught are made for normal children as well as for the retarded. Through the use of language, however, normal children are better equipped both to mediate these decisions and to understand their rationale. For this very reason language intervention is in my opinion not only justifiable but demanded. The conduct of language intervention through techniques of operant conditioning can be truly liberating for the retarded person if it is carried out with an awareness of the responsibility incurred and with a sensitivity to that person's needs and responses.

CHAPTER FIVE

GUIDELINES FOR CURRICULUM MATERIALS

Considerations of the nature of language and communication, of normal and retarded language development, and of the ethics and efficacy of instructional techniques all carry implications for the design of curriculum materials for language intervention with the retarded.

The goals of a language program derive from an understanding of the symbolic nature and communicative function of language. Communication is essentially a social situation. If the goal is to enable the child to use language in its transactional functions of informing and persuading, both aspects of the communicative situation, input and output, must be addressed in the language program. Furthermore, in aiming to establish communication at a symbolic level, the value of alternative symbol systems must not be discounted in language curricula for persons without speech.

Studies of normal language acquisition provide guidelines for the content of intervention programs with the retarded. From these studies it can be learned that three areas of development are important factors in language acquisition.

a) Cognitive prerequisites, especially the concepts of object permanence and means-end relationships, must be assessed and trained-for so that the student may develop

the ability to use symbols. As language is acquired, cognitive development continues to be a factor in the acquisition of linguistic concepts and strategies as well as in the development of semantics.

b) The social development of the individual is crucial to his motivation for and ability to participate in the communicative situation. The development of the ability and desire to attend to and interact with others is intrinsic to participation in communication and is prerequisite to the use of imitation in instructional procedures. The communicative usefulness of items selected for the curriculum influence both the student's motivation to learn and his ability to generalize his learning beyond the training situation. Another consideration of the social aspects of language development is the consistency and quality of language input provided by the persons with whom the student is in contact in both the training and the general environments.

c) Linguistic development involves the acquisition of phonology, of semantic concepts, and of increasing syntactical complexity. While these strands of development each follow a sequence, they are also interdependent, and closely related to the individual's social and cognitive development as well.

A look at retarded language development in particular yields several implications for curriculum design. Foremost is the necessity for flexibility in a language

intervention program because of the high degree of inter- and intra-individual variation in skills, needs and handicaps. Although data on the normal developmental sequence provide the framework for language intervention, potential departures from the sequence must be accommodated. Secondly, the possibility of auditory or neurological impairment requires that physiological assessment take place before a program is instituted. Thirdly, in an effort to decrease as much as possible the gap between normal and retarded language development, early intervention is urged (Turton, 1974).

Reports of language intervention projects attest to the usefulness of operant conditioning techniques in establishing early language behaviors. The outstanding problem is lack of generalization of the behaviors to the outside environment. Consideration of pragmatic factors, through selection of highly motivating and frequently occurring content items and through coordination between the training and natural environments, increases the likelihood of generalization. Explicit training for generalization must be built into language programs. Finally, the power of operant techniques gives rise to ethical considerations which must be incorporated into the philosophy and goals of the intervention program. A curriculum for language intervention must take into account the rights as well as the needs of the people it serves.

Guidelines for language curricula cannot be rendered

into a simple list of suggestions or prohibitions. As with any discipline, the state of knowledge regarding language intervention is incomplete and constantly expanding. Nevertheless, theoretical and practical explorations of the field thus far have established a perspective through which a review of language curriculum materials may be conducted.

PART TWO

REVIEW OF SELECTED CURRICULUM MATERIALS

CHAPTER SIX

CRITICAL EXAMINATION OF CURRICULUM MATERIALS

Selection of Materials

The materials examined in this review have been selected according to three criteria : intended population, date of publication, and availability for classroom use.

In general terms, the items selected are intended for use with the severely and profoundly handicapped. Since the attribution of a set of static characteristics to a handicapped population is highly questionable, the terms "severely" and "profoundly" handicapped are probably best conceptualized as "conditions so imposing that they obstruct the performance of, or participation in, everyday activities" (Van Etten et al, 1980, p. 39). In terms of language development, lack of expressive language or of communicative abilities even at a signal level may be considered seriously obstructive to participation in normal daily activities. Thus curriculum materials, such as Language Remediation and Expansion (Bush, 1979), which centre on expanding the language skills of children who already have some expressive ability, have not been included in this review.

Knowledge in the field of language intervention is rapidly expanding, with a focus on the importance of cognitive development in the early part of the last decade,

and more recently with a shift in emphasis to pragmatics. For this reason curriculum materials which were published more than ten years ago have also been excluded from this review. It seems both more valid and more useful to concentrate on newer materials rather than to criticize items written without the benefit of recent thought and research findings.

Finally, the availability of curriculum materials to classroom teachers and to the reviewer was a factor in selection. Attempts were made to contact representatives of ten school boards to ask the following questions:

1. What curriculum materials (books, manuals or other materials) are used for language intervention with retarded students in your jurisdiction?
2. Are these materials used in daily lesson activities or as a more general resource?

Of six replies, the most often mentioned resources were the Handbook of Blissymbolics (Silverman, 1978) and Signing Exact English (Gustason et al, 1980). Both of these books, however, are manuals for the use of an alternative symbol system rather than curriculum materials with procedures specifically designed for severely and profoundly retarded children. Both Blissymbols and American Sign Language can be substituted for speech as the mode of expressive language in many other curriculum programs. It would not be appropriate, however, to review these texts as language programs in themselves.

Other program materials available in university libraries as chapters in larger volumes or on microfiche

were excluded from the review because their format made it unlikely that they would be used in classrooms, either as a resource or on a daily basis. Programs introduced in the literature by Miller and Yoder (1974), Guess, Sailor and Baer (1974) and Stremel and Waryas (1974), for example, were therefore eliminated from this review.

In summary, curriculum materials were selected for examination on the basis of their relevance to a severely and profoundly retarded population, their potential for reflecting current and accumulated experience and research, and their accessibility to the classroom teacher. In each case, the book, manual or kit selected will be discussed as far as possible in terms of its own stated goals as well as according to guidelines formulated from a reading of the literature. No single package is expected to offer all things to all students, nor to all teachers for that matter. It is hoped that an in-depth examination of these materials will make evident the strengths and weaknesses of each program so that the teacher may be better equipped to select, use and adapt curriculum materials for his or her severely retarded students.

Language Acquisition Program for the Severely Retarded

A. Format and Contents

The Language Acquisition Program for the Severely Retarded (Kent, 1974) takes the form of a coil-bound

paperback book.

There are three sections: preverbal skills, subdivided into attending and motor imitation; verbal receptive skills; and verbal expressive skills. Upon mastery of the preverbal skills it is expected that the child will move from the first receptive phase to the first expressive phase, then to the second receptive phase and so on. An alternative but less preferable pattern would be to move through successive receptive phases if expression were not feasible.

The manual also includes guidelines for use, a detailed assessment inventory, model data recording sheets, and suggestions for using sign language as the expressive mode.

B. Structure and Flexibility

Kent's program is based upon the principles of behavior modification through operant technology. She provides an excellent explanation of the principle of reinforcement, including the need for a high density of success from the start and the importance of choosing a reinforcer that will be effective for each individual. She suggests a token system of reinforcement and outlines procedures for implementation of a token system. She also offers practical tips, such as avoiding "window" as a target word since windows can be distracting, and avoiding using the child's name for calling attention, as this can

become a reinforcer for inattention.

Each part of the program includes a pre- and a post-test. As well, each daily session begins with a review of all previously acquired behaviors in that part. Old items must be correctly performed before new ones are introduced. No more than ten consecutive sessions are given on any one part. If criterion (90% correct) is not met by the tenth session, training on that part is temporarily suspended. However, Kent does not suggest what alternative training should take place, except that expressive phases may be omitted. Data are collected on the pre- and post-tests, on the daily review (called "test-step") and on the teach-step. Administration of the teach-step is fairly complicated, as the teacher must give no more than twenty trials on the same item in one session, but no more than two consecutive trials on the same item, and must surround trials on new items with trials on items already mastered to promote feelings of success. The teacher must therefore record results of each trial and decide what item to try next as the session proceeds. Results are registered as correct, approximate, incorrect or "no results". In addition, extraneous responses and behaviors surrounding the exchange of tokens for reinforcers are also recorded. It is somewhat surprising that in a recording system of such detail the type of prompt (verbal, gestural, imitative or physical assistance) is not indicated, as the fading of prompts from one level to another provides a fine measure

of success. In view of the demands of the teaching and recording procedure, however, perhaps it is just as well that Kent explains the notion of fading without requiring that prompts be recorded.

In general, then, Kent's program is highly structured in both procedures and data collection. The program is not meant to be inflexible, however. She stresses that items are sequenced according to "presumed difficulty", and that the program "should be modified if a child does not respond to the sequence" (p. 1). (Note that Kent does not claim to follow a developmental sequence.) Furthermore, in the sense that the selection of trial items is dependent upon the student's responses during the session, the teach-step is tailored for each individual. Finally the extensive section contributed by Martha Snell on the use of sign language and total communication provides diagrams and instructions for adapting the program to an alternative communication system.

C. Recognition of Cognitive and Social Bases of Language Acquisition

McLean (1972) has described Kent's primary contribution as her specification of prelinguistic responses. Although Kent does not set up a theoretical model of cognitive and social prerequisites for language, her clinical experience has led to an implicit recognition of these factors.

Tasks in the preverbal section require that the student attend to and imitate others, thus engaging in a social situation and practising pre-communicative skills. Verbal receptive tasks include finding concealed or partially concealed objects. This type of task resembles those used by Kahn (1975) to help retarded students achieve the concept of object permanence as a step toward symbolic functioning. Moreover, the searching task is a kind of game, a "dynamic context" (McLean and Snyder-McLean, 1978, p. 223) in which language is both social and purposeful.

The structure of the training sessions, however, could be improved by greater emphasis on communication as a transactional situation. Language input from the trainer is not discussed in any detail and is restricted to questions and commands such as "Do this; say nose", or "What is in the box?" Many of the early tasks do not fill any need the student is likely to feel, for example, "Show me your nose", or, "Say, keys." Reinforcement rather than communicative function is treated as the prime motivator.

Interestingly, it is in the peripheral areas of the program that the social aspects of language are most often recognized. Extraneous verbalizations are recorded, and reinforced if appropriate. The language surrounding the exchange of tokens for reinforcers is the most conversational and relevant (to the child) communication in the program. It may be speculated that clinical experience has led to the inclusion of these elements even though they

do not fit the highly structured program.

D. Approach to Child Language

Kent does not present an extensive rationale for the choice and sequence of tasks included in the program. Nevertheless, some comments may be made concerning the view of language acquisition which may be inferred from the work.

Kent moves from receptive to expressive phases. Thus, after pointing to body parts named, the child learns to name body parts. Although it is generally agreed that reception precedes expression, or that comprehension precedes production, McLean and Snyder-McLean (1978) warn that the two processes are not necessarily matched on a one-to-one, word-for-word basis. Theories of production and comprehension must also deal with the interaction between hearer and speaker, and with motivational factors (Schlesinger, 1977). Greater attention to these pragmatic factors in the selection of receptive and expressive task would enhance the validity of Kent's alternating phases.

The labelling of common or familiar objects reflects the view that language maps onto already existing cognitive structures in establishing semantic meaning. McLean and Snyder-McLean (1978) applaud Kent's use of action sequence such as "Throw the ball" and "Find the keys" as semantic features of the early lexicon. They suggest that the Language Acquisition Program could be improved by including

semantic relations. Some of these could include existence, recurrence and social conventions such as "no" and "yes". It seems odd that these last two extremely functional words are not included in most of the programs reviewed; perhaps this is a reflection of the lack of choice available to many dependent retarded persons.

In general, without formally adopting a model of language acquisition entailing the development of semantics as well as syntax and phonology, Kent's program has intuitively incorporated many aspects of the theory.

E. Generalization Components

Kent has included non-criterion tasks in many parts of the program. These tasks are included "to facilitate generalization and retention and to introduce later content" (p.10). The non-criterion tasks add words to the lexicon for each unit to expand the expressive phase from a one to a two-word utterance. These items are not trained, however, unless the child masters the other tasks in fewer than ten sessions, nor are they recorded. Generalization to other settings or trainers, rather than simply to new word items, is not attempted. Such a lack of commitment to generalization and to the importance of pragmatic factors surely must render the program ineffective for generalization.

F. Intended Population: Students and Trainers

Kent states that the program is primarily intended for "hearing, sighted, severely retarded children" (p.1), though adaptable for the multiply impaired. The highly structured nature of the program makes it especially suitable for use in an institution, where formal organization is more likely to be necessary, than in a home/school situation where only a few persons are responsible for caretaking of the retarded child. In addition, Kent's inclusion of procedures for dealing with interfering self-stimulatory behaviors offers a practical and systematic approach to a problem particularly evident among institutionalized children.

Kent's instructions are clearly stated and practical, although the actual administration and recording procedures are complex. With supervision, however, a relatively untrained adult could be expected to manage competently the teaching sessions once the techniques and procedures had become familiar. Unfortunately, the formality of the training situation does not make this program particularly suitable for administration by parents in a relaxed setting.

G. Summary

Kent's Language Acquisition Program embodies many of the principles found in the literature on language intervention. Indeed, her work has been a sourcebook for

many other designers of language curricula. With perhaps a simplification of procedures, and with a greater view to pragmatic factors in the selection of tasks, this manual could be useful in situations where a highly structured program is deemed desirable.

The Right-to-Education Child: A Curriculum for the
Severely and Profoundly Mentally Retarded.

A. Format and Contents

The Right-to-Education Child (Myers, Sinco and Stalma, 1973) is a hardcover text illustrated with several pencil drawings of handicapped children. The portraits add a personal, human touch to the book.

The authors include four areas in the curriculum: sensory and motor development, self-care, and language readiness. They do not claim to offer a complete language program, and indeed the language readiness section comprises only ten of 225 pages. No rationale is given for the choice or weighting of program areas; one is led to wonder whether language is meant to take low priority.

In each program area the authors provide objectives, readiness criteria, procedures, evaluation questions, and lists of materials and equipment.

B. Structure and Flexibility

The authors state: "It is also felt that the program

must be highly structured, and present situations and experiences in which the stimuli to which children are exposed are carefully controlled" (p. 7). In spite of this statement, many aspects of their program are vaguely or poorly structured.

The competency checklist consists of a list of objectives from each of the four program areas. However, the curriculum chart presented (p. 11) as an overall record of the child's needs and achievements includes eight areas, and these of such disparate scope as "Nasal Hygiene" and "Communication." Yet each area of the curriculum chart has the same number of process steps listed. In four steps the child is expected to move from tolerating toothbrushing to independent brushing on the one hand, and from recognizing his name to imitating gestures on the other. No explanation for the arbitrary selection of four steps is available except that four blocks have been provided to be filled in on the chart for each area.

Other reporting procedures include the "Educational Encounter Report," an anecdotal accounting of procedures and results on a daily and weekly basis, a toilet training chart, and a "Happenings Chart" for recording unexpected successes and accomplishments. The Educational Encounter Report, because of its anecdotal character, would be more time-consuming to prepare and less precise than data sheets suggested in other programs. In the toilet training chart, the sample "comment" simply repeats the numerical data

rather than adding information. The Happenings Chart could prove very useful in a language program if it were used to sharpen the teacher's observation of the child, especially with regard to prelinguistic attempts to communicate. In general, however, the curriculum planning and recording procedures are poorly thought out and loosely structured.

Ambiguity persists in the instructional units. Some of the objectives are vague, for example: "To have child imitate sounds" (p. 223). No task analysis is provided. Evaluation consists of questions such as: "Did he respond to the verbal stimulation or did he merely seem as though he recognized his name?" (p. 216) Without a clear analysis of what is expected of the child it is rather difficult to evaluate his performance.

It is thus abundantly evident that Myers, Sinco, and Stalma have failed to provide the highly structured program they advocate.

C. Recognition of the Cognitive and Social Bases of Language Acquisition

The eight objectives of the Language Readiness program are:

1. Attends to adult when spoken to.
2. Extends tongue straight out when stimulated.
3. Removes food particle from between lip and lower front teeth.
4. Directs tongue to side of cheek to remove food.

5. Directs tongue to lick food from outside of mouth.
6. Responds verbally to stimulation.
7. Imitates sounds.
8. Responds to commands. (p. 215)

This focus on psychomotor function shows a superficial view of language production and a commitment to speech as the expressive mode.

The first and the last four objectives, however, embody social aspects of early communicative development. In particular, in the procedures for Objective 7, the teacher is urged to "begin to build a repertoire of communication by gesturing to the child to communicate everyday activities, bye bye and hi." The sixth objective involves ringing a bell and brushing or rubbing a child's body and could become an interactive situation which would both facilitate attachment between child and teacher and provide an opportunity for communication. The objectives are rather wide in scope, however, and would be improved by subdivision into more finely sequenced items.

Although the use of familiar objects is recommended in having the child imitate names, the program does not effectively contain any acknowledgement of the cognitive prerequisites of language acquisition. The sensory and motor areas of the curriculum could be used to enhance the child's ability to manipulate objects and broaden his experience of his environment. It is unfortunate that the language perspective is so neglected in these areas that

the authors do not include suggestions for how to talk to the child for maximal comprehension or even what to say in specific instructional activities.

D. Summary

Although further criticisms could be made, it should be obvious that The Right-to-Education Child curriculum is seriously flawed. Its lack of organization and superficial approach to child language readiness make this program an unlikely choice for language intervention while far better curriculum materials are available.

Non-Speech Language Initiation Program (Non-SLIP).

A. Format and Contents

Non-SLIP (Carrier and Peak, 1977) is a package of materials, including:

- (a) a program manual giving an overview, research summary, rationale, and general procedural guide;
- (b) word symbols for nouns, verbs, verb auxiliaries, prepositions and articles. The symbols are plastic chips unique in shape and meaning, and colour-coded to indicate form class and position in sentence. For example, noun subjects have one red stripe, noun objects have two red stripes, and verbs have one green stripe. The word represented by each symbol is printed on the face of each chip for benefit of the trainer;

- (c) a tray on which chips are placed to construct a sentence;
- (d) program instruction cards with lists of materials and step-by-step instructions including how to branch, advance, or go back to other phases;
- (e) picture cards with simple black and white drawings;
- (f) word cards to be used instead of the plastic word symbols with subjects who can read, such as adult stroke victims;
- (g) data sheets featuring one page of instructions and examples, two kinds of sheets for individual sessions and the Master Record Sheet for summary.

In brief, the ultimate task of the program is to correctly select word symbols and place them in the correct sequence to construct a seven-word sentence describing a picture stimulus. The sentence pattern is: article + noun + auxiliary verb + verb + preposition + article + noun.

The specific phases of training include two preparatory units, dealing with anticipated problems such as not attending, and with hand-over-hand training of the motor response required to place chips on the sentence tray. The trainer then proceeds to teach the child:

- a) to match numbers, since chips have one or two stripes;
- b) to match colours, since chips are colour-coded;
- c) to sequence chips by rote using backward chaining: that is, the child first learns to place the

seventh chip on the tray, then the sixth and seventh, and so on. Carrier states that fewer errors were found to occur in research subjects when backward chaining was used to train the rote sequencing;

- d) to match symbols;
- e) to match pictures;
- f) to match pictures with symbols (i.e. to label pictures);
- g) to select the appropriate subject noun upon presentation of a picture stimulus;
- h) to select the appropriate verb, as above;
- i) to label objects of prepositions (ten new nouns);
- j) to select appropriate objects of prepositions upon presentation of a picture stimulus;
- k) to select prepositions.

B. Approach to Language Acquisition

Carrier and Peak have thus drawn up a thorough and careful sequence of tasks necessary for mastery of the desired final behavior. The fatal flaw of their program is the selection of this goal.

The authors do not claim to have presented a comprehensive language program. Rather, they stress that Non-SLIP is intended as an introductory program leading possibly to training in the speech mode or to a program such as that offered by Stremel and Waryas (1974).

Unfortunately, even with this limited aim, the goal of teaching a child to select and order word symbols in a prescribed sentence is so far from the realities of language acquisition and communication as to reduce the program to the teaching of a dead-end skill.

Carrier (1974) states that:

The model generated by this work was in no way intended to simulate any actual processes in which humans engage. For example, no attempt was made to accommodate data describing the normal acquisition of language. The normal development process does not appear to be efficient logically, and indeed some language-deficient children may fail to learn language because of the inefficiency of that process. (p. 49)

Instead of data on normal development, Carrier's model is a "logical" flow-chart of operations to produce language responses. Thus the program begins with a seven-word sentence rather than expanding from a one-word utterance, and teaches structure before meaning, rules before speech. The authors begin training with a seven-word sentence because "the flow-chart indicated that a sentence with a subject noun phrase, a verb and a prepositional phrase provides a child with more 'language' [their emphasis] than any of the other sentence types the programs were designed to teach" (Carrier and Peak, 1975, p. 9).

The problem with this "logical" approach is a lack of understanding of what constitutes "language." The authors seem to have equated language with structure. Furthermore, they cite, as one of the sources for their model, Premack's description of human communication as a system requiring

two basic components: symbols and rules. They fail to notice that without a speaker and hearer (sender and receiver) in an interactive situation there can be no communication.

C. Recognition of Cognitive and Social Bases of Language Acquisition

As a consequence of their "logical" model, Carrier and Peak give almost no recognition to the cognitive and social bases of language acquisition.

Rather than trying to map semantic meaning onto the child's cognitive structure, Non-SLIP attempts to train labelling as a kind of matching task. Furthermore, the item to be labelled is not a concrete object or person from the child's environment, but an image. Actions too are represented by static images. For a child to label these images with any comprehension would require that he function already at a symbolic level. Yet Non-SLIP is intended as a preliminary program for the severely handicapped.

The social foundations of language acquisition receive some acknowledgement in that suggestions are given for dealing with problems of not attending or of exhibiting interfering behaviors. Certainly these problems must be dealt with before any program may begin. The training tasks, however, do not resemble a social or communicative situation: the child has no communicative purpose in

constructing the sentence, and no motivation but a reinforcement irrelevant to the construction. The authors state that:

It is not the goal in this work to program the interpersonal relationship between trainer and child, but it is necessary for the trainer to relate satisfactorily to the child if progress is to be expected. This matter is up to the individual trainer. (p. 14)

"This matter" is considered subservient to the goal of completing the task at hand, rather than centrally important as a communicative prerequisite. Another statement, regarding language by the trainer, shows similar disregard for the semantic and communicative aspects of language. In suggesting alternatives to edible reinforcers, the authors note that some children respond to "no" as a positive reinforcer:

We have trained several children who did not respond to other contingencies, but when the trainer started saying "NO" in a loud stern voice after every correct response, the children began showing clear increases in response rates. (p. 16)

If this is not blind behaviorism, it is certainly myopic in a program which claims to teach language.

D. Summary

Carrier and Peak aim to provide severely and profoundly handicapped children with a program to start them in the process of learning communication skills through the use of an alternative expressive mode. While their approach is innovative, their inadequate conceptualization of language and communication yields a

program which can hardly be expected to generalize into a communicative situation. The successful students in the Non-SLIP program will not have been taught to communicate nor even to use syntactic rules. Rather, they will have learned to place plastic chips upon a tray in response to a limited number of picture stimuli.

A Prescriptive Behavioral Checklist for the Severely and Profoundly Retarded.

A. Format and Contents

The Prescriptive Behavioral Checklist (Popovich, 1977) is a large paperback with bold type and two columns per page, presumably set up for easy reference during training sessions. The instructional units are easy to follow, with the task analysis on the left page and implementation guidelines on the right for each objective.

The first of the book's two sections is set up as a training guide for teachers. Short chapters deal with assessing the child, prescribing tasks, selecting and using reinforcements, prompting and fading, and coaching parents and paraprofessionals in use of the program. Each chapter includes questions and "stories" (case problems) to be answered and discussed, as well as suggestions for further reading. The questions require little more than repetition of the text; however, answers are provided at the back of the book.

Section II presents checklists in four areas of child development: motor development, eye-hand coordination, language development, and physical eating problems. Each checklist or list of objectives is accompanied by a description of the criteria for meeting the objective, an analysis of the task, and an outline of the procedures to be followed. The Language Development checklist includes six subsections: attending, physical imitation, auditory training, object discrimination, concept development, and imitation of sounds.

B. Structure and Flexibility

In the first section Popovich attempts to teach the principles of operant technology underlying the program rather than merely to explain the procedures. In this way she prepares the teacher to modify the program according to the feedback provided by the student. She suggests that it may be found advisable to modify the stimulus, select a more appropriate objective, or find a more effective reinforcer. Although the program is designed for the development of speech as the expressive mode, the teacher could develop objectives using gestural or visual symbols as a substitution for some of the sound imitation tasks. The Prescriptive Behavioral Checklist is intended to be flexible.

The procedures for implementation and data collection are clearly structured.

Up to 20 responses are trained per objective in each training session, with two training sessions plus one "maintenance" session per day. The criteria for mastery are stated in terms of the exact behavior required and the model given, rather than in terms of percentage of correct responses. Five consecutive responses to a verbal prompt are required for completion of an objective. Popovich gives specific instructions for fading prompts from physical to gestural to verbal. The criteria are listed in a group, but they could have been more conveniently placed among the task analyses.

The recording procedures are simple, noting the type of prompt, the reinforcer and the responses. The sample data sheet provides space for five training sessions on the same objective. A sample master sheet or graph is also provided. Unlike Kent's program, the Prescriptive Behavioral Checklist includes no recording of other observations such as extraneous responses, context, or other behaviors which could provide the feedback for modifying the program.

Popovich suggests that the teacher re-assess the child on the checklist every four weeks and provide a maintenance program for any lost behaviors. She also suggests that staff behaviors be assessed and provides a Therapy Evaluation Form. While the idea is interesting and rather democratic, the items on the staff evaluation form are too general to be useful as written. For example:

8. Uses the appropriate physical, gestural, or verbal prompts at the right times according to the curriculum and the shaping and fading procedures.

Good____. Needs work____. (p. 72)

On the whole, however, Popovich is successful in imbuing the Prescriptive Behavioral Checklist with both structure and flexibility.

c. Recognition of Cognitive and Social Bases of Language Acquisition

The Prescriptive Behavioral Checklist could be improved by closer attention to the cognitive and social factors in language acquisition.

The Language Development section includes "object discrimination" and "concept development" subsections. The "object discrimination" tasks are not, as the title might suggest, cognitive exercises in manipulating objects. Instead they attempt to build up receptive vocabulary through labelling objects. Similarly, the "concepts" included in "concept development" are the meanings of certain verb-preposition phrases such as "stand up", "sit down". Popovich is not directing training toward the concepts of causality or object permanence which are necessary for symbolic function. Because the Language Development section is part of a comprehensive program, however, it would be possible for the teacher to use other sections, particularly Eye-Hand Coordination, to help the child develop schemata for relating to objects.

Like most programs, the Prescriptive Behavioral Checklist language section begins with attending. The attending tasks involve objects, rather than the trainer, as visual stimuli. The social aspect of the situation is thus downplayed, although attending to the trainer is necessary for the later physical imitation tasks.

It is interesting that Popovich recommends social reinforcement (i.e., verbal praise) throughout the program to bridge the time gap between response and delivery of an edible reinforcer. She does not view the replacement of edible reinforcers with praise as an end in itself:

"Attention or praise is reinforcing for some students, and the pairing of these with an edible reinforcer provides stronger reinforcement" (p.40). In this view Popovich differs slightly from Kent (1974), who also recommends praise as a bridge but suggests that it may become an effective reinforcer by itself.

D. Approach to Child Language

The Prescriptive Behavioral Checklist deals with the very earliest stages of receptive and expressive language development.

Popovich acknowledges her debt to Kent in training imitation of visible gestures before attempting to have the child imitate sounds. Sound imitation is the last set of tasks in the section, and includes imitation of clapping, stamping, blowing, and mouth and tongue movements, before

training of speech sounds. Popovich suggests beginning with "ah" and "oo" and moving on to other vowel and consonant sounds. This approach fails to recognize the importance of meaning in the acquisition of phonology and the primacy of pragmatics or communicative function in directing language acquisition. The training of words as labels for objects or events important and meaningful for the child would be an expressive task much more consistent with a transactional model of language acquisition.

Popovich does train receptive phases before sound imitation, but these phases are not directly related as they are in the Language Acquisition Program (Kent, 1974), where a child first learns to point to an object, and later learns to say its name.

Some of the language tasks contain elements of communicative interaction. In the object discrimination section, the child is asked not merely to point to an object but to give the object to the teacher. Furthermore Popovich suggests that objects be selected which are important to the student, not necessarily the objects named in the checklist. Thus the task should have both semantic and pragmatic meaning for the child. Similarly, the items in the "concept development" section are commands considered useful in controlling student behaviors. Finally, Popovich's emphasis on student feedback promotes an awareness of prelinguistic communicative behaviors.

E. Generalization Components

The Prescriptive Behavioral Checklist prescribes that a maintenance session be held every day. The maintenance session consists of an unstructured time period during which the stimulus toys or materials are provided to the child in a different location from the training room. In this way the program provides for generalization of behaviors to another setting and gives the child opportunity to increase his repertoire of behaviors for interacting with objects.

Secondly, the inclusion of interactive tasks such as responding to "give me" and "sit down" increase the likelihood that these behaviors will be demanded and reinforced, at least socially, in the natural environment.

F. Intended Population: Students and Teachers

The Prescriptive Behavioral Checklist is intended to go beyond assessment to provide a program for early infant development. The program has been used in both institutional and day care settings. Although the program does not deal with the interfering self-stimulatory or disruptive behaviors often acquired by older institutionalized children, the Prescriptive Behavioral Checklist could also be used with this group.

The detailed and methodical section outlining the principles of behavior modification through operant conditioning makes it possible for any interested adult to

use the program.

G. Summary

No program is perfect in all respects, but the Prescriptive Behavioral Checklist has much to recommend it. It is unique in its attention to teacher training. The instructional units are clearly structured yet flexible in application. The tasks carry some elements of communicative interaction, and an effort is made to provide for generalization to other settings. With an increased emphasis on cognitive and social development and a decrease in emphasis on speech sounds, the program could be effective for intervention especially with young handicapped children.

Guide to Early Developmental Training.

A. Format and Contents

The Guide to Early Developmental Training (Wabash Centre for the Mentally Retarded, Inc., 1977) is presented in a large three-ring binder which provides for ease in handling the more than 500-page volume. Although the format is not as convenient as that of Non-SLIP or the Prescriptive Behavioral Checklist, the less highly structured nature of the Guide's instructional units makes step-by-step referral to instructions less necessary.

Besides a lengthy introduction, the Guide contains

sections on motor/perceptual-motor, cognitive, and language development, self-care, and number concepts and skills. Each section, except Cognitive Development, contains an introduction, a checklist of specific objectives, and suggested activities for each objective. Because there are no definite answers regarding application of knowledge about the normal sequence of cognitive development to the handicapped child, the authors provide no checklist in cognitive development. Instead, based on the assessment instrument developed by Uzgiris and Hunt (1975), the Guide offers activities for observation of the child in free play and for guided teaching in the areas of visual pursuit and object permanence, achieving environmental ends, causality, construction of objects in space, and imitation of sounds and gestures.

The Language Development section includes four series of activities. The first require the child to make non-verbal responses to hearing his name or to requests and commands. These items may be repeated at a later date when the child is at the stage of making verbal responses. The second series of activities involves language production, from task B-1, "gives a verbal response when getting food," to task B-13, "sequences events in a simple story." This series therefore covers a very wide range of production skills in a few activities. However, the authors have stated that, "The activities in this section (i.e., Language Development) are incomplete. They are intended to

be samples of levels of language mastery" (p. 321). The third series aims to help the child develop specific communicative gestures and then utterances to express his basic needs and feelings. The child also learns to respond to "No", "Stop", "Don't", and "Come here". The activities in the third series are "intended for safety, comfort, and minimal cooperation in the school and home routine" (p. 324). The development of specific nonverbal expressive skills and the recognition of a child's need to express feelings of happiness are features not found in the materials reported up to this point. Finally, the fourth series of activities deals with more the complex concepts of colour discrimination, on/off, up/down, open/shut, and in/out. It should be noted that while Carrier and Peak begin the Non-SLIP program with colour matching, the present authors state that "colour identification is surprisingly abstract and has limited use for most children for whom this manual was intended" (p. 323).

B. Structure and Flexibility

The Guide to Early Developmental Training is less highly structured than strict behaviorist programs. Task analyses are not provided, nor are there specific instructions on reinforcement, prompts, fading, or number of trials per session.

Instructional units in the Language Development section include the goal or specific objective, equipment

list, "actions" (i.e., procedures), and evaluation (i.e., description and rating of possible responses). In addition, the underlying goal is stated: for example, where the goal is to have the child respond in some consistent way when his name is called, the underlying goal is "to enable the child to focus and maintain minimal attention" (p. 332). Many units also offer suggestions for generalization and expansion through repeating the activities with different materials or varying the commands. Finally the units include notes offering further advice or cautions in carrying out activities, and directing the teacher to relevant activities in other curriculum areas. The authors thus provide the teacher with a clear idea of what is to be done and why, without resorting to a formal stimulus-response model.

Recording procedures are simple. The child's performance on each item of the checklist is rated "0" (cannot perform the task), "-" (incomplete or inconsistent response), or "+" (can consistently perform task). After the child has been assessed on the checklist, the authors suggest that an Inventory of Training Goals be drawn up to outline overall curriculum planning, with each goal also listed on a Training Prescription Form. The latter describes the method, gives the manual reference page, and provides space to describe revisions to the activity on the Training Prescription Form on a daily rather than trial basis.

Both Kent's Language Acquisition Program and Guide to Early Development Training advocate the use of group lessons, given that the students are all able to attend to their peers. The Guide offers practical guidelines for structuring group activities, reducing distracting stimuli from the room, from teacher language, and from child movement, and for moving the group from one activity to the next. Thus the structure which is provided by the Guide is of a general nature.

Flexibility is stressed. In the introduction the authors state their aim to provide a curriculum adaptable for various disabilities, for uneven and changing rates of development within an individual, and for group or individual administration. They offer a few suggestions for adapting the Language Development section for the visually impaired or physically disabled child, although alternative modes of communication are not discussed. Nevertheless the activities developing gestural expression are readily adaptable to signing. The inclusion of a space to enter revisions on the Training Prescription Form demonstrates the authors' commitment to flexibility in the program.

C. Recognition of Cognitive and Social Bases of Language Acquisition

Awareness of cognitive and social factors in language development pervades the Guide. The inclusion of a

specific series of activities directed toward cognitive development assists the teacher to assess the child's readiness for symbolic function and to guide the child's cognitive development toward that end.

Social prerequisites for language are not trained as specifically as in the Language Acquisition Program (Kent, 74), although the Guide does offer activities in visual training and listening (in the Perceptual-Motor section) and responding to one's name. The Guide does not include a "look at me" task, but rather asks the child to attend to objects and follow commands. The dynamic nature of the activities plus their administration (where possible) in a group setting emphasizes the social, communicative aspect of the task. Consideration of the social prerequisites is embedded in the communicative emphasis. In the introduction to the Language Development section the authors urge: "Help the child develop awareness, interest, and need for speech" (p. 321).

D. Approach to Child Language

The authors' approach to child language is developmental, transactional, and integrated.

Activities are based on the normal sequence of development because the handicapped child is viewed as growing, changing, and learning. The sequence is intended as a guide only, with individual training plans adapted from it. The authors caution against comparisons between

handicapped and normal children of the same chronological age, and then rather inconsistently offer a perceptual-motor developmental chart sequenced by mental age levels, and a list of language milestones sequenced by chronological age levels for normal development. Although the point is a minor one, the developmental sequences could have been presented without reference to normal age of acquisition. Nevertheless, the Guide follows the normal sequence of language acquisition, teaching reception before production, expanding production from one-word utterances, and generally moving from the concrete to the abstract (i.e., from the child himself, to another person, to a three-dimensional object, to a pictorial representation) in designing tasks.

As in McLean and Snyder-McLean's (1978) transactional model of language acquisition, the communicative function of language is emphasized. Exercises for the speech musculature are found in the subsection on eating skills, to which, the authors say, these exercises are more directly related. Articulation therapy is left to the speech therapist. The imitation subsection in Cognitive Development is "not intended as a guide to language development" (p. 309) but rather a part of the total cognitive development section. Throughout the language development series, the emphasis is on interactive situations and communicatively useful objectives. It is significant that two of the earliest production activities

are learning the names of peers and learning to use greetings. Another way in which the communicative aspect is emphasized is the focus placed on teacher language. In both the general introduction and the introduction to the Language Development section, the authors explain the necessity for simple, not overly-repetitive speech and offer guidelines for teacher language.

This last point illustrates one of the outstanding features of the Guide to Early Developmental Training: its integrated approach to the various areas of child development. Teacher language is important not only in the language lessons. Training is expected to be carried out concurrently in the various curriculum areas; coordination of program areas is specified in each child's Inventory of Training Goals and facilitated by the many cross-references in the manual. Finally, the authors warn against the teaching of "splinter skills" (p.234), trained through the use of reinforcers in successive small steps but not integrated with other skills.

E. Generalization Components

The authors stress that the teacher should plan a total environment, considering all areas of development and involving parents and specialists in planning and carrying out the curriculum (p. 235). They suggest that parents be given one concrete, unambiguous thing to do with their child relating to the current activity in Language

Development.

Because of the emphasis on communicatively useful and dynamic tasks, the probability of carryover into the home situation is increased. Finally, as was mentioned earlier, the authors provide specific suggestions for expansion of activities to include new objects (or persons) and new actions.

F. Intended Population: Students and Teachers

The Guide to Early Developmental Training is intended for use with infants, developmentally delayed preschoolers, severely and profoundly retarded school-age children, and trainable and educable children of early school age (p. 2). The Guide is probably more suitable for use in the home and classroom than in an institution because the degree of creativity and coordination demanded would be difficult to maintain in circumstances where staff are numerous and changing. As well, the Guide does not deal with difficult behaviors such as aggression or self-stimulation more likely to occur among institutionalized children.

Nevertheless, the Guide is intended for use by parent, aide or volunteer with minimal professional supervision. Certainly the comprehensive nature of the curriculum makes it necessary that the program be directed by one individual.

G. Summary

In the introduction, the authors state: "This Guide hopefully offers the creative teacher a tool to construct an appropriate curriculum" (p. 3). Creativity is demanded by the program's flexibility and relaxed structure. With its recognition of the cognitive and social factors in language acquisition, its grounding in communicative function, and its integrated approach to child development, the Guide to Early Developmental Training has the potential to provide an excellent base for a language development program.

Ready, Set, Go - Talk to Me!

A. Format and Contents

Ready, Set, Go (Horstmeier, MacDonald and Gillette, 1975) is a relatively small spiral-bound paperback both convenient and unintimidating. Its photographic illustrations at the beginning of each chapter herald the personal orientation of the text. It should be mentioned at the onset that this book is intended primarily for parents and that Horstmeier is the mother of a handicapped child as well as a staff member of the Nisonger Centre.

The book contains introductory chapters outlining the principles and procedures of the program, including a short chapter on how to talk to the child. The manual is intended for use in conjunction with a professional

assessment using the Environmental Prelanguage Battery or the Environmental Language Inventory, both of which were developed by MacDonald and his associates. In the event that professional assessment is not available, a simplified screening test is provided in Ready, Set, Go for the use of parents or teachers.

Activities are outlined in the following areas:

- (a) preliminary skills such as attending to people and objects, attempting to communicate in some way, sitting still, and obeying simple instructions;
- (b) meaningful play through which the child develops a repertoire of ways to explore objects;
- (c) motor imitation;
- (d) receptive language dealing with recognition of objects, pictures and actions. Obeying instructions is treated separately because this skill may be needed earlier in the program;
- (e) sound imitation;
- (f) single-word imitation of a model and production in response to a question;
- (g) beginning social conversation in phrases of two words or more.

Like the Prescriptive Behavioral Checklist (Popovich, 1977), Ready, Set, Go deals with prelanguage and very early language skills.

B. Structure and Flexibility

The procedures for assessment and training are structured but simple.

The screening device consists of twelve tests. The procedure for each test is given in one or two lines, with criteria for "correct", "incorrect" or "no response" ratings clearly described. Each procedure is carried out using three different items. Two out of three correct responses constitute a pass.

After selecting content items that will be meaningful for the child, the parent is to draw up a "training set" or week's lesson plans. Recording is simple: the parent fills in an item on the data sheet and notes success (yes/no) and incorrect or alternate responses. Alternate responses are those which are not directly expected but which employ an object in a definite, creative way, such as crumpling paper to make a ball. Through the recording of alternate responses the authors demonstrate the flexibility of the program and assist the parents in observing and learning from the child.

Procedures are written in the style of a flow-chart. For step one, the parent is instructed in one line what to do and what to say; if success is obtained or not, the parent is instructed what to do next in either case. If there is no response or success with step one (the step with least assistance), the parent proceeds to step two, where again he is told what to do, what to say, and how to

assist the child. Similarly, step three provides further assistance. After success in steps two or three, the parent attempts the first step once again, returning to steps two and three as necessary. The authors caution the parent not to try step one with one item more than three times. Like Kent (1974) and Carrier and Peak (1975), they set a limit to the number of times an activity should be tried without success. Ready, Set, Go offers a set of nine general points to consider if the program does not seem to be working, that is, if the child is fussing, crying, or consistently meeting with less than 30% success. While the Guide to Early Developmental Training lists possible responses, Ready, Set, Go not only names but deals very practically with responses which may be encountered. Ready, Set, Go also offers guidelines for considering levels completed or for discontinuing concentrated attention on preliminary skills.

Ready, Set, Go is not as highly structured as, for example, the Language Acquisition Program (Kent, 1974). Reinforcement is treated casually in the introductory section with reinforcers referred to as "behavior increasers". Shaping and fading are built into the procedural chart, so that detailed instructions and records of prompting levels are unnecessary. The degree of structure which is provided is consistent with implementation in a relaxed home setting as well as in a classroom.

The program is designed to be flexible. The selection of task items and materials is geared to the child's personal preferences. Intended for use with the assistance of a language clinician, the assessment and activities may nevertheless be carried out by parent or teacher unassisted. Although both regular training sessions and informal sessions (to be discussed under the heading of Generalization Components) are offered, parents are encouraged to make use of the informal applications alone if that is all they feel they can manage. Thus Ready, Set, Go is flexible in that it takes into account not only the student but also the trainer.

Although the authors state that the program has been used with immobile children, it should be noted that Ready, Set, Go is directed toward speech as the expressive mode. Considerable adaptation of the program would be necessary for its use with physically or sensorily handicapped children. Such adaptation could well be outside the scope of a parent working in isolation.

C. Recognition of Cognitive and Social Bases of Language Acquisition.

In their introduction, the authors answer the question: "How is this program different from other language programs?" Part of their reply is that prelanguage skills are taught, that the program stresses the meanings underlying a child's communication, and that

from the beginning the social use of language skills is stressed (p.iv). The authors realize these principles by offering activities to develop attending and cognitive skills (the first two training areas), by using familiar, meaningful objects and then pictures in the receptive language activities, and by employing the persons with whom the child has the strongest bonds as language teachers.

D. Approach to Child Language

Ready, Set, Go is based on the sequence of normal language acquisition. The authors acknowledge that more stress is placed on imitation as a language learning strategy than would be found with normal children. At the same time they emphasize the competence of both parent and child in encouraging parents to teach their children and to require the child to use his skills.

Their approach emphasizes the communicative aspects of language at each phase of training. In the first section social prerequisites are trained; in later sections the selection of task items and materials is governed by pragmatic consideration; finally, the two-word utterance is trained as the beginning of social conversation. McLean and Snyder-McLean (1978) praise the program, saying that "targeted structures are made to occur at high rates and within contexts in which their communicative function(s) are salient and appropriate" (p.217). They suggest that the program be extended "into areas of more detailed

pragmatic classes and, thus, more attention to structures other than simple action relationships" (p.217). By advocating more detailed pragmatic classes, presumably McLean and Snyder-McLean intend the eventual inclusion of items from all seven of Halliday's categories: instrumental, regulatory, interactional, personal, heuristic, imaginative and informative functions of communication (cited in McLean and Snyder-McLean, 1978, p.179).

In general, Ready, Set, Go is characterized by a strong commitment to cognitive underpinnings and communicative functions of language.

E. Generalization Components

The commitment to pragmatics in the structure and content of Ready, Set, Go leads inherently to generalization. Because the activities are functional, the skills they teach are likely to be required outside the training situation. Secondly the training situation, whether at home or school, is very close to the naturalistic environment. Finally, specific generalization activities are provided for each activity.

The procedures include both formal sessions following the step-by-step flow chart, and informal sessions. The latter are of two kinds: structured play, and application to the environment. Through structured play, attempts are made to transfer the newly-learned behaviors to new

situations and new people. The application to the environment consists of what might be called homework, and is meant to involve the whole family. A typical application would be a reminder posted on the refrigerator that everyone must require the child to ask for juice before he receives any. This kind of exercise serves to carry learning over into the child's daily routine, creating a total learning environment.

F. Intended Population: Students and Trainers

The authors state that the program has been used with a wide range of students, from the immobile and unresponsive to children with good receptive but little expressive language. As mentioned earlier, Ready, Set, Go is not immediately suitable for deaf or physically handicapped children, although modifications could be made to accommodate these handicaps or use an alternate mode of communication.

The intended trainers are teachers and, primarily, parents. The structure, flexibility and generalization components are designed specifically for home teaching; communicative function, upon which the program's approach is based, is best served in such a setting.

G. Summary

Ready, Set, Go is an early language development program which attempts to deal with the whole child and his environment. With its flexible and relatively simple structure and its grounding of language development in cognitive and social factors, this program is highly recommended, especially for parents of non-physically handicapped children living at home.

Teaching the Moderately and Severely Handicapped, Vol. II.

A. Format and Contents

Teaching the Moderately and Severely Handicapped is a spiral-bound paperback. The densely printed format reflects the function of the book as a classroom resource rather than a manual to be held at the teacher's side during lessons.

This is the second in a series of three volumes providing a comprehensive curriculum in areas of behavior, self-care, motor skills, socialization, safety, leisure skills and functional academics, as well as communication. Each volume also contains an introduction and explanation of how to record and interpret checklist data.

In each curriculum area a short list of general objectives is used to generate a checklist of specific objectives. Activities are then suggested for each specific objective. A list of materials is provided at the

end of each chapter, rather than among the activities, where such a list might be more convenient. Suggested readings, comprising nine pages in the Communication section, are also listed.

The Communication chapter deals with both verbal and nonverbal communication. The nonverbal general objectives involve responding to and using gestures, vocal tone patterns, facial expressions and alternate modes of communication. The verbal general objectives include the development of "facilitating skills", responses to spoken language, and speech. The authors state that while these skills are sequenced according to normal development, because of a lack of available data, they were obliged to construct the nonverbal skill sequence from their own observations.

B. Structure and Flexibility

Task analyses are not provided for the curriculum but are left to the teacher to prepare if necessary. Activities are suggestions rather than detailed procedures moving through levels of prompting, although types of prompt may be recorded on one of the two suggested data sheets. Suggestions are given in the introduction as to when and how to reinforce, but activities are not set up on a trial model, with specific numbers of trials followed by reinforcement and recording.

In general, then, Teaching the Moderately and Severely

Handicapped is loosely structured. Part of the reason for this character may be that the curriculum is intended for moderately handicapped students as well as the more severely retarded. These students are usually taught in groups under circumstances which more closely approximate the normal classroom.

It is surprising in such a loosely structured framework that the authors produce an elaborate, or apparently elaborate, system for diagnostic assessment. In fact, all that is described is the rating of student performance for each objective, yet the authors take several pages and acronyms (SPL, student performance level; SSP, successful student performances; RPL, required performance level; and RO, recommended number of observations) to complicate the matter. Quite simply, $SPL = (SSP / RO) \times 100\%$. The required performance level (i.e., mastery criterion) varies according to the importance and nature of the task, usually between 75% and 100%. In the Communication check list, the recommended number of observations for each objective is either four or five. The authors offer two sample recording systems for the checklist, one simply a graph indicating student performance, the other a more detailed record of task steps and assistance requirements for each objective. Finally, a sample weekly planning chart lists objectives and the degree of assistance required by each student on each objective, and outlines activities for each day, including

evaluation at the end of the week. Like the activities themselves, the recording and planning formats are loosely structured.

Flexibility is thus encouraged. Teachers are expected to modify the curriculum, for example, adding their own repertoire of gestures to those taught in the nonverbal section. The authors emphasize that teachers should be ready to change their schedules in order to seize an opportunity which may arise to teach a target skill. In addition, the curriculum includes several modes of communication: gestural, vocal, and facial expressions, and alternatives such as signing or communication boards, as well as speech.

C. Recognition of Cognitive and Social Bases of Language Acquisition

No specific training which directly relates to cognitive development is provided. Some acknowledgement of cognitive factors may be inferred from directives to use familiar objects in task items and to label objects and persons before pictures. However, the authors do not provide for development of concepts of object permanence or causality, for example, perhaps assuming that the students are capable of symbolic functioning. This assumption would be unjustified with students who require training in the earliest levels of objectives provided in this book. The authors' view of the place of cognitive development is

revealed by their statement:

Oral language is the medium through which most other skills, knowledge, and concepts will be mastered. Cognitive development can only be facilitated by the acquisition of oral language or by an alternative linguistic system that is approximately as effective. (p. 44)

Thus, the role of cognition as a prerequisite for language is neglected. Furthermore, in the "facilitating skills" for verbal development, activities center on training consonant sounds and vowel-consonant combinations and echoing words in songs and rhymes without attaching semantic meaning to these sounds. Similarly, the language production objectives in the verbal section include the recitation of rhymes by memory, presumably as an expansion of noun-verb combinations. In these parts of the program the authors may be accused of training structure without meaning.

The social aspects of language acquisition, however, are strongly represented, particularly because of the utilitarian nature of the tasks selected. The "facilitating skills" taught in the first part of the verbal skills include making and attending to sounds, vocalizing in response to a vocalization, and initiating vocal play with another person. While these skills foster awareness of and motivation for social interaction, they are sequenced after training in nonverbal skills, rather than prerequisite to such training.

D. Approach to Child Language

As mentioned above, the authors seek to order the curriculum according to the sequence of normal development. If the student fails a checklist item, for example, the teacher is advised to discover what prerequisite skills the student has and lacks. However, prerequisites are not specifically indicated in the checklist. A more serious problem is the breach of developmental sequence caused by the neglect of cognitive prerequisites and the misplacement of social skill activities.

These limitations aside, Teaching the Moderately and Severely Handicapped is laudable for its extremely pragmatic orientation. Selection of items for the student's lexicon is to be derived from observations of the student's interactions with his environment. The student's need to express his feelings and interpret the feelings of others is dealt with in the sections on vocalization and facial expressions. Lessons are presented in dynamic situations, either as the occasion arises or through the use of puppets, dolls or role-playing. Interaction among students is encouraged in several specific objectives.

Unfortunately, the authors do not present general guidelines for teacher language. In the introduction they offer many helpful ideas for planning and conducting activities, but the comments on communication are restricted to advocating the use of gestures, facial expressions and varied intonation patterns with nonverbal

students. Many of the activities contain specific instructions or examples of what to say, but the language in these is not so simple as might be expected in an early language program. For example, to have the child echo individual words and phrases, the teacher is advised to repeat an utterance such as "Now I am putting on John's shoes" (p.92). Which word is he expected to echo? Careful consideration of the requirements of teacher language would enhance the pragmatic aspects of the program.

E. Generalization Components

As with other highly pragmatic programs, the likelihood of carryover outside the teaching situation is increased by the highly functional nature of the tasks. Generalization is less structured in this program than in that of Horstmeier, MacDonald and Gillette (1978), although instructions for family involvement are included in some activities. In addition, several different activities and variations are suggested for each specific objective, so that teaching takes place at various times and under various circumstances.

F. Intended Population: Students and Teachers

As indicated by the title, Teaching the Moderately and Severely Handicapped is intended for students functioning at higher levels than the target populations of other curriculum materials reviewed. Nevertheless, the inclusion

of nonverbal and facilitating verbal skills in the checklist indicates the intended applicability of the program for the severely retarded. The authors emphasize that they accept no upper age limit in the potential for education, and indeed this curriculum in its scope and content is more suitable for older children and adults than for the very young.

Teaching the Moderately and Severely Handicapped is written primarily as a guide upon which professional teachers can design a program for a classroom setting. However, the authors promote parental involvement in both the planning and generalization of learning, stating that "the curriculum is also meant for parents and other significant adults" (p.8).

G. Summary

As a language curriculum, Teaching the Moderately and Severely Handicapped is flawed by the neglect of the cognitive prerequisites of language, emphasis on the production of sounds and words without meaning, and consequent departures from the sequence of normal development. Nevertheless, in its attention to the development of gestural communication, its suggestions for use of alternative symbol systems, and its emphasis on pragmatic learning situations, some aspects of this volume may prove valuable to the teacher of older severely retarded students.

CHAPTER SEVEN

SUMMARY, CONCLUSIONS AND SUGGESTIONS FOR FURTHER STUDY

Summary

The purpose of this study is the critical examination of selected curriculum materials for use in language programs with severely and profoundly retarded persons. To that end, the literature on language intervention and language acquisition has been reviewed so that criteria for evaluating curriculum materials could be established.

Research and theory on language acquisition underscore the importance of cognitive and social factors in language readiness. The achievement of symbolic functioning is a prerequisite to the use of a symbolic language system. Awareness of others and desire for social interaction are prerequisites to participation in a communicative event, whether through language or through prelinguistic behaviors. The effective language program must guide the child to achievement of these prerequisites.

Data on normal language acquisition outline the stages of phonological, semantic and syntactic development as the child progresses from his first words, through chained pairs of words, to grammatical utterances of two or three words and their expansions. Development must be considered in terms of both reception and expression, comprehension and production. Throughout language development, the

comprehension and assignment of meaning is of central importance not only on the semantic but also on the pragmatic level. The function served by communication adds a layer of meaning to the utterance. Without a consideration of communicative function, language intervention must flounder for want of meaning.

During a discussion on language intervention, a decision must be made on the relevance of the model of normal acquisition for the training of retarded children. While disagreement is found in the literature, it is generally recommended that language intervention be founded on the normal model while accommodating such variations and departures from sequence as may be necessary. The use of operant conditioning, with an emphasis on imitation as a learning strategy, has been found an effective intervention technique although its highly structured character places it outside the model of normal acquisition. Through attention to communicative function and careful planning for generalization, however, transfer of learning from the structured to the natural environment can be facilitated.

Conclusions

After a review of the literature on normal and retarded language development, a critical examination was made of seven selected curriculum materials.

Two of the items, the Non-SLIP kit (Carrier and Peak,

1975) and The Right-to-Education Child (Myers et al, 1973) must be rejected, the latter for careless planning and incomplete coverage of necessary skills, and the former because of fundamental violation of the principles of language intervention.

Of the other materials evaluated, each has advantages or features of value especially to particular user groups. Kent's (1974) Language Acquisition Program provided a model upon which other programs have been built, and is still suitable for training the very early stages of language acquisition especially where a highly structured approach is desirable. The Prescriptive Behavioral Checklist (Popovich, 1977), if supplemented with activities for cognitive development and adapted to make tasks more functional, could be useful in working with young children at home, school or preschool. The Descriptive Behavioral Checklist also provides an excellent module for teacher training. The strength of Teaching the Moderately and Severely Handicapped (Bender et al, 1976) lies in its focus on pragmatic use of preverbal and verbal communication and its suggestions for implementation of alternative communication systems.

The Guide to Early Developmental Training (Wabash Centre for the Mentally Retarded, Inc., 1977) and Ready, Set, Go - Talk to Me! (Horstmeier, MacDonald and Gillette, 1975) must be rated favorably under each criterion.

The Guide is lengthy, comprehensive of many aspects of

child development, and is structured so as to achieve a moderate position between strict behavior modification techniques and vague naturalistic activities. Creativity and organization are required of teachers or parents using the curriculum, but its attention to language prerequisites and language function provides a valid framework upon which to create a program.

Ready, Set, Go strikes a balance between structure and flexibility. Unlike the Guide, Ready, Set, Go deals only with language development, but it too is structured to provide parents with clear patterns for teaching while encouraging maximal individualization of task content. Generalization of learning is structured through two types of activities outside the teaching situation. The format, structure and content of Ready, Set, Go makes this an appealing and effective program for use by parents with their handicapped children.

Suggestions for Further Study

Only one of the items reviewed was named, in the small survey made of school boards, as being in active classroom use.) That item was the Language Acquisition Program (Kent, 1974). It is very possible that these curriculum materials, and others, may be employed in individual classrooms without the direct knowledge and involvement of school board consultants and superintendents. Without a

more thorough investigation, however, it is impossible to say what published materials, if any, are being used for language intervention with retarded students. The ways in which such materials are used, for example as resources or as daily lesson guides, the optimal degree of structure for various teaching situations, and the reasons why certain materials are not tried or are rejected are further subjects for investigation arising from this topic. A study of these issues would have implications for the need for teacher training and inservice education and for the effectiveness of current language programs in the schools.

In the field of language acquisition and intervention in general, basic research needs can be identified as an expansion of data on:

- a) the pragmatic categories of children's language,
- b) the relationship between semantic content and cognitive stages, and
- c) the influence of pragmatic factors on referencing mechanisms in children's utterances (McLean and Snyder-McLean, 1978).

In addition, further evidence must be compiled on the characteristics and sequence of delayed language development, and on differences between language acquisition in normal and retarded children. It is to be hoped that such research will result in the designing of increasingly effective language intervention programs for severely and profoundly handicapped persons.

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APPENDIX

February 8, 1983
117 Ruskview Rd.
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I am a graduate student of the Faculty of Education, Memorial University of Newfoundland. I hope that you will be able to provide me with information I need to complete my master's thesis.

I am investigating the teaching of language and communication skills to the severely retarded. In the first part of my thesis, I have formulated a set of guidelines for language intervention curricula with these students. In the second half, I hope to use these guidelines to review various curriculum materials presently in use with non-speaking retarded students.

I am writing to you to seek answers to the following questions:

1. What curriculum materials (books, manuals, or other materials) are used for language intervention in your jurisdiction?
2. Are these materials used in daily lesson activities or as a more general resource?

During the second half of February I will try to contact you by telephone. If you feel that someone else would be in a better position to answer my questions, I would appreciate that information as well.

I will be happy to answer any questions you have regarding my thesis. If you wish to contact me, I can be reached by mail at the above address or by telephone at (519) 579-5877. Thank you for any assistance you may be able to give me.

Sincerely

Anne Nagy

Copies of the above letter were sent to:

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In addition, personal interviews were conducted with:

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Mrs. M. Kay
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