THE COMPARATIVE EFFICACY OF NONDIRECTIVE GROUP PLAY THERAPY WITH PRESCHOOL, SPEECH OR LANGUAGE DELAYED CHILDREN

by

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CHAPTER I

INTRODUCTION

Functional Speech Disorders in Childhood

Speech disorder in early childhood is an area of special concern to both psychologists and speech pathologists. Solomon (1961) noted that the majority of speech defects in children are articulatory in symptom and functional in origin. No precise etiological picture had yet been established to account satisfactorily for the occurrences of the defects or for their subsequent disappearance. Solomon argued that in the two decades preceding 1961 studies of somatic variables had not been especially rewarding. Clinical evidence had increasingly stressed emotional factors as concomitant symptomatology in children with various functional speech disorders, i.e., baby talk, infantile perseveration, delayed speech, speech inhibition, or mutism. Freestone (1948) argued that speech deviations which were not predominantly physical in character could be considered functional in nature. These might represent a vigorous need on the part of the personality to establish substitutes or compensations for fearful, preverbal, symbolic wishes or fantasies. Freestone asserted that the ideological riddle of defective or anomalous speech could be clarified if it was thought of as a means of

controlling these tension producing wishes. Despite Freestone's point of view expressed 25 years ago, many workers in the speech corrective field continue to use a symptomatic approach, with repetitious drill being employed on the apparent problem. Freestone argued that, because of the unity of the personality, this encouragement in direct approach did have some therapeutic value, but it represented just a feeble beginning for functional kinds of speech defects.

Spriesterspach (1956) reviewed previous research in articulation disorders and personality and noted that research geared to assess the impact of functional articulatory disorders had been largely ignored. He suggested that a lack of interest in the psychological aspects of the functional articulatory problem paralleled a general lack of interest, particularly research interest, in this type of case. Standard textbooks in speech pathology state that articulatory disorders may result in maladjustive behavior, but Spriesterspach underlines a general unwillingness to view articular disorders in children as a result of emotional maladjustment. The basis of his argument is that speech is one of the modes of behavior through which maladjustment or emotional conflict may be expressed. Spriesterspach reviewed nine studies published from 1950-1956. Only five of the studies supported his hypothesis of a positive

relationship between maladjustment and articulation problems. He insisted that the choice of testing instruments in the remaining studies was a crucial question, since group-administered personality questionnaires with questionable validity were used. In addition, no research studies compared alternative remediative approaches.

Block and Goodstein (1971) summarized and evaluated research relating measured personality and adjustment to the functional speech problems of articulation, delayed speech, voice and stuttering. Their survey revealed few conclusive findings and few new perspectives regarding the role of personality variables in these four major areas. The methodological and conceptual inadequacies of most of the studies were striking, due in part to the inadequacies of the experimental measures of personality and also to the plethora of therapeutic approaches. Block and Goodstein strongly assert that research reports have not yielded firm evidence of factors that differentiate speech defective persons and their parents from normal speakers and their parents, either in terms of general adjustment or other identifiable personality patterns. Again, no studies were reported which attempted to compare alternative therapeutic approaches to functional speech disorders in children.

The controversy over functional speech disorders has continued unabated for at least the last 25 years. Little

research has been directed towards exploring the possible underlying emotional concomitants of functional speech disorders in children and their parents. However, even less research has been directed towards demonstrating the comparative efficiency of the treatment modalities employed in therapeutic remediation of speech disorders in children. Careful investigation of successful treatment programs could be instrumental in designing the most efficient and individualized treatment program. Speech or language delay is generally accepted as one of the major types of functional speech disorders. This paper describes a research project comparing the efficiency of nondirective group play therapy with three major therapeutic programs employed with speech or language delayed children. It is an appropriate area of investigation because of the large number of children falling within this diagnostic category and the lack of meaningful studies in this area.

Definition and Etiology of Speech or Language Delay

There is a wide assortment of criteria involving the diagnosis of speech or language delay. Chapin and Corcoran (1947) defined the speech inhibited child as a child who is not mentally deficient, and has an understanding of spoken language, but who exhibits gross delays in speech development. The authors stated that the term "delayed speech"

had been used too often to include all types of immature speech development from articulatory infantilism to complete speechlessness.

Beckey (1942) defined retarded or delayed speech as alalia or the complete lack of speech, infantile perseveration, babbling, jargon speech, hearing mutism, and echolalia. Beckey conducted a detailed clinical study of 50 children with retarded speech development and a control group of 50 children with normal speech. She compared data on factors of constitutional inadequacies, environmental deficiencies, and psychological problems. An analysis of the data indicated that three or more items from each of these factors were operating in almost all of the cases of the delayed speech group.

Solomon (1961) noted that functional speech disorders in young children could be described as baby-talk, infantile perseveration, delayed speech, speech inhibition, or mutism. In a study of 49 children with functional defects of articulation, matched in pairs with a control group of normal speaking children, he discovered significant differences in the experimental group in their over-all adjustment, peer relations, sleeping behavior, manifestation of fears and anxieties, and intentional outlets. The experimental subjects tended to be passive children who internalized their responses and who evidenced submissiveness, timidity,

and a need for approval. Solomon suggested that an underlying stress may be common to the diverse symptoms and that infantile and nonassertive behavior could very well serve as an anxiety reducing device to meet this environmental pressure.

Pennington and James (1965) defined delayed speech and language broadly to include the child who has not learned to talk by the time other children do, the child whose speech is so unclear it is difficult to understand, and the child whose speech development has been interrupted, whatever the cause of these conditions may be. Wood (1964) stated that the term delayed speech is a broad classification which refers only to the fact that a child has not acquired speech at the expected time nor with the expected accuracy. Wood insisted that delayed speech should not be considered a diagnostic term, for it indicates nothing about the cause of the speech delay, the degree to which the problem exists, or the extent to which the problem might be alleviated or measurably reduced. Wood suggested that one way to strengthen the clinical use of the term "delayed speech" is to link the intended meaning of the term, as closely as possible, with the cause or causes of the delay. In this approach, the known etiological factors would be diagnostically related to the severity of the delay and the prognosis.

Numerous etiological factors have been advanced to explain the syndrome of speech or language delay. Bangs (1961) noted that children with language delay may carry a label of peripheral hearing loss, mental retardation, symbolic language disorder, emotional disturbance, lack of opportunity, or unknown etiology. For Bangs the important question is whether the child's language development is commensurate with his other modalities of learning. Wood (1957) listed these six primary causal factors leading to severe delay in speech development: mental retardation, hearing loss, emotional disturbance, environmental factors, delayed development, and language disorder. Eisenson (1963) listed these causes of language delay: mental retardation, auditory defect, infantile autism and congenital aphasia.

Silver (1967) noted that the differential diagnosis of delayed language development requires a thorough assessment of the influence of the total sensory, cultural, and emotional environment of the child. The biological capabilities and defects of the child and his reaction to his intrinsic and extrinsic environment must be fully considered. Silver suggested that longitudinal observation in a nursery play group helped clarify these diverse etiological factors. Paine and Oppe (1966) divided the different conditions which may delay the appearance of speech in a child into four main groups: peripheral deafness, congenital aphasia,

psychic deafness or autism, and mental retardation. Supple (1968) suggested that the main causes for severe language retardation are hearing loss, mental retardation, mental illness, specific language disorder, and aphasia. She noted that of 2,352 children seen in a speech clinic over a 5 year period, 30% had defective articulation and 3% had delayed speech development.

Van Riper (1972) stated that children with delayed speech and language possess linguistic deficits that make it impossible for them to express themselves verbally in a normal manner. These children may not comprehend how an utterance is organized, be delayed in language acquisition, not have any useable word vocabulary and be essential non-verbal, speak a gibberish which no one can understand, or have inadequate syntax development. Van Riper (1963) listed these causal factors of delayed speech or language: sensory deprivation, such as that due to a hearing loss; neurological dysfunctions or deficits, such as those shown in cerebral palsy, minimal brain damage, aphasia, and mental retardation; emotional disorganization as illustrated by childhood schizophrenia, autism, or such milder problems as negativism; and experience deprivation, wherein a child is raised under environmental circumstances that provide little opportunity for the learning of language and may even actively interfere with its mastery.

Adler (1964) listed four basic causes of nonverbalism in a child: brain injury, mental subnormality, emotional illness, and deafness. Adler suggests that differential diagnosis of the nonverbal child be based upon observation and testing of verbal language skills, vocalization, gestures, response to sound, sensitivity to visual and tactile clues, motor behavior, motor development, social maturity, emotional behavior, and formal intelligence tests. Johnson (1967) considered these etiological factors to be significant: mental retardation, hearing impairment, motor difficulties, environmental causes affecting motivation and degree of stimulation, severe emotional shock and autism.

Stinchfield and Young (1938) investigated delayed speech and language and delineated these causal factors: mental deficiency, deafness, birth injury, recurrent epileptiform seizures, convulsions, traumatic shock, severe injury, and failures in the child's perceptual development, association, comprehension, and reproduction of speech memories.

A close analysis of the foregoing definitions and etiological bases for speech or language delay suggests that a generally acceptable operational syndrome can be developed. A functional definition of speech or language delay can be specified operationally as delays in the child's articulation or receptive language skills which are more

than 1 year below the level of his chronological peers. Possible etiological bases could involve emotional disturbance, lack of opportunity, environmental factors, delayed development, lack of motivation, and/or socioeconomic or educational disadvantage.

Four Therapeutic Modalities

The four therapeutic approaches employed in this study were nondirective group play therapy, group speech lesson, individual direct speech therapy, and physical motor training. Group speech lesson and individual direct therapy are widely used treatment programs with speech or language delayed children. The remaining programs were selected because of interest and convenience. Each is fully described below.

Nondirective Group Play Therapy

The nondirective group play therapy approach developed by Virginia M. Axline was used in this study, both because of its widespread popularity over the last 26 years and the fact that it represents a therapeutic technique that is firmly grounded in a specific personality theory, Rogerian self-actualization theory. Axline's play therapy approach is also one of the few play techniques that has been the focus of experimental research. This technique is based on the conceptualization of play as a child's natural mode of

self-expression. Play is a symbolic form of communication that precedes the complete development of language, since before a child learns the complexities and intricacies of speech he is able to express thoughts and feelings in play. Play therapy techniques attempt to provide a structured relationship within which a child may communicate through play in addition to verbal exchanges. This technique optimizes both the child's communicative and symbolic skills.

Axline (1947) advances a tentative theory of personality structure upon which nondirective group play therapy is based. She posits a powerful growth force within each individual which constantly pushes forward in an evolutionary manner toward complete self-actualization or self-realization. This intrinsic growth force may be described as a drive toward maturity, independence, and self-direction. The growth force relentlessly moves forwards towards its goal and is optimally aided by permissiveness to be oneself, self-acceptance, and the experience of the dignity of individuality. Growth is viewed as a spiraling process of change since new experiences must continually be reintegrated into an individual's thoughts, attitudes, and feelings. Each day adds new experiences to be integrated, thereby creating both an attitude of hope and a positive approach to future experience.

The drive toward self-realization may be impeded by psychological or environmental barriers, but it is never stopped completely. Any barrier causes tension, irritation, and frustration within the personality which serves to increase the momentum of the drive to free itself from restraint. The manner in which an individual may attempt to free himself from an impeding barrier is solely dependent on his personality organization and his integration of past and present experiences. A well adjusted person would purposefully redirect his course of action by evaluation, selectivity, and application to achieve his ultimate goal of self-realization. A maladjusted person lacks the self-confidence to channel the drive toward self-realization in a more constructive and productive direction. In a maladjusted person, maladaptive behavior and growth are inconsistent since the intrinsic growth force is incapable of adequate outward expression.

The purpose of nondirective therapy becomes the removal of psychological or environmental barriers to the drive towards self-realization and growth through the reorganization of an individual's accumulated experiences, attitudes, thoughts, and feelings. The goal is congruence between behavior and the self-concept and the expression and mobilization of the energies of the growth force. Nondirective therapy is present oriented and through

self-acceptance encourages the individual to be himself as completely as possible. Through the structuring of the therapeutic relationship and the reflection of thoughts and feelings, one is encouraged towards self-knowledge and self-expression in order to be able to remove barriers which impede the movement of the self-actualization drive towards growth, maturity, and fulfillment. The ultimate aim of this technique of nondirective therapy is the facilitation of growth and continued personality development.

Nondirective therapy is easily adapted to a play situation with speech or language delayed children, since play is a child's natural and least threatening medium for self-expression. Through play a child may express a myriad of thoughts, feelings, and attitudes which reflect his organization of past and present experiences. Barriers to the self-realization dirve are reflected in the speech or language delay and are exposed through his playing out accumulated feelings of anxiety, insecurity, fear, aggression, and confusion. Through the expression of these feelings he is better able to face these barriers and can learn to control or abandon them as a hindrance to his future growth and self-actualization. Consequently, the development of speech and language is itself viewed as a growth modality and a positive expression of the self-actualization drive itself, generating further positive

reinforcement for continued self-actualization and development.

The play therapy room provides the child an opportunity to experience the security of his independence, autonomy, and self-worth. It is a fertile ground where the child is the most important entity, apart from typical environment and familial pressures. The child is met where he is, with complete acceptance and encouragement of self-determination. With acceptance as a starting point, respect, understanding, and a relationship are soon to develop. Nondirective group play therapy introduces the added facet of interpersonal interaction which is a very realistic element in the child's life and contributes an added growth dimension.

The predominant responsibility of the nondirective play therapist is to structure the therapeutic relationship in such a manner as to encourage acceptance, permissiveness, honesty, and respect for the individuality and uniqueness of the child. The therapist must be sincere, patient, and mature, with consistency and sensitivity. The therapist's role involves an active nondirectedness and not simply passive restraint. Axline (1947) has set forth these eight basic principles which summarily guide the nondirective play therapist:

1. The therapist must develop a warm, friendly relationship with the child in which good rapport is established as soon as possible.

2. The therapist accepts the child exactly as he is.
3. The therapist establishes a feeling of permissiveness in the relationship so that the child feels free to express his feelings completely.
4. The therapist is alert to recognize the feelings the child is expressing and reflects those feelings back to him in such a manner that he gains insight into his behavior.
5. The therapist maintains a deep respect for the child's ability to solve his own problems when he is given an opportunity to do so. The responsibility to make choices and to institute change is the child's.
6. The therapist does not attempt to direct the child's actions or conversation in any manner. The child leads the way; the therapist follows.
7. The therapist does not attempt to hurry the therapy along. It is a gradual process and is recognized as such by the therapist.
8. The therapist establishes only those limitations that are necessary to anchor the therapy to the world of reality and to make the child aware of his responsibility in the relationship [p. 73].

Group Speech Lesson

The group speech lesson treatment program used in this study was strictly modeled upon techniques developed as early as 1947 by Ollie M. Backus and Jane Beasley (Backus, 1947, 1949, 1951, 1952; Beasley, 1949). Backus (1947) developed the technique of the attitude control class in which persons with defective speech were given a twofold task of reconditioning attitudes toward speech. First, undesirable habits of thinking and acting which developed as a result of living with defective speech were broken, and second, more desirable habits of adjustment were developed in order to create a more favorable subsoil for the control of speech. This attitude control class gradually

developed into an intensive group speech therapy program which offered a variety of social situations in which to observe patients and study particular needs. The group program provided a good opportunity to teach new speech patterns directly and to practice changes in speech productions in a realistic situation.

Backus (1947) stated emphatically that speech rehabilitation for all patients is a process of gaining voluntary control over defective speech. Voluntary control must be acquired in these three broad areas: production of normal speech patterns, muscular tension, and attitudes. Since speech represents a very significant aspect of interpersonal behavior, a group speech program provides a larger frame of reference within which mechanical drills have more contextual relevance. The group speech program has a very positive tone with active participation of all members in doing, speaking, and listening. Emphasis is placed upon establishing a sense of belongingness and group cohesion, stimulating a desire to communicate, developing self-confidence, and approaching an unemotional self-evaluation of behavior and speech. The group structure is directly manipulated by the therapist to serve therapeutic ends and to reinforce progress. After group structure and cohesiveness have been established, work on the mechanical aspects of speech production is facilitated.

During each group speech lesson, drill on nonsense syllables, word lists, drill sentences and letters, speech games, together with audiovisual aids, are used to practice group sound production and to stimulate interest and motivation (Backus, 1949). Drill in the group situation hopefully results in decreased anxiety in speech in interpersonal situations. This principle of transfer of training is central to the theoretical background of the group speech lesson, as is the principle that learning proceeds faster if drill material contains only a few associations that are being learned rather than many. Repetition of only a few new responses, couched within real speech responses that have been previously learned, simplifies the learning process. The goal becomes moving from strict voluntary control of a new response to some degree of automaticity in speech response.

In applying the group speech lesson approach to children, Backus (1947) developed these basic criteria for the therapist:

1. Help the child to develop insight into the nature of his speech problem.
2. Help the child learn how his problem is different from and similar to those of others in the group.
3. Explain to the child exactly why he is doing each thing in the training program.
4. Encourage frank evaluation of the performance of members of the group.
5. Encourage the child to face his problem of learning as unemotionally as any other interesting activity.

6. Always relate the subject matter of drills to clinic activities and to interesting audio-visual aids [p. 41].

In addition, Backus (1952) noted that a structured group approach offers these positive benefits for a child: (1) being in a group with other children with speech defects can help change feelings of isolation and inferiority; (2) a child can come to view himself as participating in a group identity; and (3) a group decision to engage in feared activities can enable individuals to do collectively what they have not been able to do alone.

Individual Direct Speech and Language Therapy

The technique of individual direct speech and language therapy utilized in this study is based on the model provided by Charles Van Riper (1953, 1963). This model has received widespread attention and use by speech pathologists and has been applied to both speech and language development.

The initial step in Van Riper's direct approach is to convince the child that he does have a speech problem which he should solve and can solve. Many children are unaware of the nature, frequency, or extent of their speech problem and this self-awareness is necessary in order to provide both motivation for therapy and the beginnings of self-monitoring skills. For Van Riper (1963, p. 206), direct therapy involves a process of learning and unlearning, for

in order for a child to learn a new sound he must learn to focus on the differences between the new sound and the error sound. The goal of therapy becomes the acquisition and correct use of the new, standard sound and the extinction of the error sound.

The mastering of a new sound so that it can be used in all types of speaking may be viewed in terms of four successive levels: (1) the isolated sound level, (2) the sound in a syllable, (3) the sound in a word, and (4) the sound in a meaningful sentence (Van Riper, 1963, p. 206). Selection of the starting point for therapy is based on the level of most efficient functioning for each case. After the starting point has been selected, the therapist's initial task is to identify the first target sounds, preferably sounds that are present in key words but are simple enough to be mastered easily by the client. The therapist identified the characteristics of the sound to be taught and discriminates the target sound from the error sound and from other sounds. This first major phase of Van Riper's direct individual therapy culminates in stimulation of the target sound through the technique of ear training.

Ear training involves the therapist's continual, perceptual defining of the target sound, while the client listens carefully and attempts to internalize the defining

characteristics of the target sound. As the therapist repeats both the error and target sounds while reading or reciting, the client must match his internal perceptions of the sound and signal his perceptions of which is the correct sound. Upon successful completion of this phase the client moves on to the second major phase of therapy, also involving ear training, but now the client is taught self-hearing. Now he must scan and compare his own speech so that the differences between his own utterance and the target sound will be made clear (Van Riper, 1963, p. 213). The therapist exchanges the signaling task with the client until he is able to signal without error. The third major stage involves teaching the new sound through the client's production of the sound. The new sound may be taught by: (1) progressive approximation, (2) by visual or auditory stimulation, (3) by phonetic placement, (4) by the modification of other target sounds already mastered, or (5) by using key words (Van Riper, 1963, p. 216). The fourth and final stage of direct therapy involves stabilizing the new sound through repetition and prolongation, exaggeration, and multi-sensory uses of the sound. After the new sound is mastered, the same process is applied with the sound at the syllable, word, and sentence levels.

Van Riper's direct therapy is highly organized and permits the progress of the case to be carefully followed

and continually pinpointed. During the therapy process the therapist is responsible for ensuring that the client is energetically involved in the treatment process through judicious application of positive reinforcement. The therapist is responsible for structuring the relationship to optimize learning and motivation. The therapist also must be a diligent model of the scanning, comparing, and correcting process.

Physical Motor Training

Children who have specific physical motor disorders or developmental deviations involving physical motor areas are very susceptible to difficulties in the normal development of speech and language (Kephart, 1960). The adequate development of normal speech and language is intricately related to adequate physical motor development, although the details of this relationship cannot be completely specified. Speech is a fine motor activity which typically follows upon adequate development of gross motor skills. Gross motor skills involve locomotion and coordination of the large muscle groups and are inextricably linked to early formation of body image and self-concept. As a child develops control of large muscle movements, he is ready both motorically and psychologically to move on to more complicated neuromuscular learning within a hierarchical process.

Kephart (1960) stated that the development of lateral and directional awareness and feedback in perception are two of the most important events in perceptual motor development. Balance and laterality are two gross motor activities which appear to be important building blocks for future development of fine motor skills. Feedback in perception aids in the development of a self-monitoring system which is important in such conceptual generalizations as color, size, shape, space, number, and the approximations of language. Language skills develop along with these other conceptualization processes in an interrelationship with feedback in perception. For Kephart, perceptual development is built on motor development and there is a clear relationship between neuromuscular skills and perceptual skills.

Kephart (1960) has developed a series of physical activities which stress both gross and fine motor exercises. The goal of this neuromuscular retraining is to elicit improvement in basic motor abilities which in turn will stimulate improvement in basic abstractive skills including language. The physical activities include use of a balance beam, steep wood incline, rocker board, ball bounce, stunts and tumbling, and other basic locomotor patterns. The activities were organized into a routine schedule which provided direct structuring by the leader. The leader first

taught the activities and then involved the subjects in practice. As the subject developed proficiency, leader and peer reinforcement were given. Negative reinforcement was not used. As proficiency developed, the tasks were slowly graduated in difficulty and more peer interaction was fostered. At no time was any attempt made to foster speech and when it occurred spontaneously it was not reinforced.

Review of the Literature--Nondirective Therapy with Speech or Language Delayed Children

Although a nondirective play approach to speech therapy with children is not new, little documentation of its efficacy is available. The first literature reports of nondirective play therapy with speech or language delayed children occurred approximately 28 years ago. Werner (1945) reported a case study of nondirective play therapy with a speechless 5 year old girl covering a period of 18 months. At the termination of treatment the child had apparently lost her former resistance to speech and was voluntarily expressive even with strangers. Gibbs (1945) conducted a 3 year research project of group play therapy with a total of 63 children, with three or four children to a group meeting 1 hour weekly. Gibbs subjectively observed that group play therapy seemed equally suitable at all ages from 4 to 12 years. However it was less successful than other

methods of treatment, particularly individual psychotherapy. Gibbs noted that group play therapy was very helpful in providing valuable observation time for secure diagnostic formulations.

In discussing nonspeaking children, Jackson (1950) described these three phases of treatment: (1) permissiveness and passivity within defined limits; (2) establishing a positive relationship; and (3) broadening the child's relationship to a group. Although Jackson stressed an essentially nondirective approach to treatment, parental cooperation was considered to be very important in the child's recovery. Axline (1949) reported a study of nondirective play therapy with 15 children, ages 6 and 7, referred for behavior problems, emotional disturbance, or speech problems. After only 8 to 20 sessions, Axline demonstrated improvement in the intelligence quotients of the children but reported no record of actual speech improvement.

Moustakas (1951) presented two case histories of nondirective play therapy with children resulting in growth in terms of emotional insight, attitudinal reorganization, and improved self-concept. Moustakas noted that nondirective therapy is particularly effective with children with personal or social maladjustments, fixated psychosexual pasts, or inadequate self-concepts.

Dupont, Landsman, and Valentin (1953) reported a case study of the treatment of delayed speech in an 8 year old boy using nondirective play therapy. The child participated in 41 play therapy sessions over a 1 year period. The authors concluded that nondirective play therapy without speech instruction is an adequate treatment for some cases of delayed speech. The authors recognized the tentativeness of this generalization based on only one case, but called for more thorough studies to test this conclusion. Blackman and Battin (1957) presented a case study of delayed language which presented a diagnostic problem. The child was referred with medical and developmental histories tending to support a diagnosis of either brain injury or mental retardation. Nondirective play therapy combined with parental counseling resulted in the improvement of the child's language and behavior to his approximate chronological age level.

Lebo (1953) claimed that research in nondirective play therapy with children was still meager and unsound, with an idealistic and propagandistic tone. Lebo notes that a primary deficiency of research in nondirective play therapy was the failure to use matched experimental controls and pre- and posttesting. Most studies made use of the single case study method combined with subjective judgments of improvement (Axline, 1949; Blackman & Battin, 1957; Chapin

& Corcoran, 1947; Despert, 1948; Dupont, 1953; Gibbs, 1945; Jackson, 1950; Moustakas, 1951, Solomon, 1948; Werner, 1945). Lebo (1953) stated further that the greatest weakness in nondirective play therapy lay in the impetuous overlooking of the real need for a foundation in research, and that the technique should be fully evaluated through the results of experimental studies investigating its effectiveness in relation to other procedures.

Fitzsimmons (1958) compared 70 children with diffuse, nonorganic articulatory disorders with matched controls of 70 normal speaking children on measures of case study, reading readiness, social maturity, and the Children's Apperception Test. The investigation suggested a relationship between the nonorganic articulatory disorder and psychosocial factors, including behavior and conduct disorders, developmental deviations, aggression, fear and anxiety. The author suggested that a directly symptomatic approach in speech therapy with these children would not be effective, since the psychosocial factors should not be ignored.

Solomon (1961) compared 49 children with functional defects of articulation, including delayed speech, with a matched control group of normal speaking children. Using a questionnaire parental interview, Solomon noted that the experimental group obtained significant differences in overall adjustments, peer relations, sleeping behavior,

and fear and anxiety. Solomon concluded that, since functional speech disorders apparently are part of a total adjustive pattern, an underlying stress may be common to the diverse symptomatology. In that event, infantile, nonassertive, and noncommunicative speech behavior could serve as an anxiety reducing device to meet this environmental pressure. Direct therapy focused on the symptomatology would not remediate anxiety reduction but only exacerbate other defenses.

Hahn (1961) argued that there is danger in the assumption that the direct approach to speech correction of children can be adapted to all children. Since the indirect approach, with emphasis on the child's own expression, must often precede or be integrated with the direct approach, Hahn (1961) suggested these explicit indications for use of each approach:

Direct Approach

1. The language structure and level of activity of the child will be suitable to his age level even if articulation is distorted.
2. The child indicates that he knows he has a defect and believes that it is interfering with his communication.
3. The child accepts direction.
4. The child can attend both to what he says and how he says it.

Nondirective Approach

1. The child cannot take direction or even friendly suggestion.
2. The child displays extreme tension or anger and fear.

3. The child tends to destroy materials or interfere with the efforts of other children.
4. The child's attempt at communication is intropunitive.
5. The therapist cannot correct the child's communication by modeling.[p. 233].

Statement of Hypotheses

As has been indicated earlier, very little has been documented concerning the relationship between play and speech behavior in children with delayed language. Although nondirective group play therapy of the Axline type is sometimes used as a treatment of choice, little research evidence, particularly of a longitudinal nature, has been produced to support this preference. In addition, perhaps the strongest criticism of this approach has been its apparent inefficiency, since it may take too long to bring about dramatic change. This study was undertaken primarily to evaluate the comparative effectiveness, appropriateness, and efficiency of nondirective group play therapy as a treatment modality for preschool children with speech or language delay.

The following hypotheses were examined:

1. Nondirective group play therapy gain scores will be significantly higher than control group gain scores on measures of articulation and receptive language.
2. Nondirective group play therapy will demonstrate higher gain scores on measures of articulation and

receptive language than any of the other treatment modalities: individual speech therapy, group speech lesson, physical motor training, or control group.

CHAPTER II

METHOD

The chapter on methodology consists of four subheadings: Subjects, Instruments, Procedures, and Statistics and Experimental Design.

Subjects

Forty-three children were involved in the study. They ranged in age from 3 years, 6 months to 6 years, 2 months at the initiation of the program. The subjects had no evident oral peripheral abnormalities, such as cleft palate, that would preclude speech, nor were they from bilingual homes. No child was included that had been diagnosed as cerebral palsied or brain damaged. Hearing acuity for each subject was within the normal limits for speech as determined by an audiological screening test administered during the initial diagnostic interview. The frequencies used to screen hearing were 250, 500, 1000, 2000, and 4000 Hz at 25 dB.

The functional intelligence level of all the children was above the level of mental retardation, defined as an intelligence quotient above 70 on the Arthur Adaptation of the Leiter International Performance Scale (Arthur, 1952). All the children were capable of performing simple physical-motor tasks upon direction and none wore orthopedic devices.

The children were of varying socioeconomic status; there were 38 boys and 5 girls. The subjects were obtained from the waiting list of the Texas Tech Speech and Hearing Clinic and referrals from pediatricians, the public schools, and private kindergarten and day nursery centers.

Each child was diagnosed as speech or language delayed based on their scores on the standardized tests of language development and articulation. The critical criterion was a lag of at least 1 year between the child's measured articulation or receptive language skills and his chronological age. It is anticipated that some possible causes of this delay were emotional disturbance, socioeconomic or educational disadvantage, immaturity of physical motor development, or lack of motivation.

Instruments

All tests were administered by advanced graduate students in clinical psychology or speech pathology working under the immediate supervision of a doctoral level professional. The 1953 Arthur Adaptation of the Leiter International Performance Scale was used as a measure of intelligence. It is especially appropriate for this type of subject since it is an entirely nonverbal test with only pantomime directions given by the examiner. Validity studies indicate that it correlates $r = 0.79$ with the performance

scale and r = 0.77 with the full scale of the Wechsler Intelligence Test for Children (Weiner, 1971). The standardized measure of language development was the Peabody Picture Vocabulary Test (Dunn, 1959). The two standard measures of articulation were the Revised Arizona Articulation Efficiency Scale (Fundals, 1970) and the Templin-Darley Test of Articulation (Templin, 1969). Two measures of articulation were utilized to ensure accuracy and dependability. The Arizona has a reliability coefficient of .96 and a validity coefficient of correlation of .92 (Fundals, 1970). The Templin-Darley validity coefficient of correlation is .92 (Templin, 1969).

Procedure

The 43 children were randomly assigned to one of five treatment programs. The five treatments were group play therapy, individual speech therapy, group speech lesson, physical-motor training, and control. The nondirective group play therapists were graduate students in speech pathology who had no prior training in play therapy techniques. The therapists for the group speech lesson and individual therapy were second year master's students in speech pathology with previous supervised therapeutic experience. The therapist for the physical motor training program was a first year master's student in physical education. There were 10 children assigned to group

play therapy, 8 children in individual therapy, 9 in group speech lesson, 7 in physical-motor training, and 9 in the control group. The children in group play therapy received nondirective group play therapy strictly modeled on the method of Virginia Axline (1947). The individual speech therapy program was based upon the classical approach of Van Riper (1963) and the group speech lesson program used the direct structured models of Backus and Beasley (1947). The physical motor training consisted of a series of physical motor activities developed by Kephart (1960).

Each treatment group met 5 days weekly for a 30 minute period each day. There were groups meeting in both the morning and the afternoon hours. The total time of the study involved 14 weeks. The program was housed in both the Texas Tech University Speech and Hearing Clinic itself and in a temporary building specifically renovated for this purpose. Each room used for therapy had similar features, including a one-way mirror and a talk-back system for observation and recording.

Each child was given the same pretest-posttest battery of standardized tests previously described prior to the initial week and again after the final week of the study. The battery of tests took approximately 1 hour to administer. The tests were given in the same sequence to each subject with uniform directions and standard scoring

procedures. The same rooms were used for both testing and therapy, with the order in which the children were tested randomized.

Statistics and Experimental Design

Since the subjects were randomly assigned to the different groups, a completely randomized design was appropriate for the analysis of the data (Kirk, 1968, p. 99). An F test was used to compare differences between the effects of each treatment level. A *t* test for uncorrelated means was computed between the gain scores of each treatment group and the control group gain scores for each experimental test. In addition, multiple *t* tests were computed in order to measure significant differences within each treatment level. A fixed effects model analysis of variance was applied since the different treatment levels were not randomly selected from a larger population of treatment levels (Kirk, 1968, p. 127).

CHAPTER III

RESULTS

Analysis of Variance

This experiment utilized a completely randomized analysis of variance design with five treatment levels. The five treatment levels consisted of nondirective group play therapy, group speech lesson, individual direct speech therapy, physical motor training, and controls. Pre- and posttest scores within each treatment level were obtained from each subject within that level on three standardized tests. The three tests were: the Revised Arizona Articulation Proficiency Scale (Fundals, 1963), the Templin-Darley Test of Articulation (Templin, 1969), and the Peabody Picture Vocabulary Test (Dunn, 1959). Analyses of variance were conducted on the data from each of these three tests, utilizing gain scores as the difference between pre- and posttest scores.

The F ratio for the Arizona was equal to 6.64. The tabled value for F at the .01 level with 4 and 38 degrees of freedom is 3.95; therefore, the test for significance of the gain scores from the Arizona was positive beyond the .01 level of probability (see Table 1).

TABLE 1

ANALYSIS OF VARIANCE SUMMARY TABLE--ARIZONA

Source	Sum Squares	Degrees Freedom	Mean Square	F
Between Groups	1200.80	4	300.20	*6.64
Within Groups	1718.07	38	45.21	
Total	2918.87	42		

*p < .01 = 3.95

The F ratio for the Templin-Darley was 1.65. The tabled value for F at the .20 level with 4 and 38 degrees of freedom is 1.33; therefore, the test for significance of the gain scores from the Templin-Darley was positive only beyond the .20 level of probability (see Table 2).

TABLE 2

ANALYSIS OF VARIANCE SUMMARY TABLE--TEMPLIN-DARLEY

Source	Sum Squares	Degrees Freedom	Mean Square	F
Between Groups	174.07	4	43.52	*1.65
Within Groups	1005.31	38	26.45	
Total	1179.38	42		

*p < .20 = 1.33

The F ratio for the Peabody was 1.35. The tabled value for F at the .05 level of significance with 4 and 38 degrees of freedom is 2.66. The test for significance in the overall experiment of gain scores from the Peabody was not significant (see Table 3).

TABLE 3

ANALYSIS OF VARIANCE SUMMARY TABLE--PEABODY

Source	Sum Squares	Degrees Freedom	Mean Square	F
Between Groups	3819.905	4	954.976	1.35
Within Groups	26131.660	37	706.200	
Total	29951.405	41		

F .05; 4, 37 = 2.66

Effects of Nondirective Group Play Therapy on Speech and Language Development

A *t* test for uncorrelated means was performed between the means of the group play therapy gain scores and the control group gain scores for each of the experimental measures. Table 4 illustrates these values and level of significance.

TABLE 4

t TEST FOR UNCORRELATED MEANS--NONDIRECTIVE GROUP PLAY THERAPY VERSUS CONTROLS

Experimental Measure	Group Play Therapy--Controls
Arizona	*4.13
Templin-Darley	0.07
Peabody	0.71

*t .05/2, 37 = 2.025

As can be seen from the examination of Table 4, there is a significant difference between play therapy and control gain scores only on the Arizona Articulation Proficiency Scale.

Effects of Group Speech Lesson on Speech and Language Development

A *t* test for uncorrelated means was performed between the means of the group speech lesson gain scores and the control group gain scores for each of the experimental measures. Table 5 illustrates these values and level of significance. As can be seen from examination of Table 5, none of the differences are significant between the gain scores for group speech lesson and controls for any of the measures employed.

TABLE 5

t TEST FOR UNCORRELATED MEANS--GROUP SPEECH LESSON VERSUS CONTROLS

Experimental Measures	Group Speech Lesson--Controls
Arizona	0.14
Templin-Darley	0.49
Peabody	0.73

t .05/2, 37 = 2.025

Effects of Individual Direct Speech Therapy on Speech and Language Development

A *t* test for uncorrelated means was performed between the means of the individual direct speech therapy gain scores and the control gain scores on all three experimental tests. None of the obtained values were significant at the .05 level of significance as can be seen in Table 6.

TABLE 6

t TEST FOR UNCORRELATED MEANS--INDIVIDUAL THERAPY VERSUS CONTROLS

Experimental Measures	Individual Therapy--Controls
Arizona	0.11
Templin-Darley	0.86
Peabody	0.70

t .05/2, 37 = 2.025

Effects of Physical Motor Training on Speech and Language Delay

A *t* test for uncorrelated means was performed between the means of gain scores of the subjects involved in physical motor training and the means of the gain scores in the control group on all three experimental tests. None of the obtained statistical values were significant at the .05 level of significance as shown in Table 7.

TABLE 7

t TEST FOR UNCORRELATED MEANS--PHYSICAL MOTOR TRAINING VERSUS CONTROLS

Experimental Measures	Physical Motor--Controls
Arizona	0.78
Templin-Darley	1.56
Peabody	0.48

$t_{.05/2,\ 37} = 2.025$

Multiple Comparisons of Nondirective Group Play Therapy with Other Treatment Modalities on Each Experimental Test

An *a priori* orthogonal comparison using Student's *t* ratio is the most powerful multiple comparison method available (Kirk, 1968, p. 96). A multiple comparison of the means of nondirective group play therapy gain scores and the means of the gain scores of the four other treatment

groups was performed for each of the experimental tests. As can be seen in Table 8, nondirective group play therapy gain scores were significantly different in the positive direction from the gain scores of the four other treatment groups obtained on the revised Arizona Articulation Proficiency Scale (Fundals, 1963). On the Templin-Darley (Templin, 1969), nondirective group play therapy gain scores were not significantly different from the gain scores of the four other treatment groups. On the Peabody Picture Vocabulary Test (Dunn, 1959), nondirective group play therapy gain scores were significantly different in the negative direction from the gain scores of the four other treatment groups.

TABLE 8

MULTI-COMPARISON OF NONDIRECTIVE GROUP PLAY THERAPY GAIN SCORES WITH OTHER TREATMENTS

Experimental Measures	Multi-Comparison of Gain Scores of Nondirective Group Play Therapy with Other Treatment Groups Combined
Arizona	2.24*
Templin-Darley	1.62
Peabody	-3.31*

$\underline{t}$ .05/2, 38 = 2.02

*p < .05

A summary of the statistical results indicated that the first experimental hypothesis was only partially confirmed. Nondirective group play therapy gain scores were significantly different in the positive direction from control group gain scores on only one measure of articulation. The second hypothesis concerning the comparative efficiency of nondirective group play therapy was also partially confirmed. Nondirective group play therapy gain scores were significantly different in the positive direction from the gain scores of the four other treatment groups on one measure of articulation. However, nondirective group play therapy gain scores were significantly different in the negative direction from the gain scores of the four other treatment groups on the measure of receptive language.

Tables of raw data including pretest, posttest, and gain scores for the treatment groups on each experimental measure are provided in the appendix. A table of absolute ranking of treatment groups on each experimental measure is also provided in the appendix.

CHAPTER IV

DISCUSSION

Effects of Treatment Programs on Speech or Language Delay

Nondirective group play therapy was the only treatment program that demonstrated a significant difference between its gain scores and the gain scores of the control group on any of the experimental tests. This suggests that nondirective group play therapy is a viable treatment alternative with preschool children with functional speech or language delay. The first hypothesis that nondirective group play therapy is significantly related to the successful development of articulation and receptive language skills of preschool children with speech or language delay receives experimental support. Since none of the subjects had previously been involved in speech remediation efforts, nondirective group play therapy appears to be a promising initial phase of treatment for naive subjects.

Since the remaining treatment modalities did not show significant differences between their gain scores and the gain scores of the control group, no experimental demonstration of their practical effectiveness could be obtained in this research project. This demonstration is beyond the scope or intention of this project, since the primary

experimental task was to demonstrate the comparative efficiency of only the nondirective group play therapy treatment modality.

There are two possible subjective, but not experimentally verified, explanations for the failure of the remaining treatment programs to obtain a demonstrable and significant difference from the control group: (1) maturation, and (2) parental attitude changes. Since the control group subjects kept pace with the remaining treatment group subjects, their development of speech and language skills during the three months of treatment may be due in part to the effects of simple maturation and the developmental process. In addition, parents of children placed in the control group for a three month waiting period may have experienced a lack of urgency on the part of rehabilitation staff and in turn relaxed their own attitudes and approach to the speech problems of their children. This sense of relief and subsequent parental relaxation may have fostered a more positive home environment in which the child could begin to improve his speech and language development on his own initiative.

Nondirective group play therapy achieved the highest gain scores on measures of fluency and articulation in comparison with the other three experimental groups. However, on the measure of receptive language, the Peabody

Picture Vocabulary Test, nondirective group play therapy gain scores were the lowest of any of the treatment groups, including the control group. Individual direct speech therapy and physical motor training gain scores were significantly higher than the gain scores of the other treatment groups on this measure of receptive language. This suggests that although nondirective group play therapy has been shown to be an effective remediator of dysfluency and articulation errors in preschool children with speech or language delay, it has a less efficient effect upon the child's development, understanding, and use of receptive language. This situation is somewhat paradoxical, since it would be expected that a therapeutic approach which stresses focusing, labeling, and expression of thoughts and feelings would quite naturally lead to an increase in receptive language skills. There are two possible explanations for this decrease in receptive language skills in the nondirective play therapy groups: (1) the emphasis upon expression of thoughts and feelings, and (2) the influence of the medium of play itself. Through the structuring of the therapeutic relationship and reflection of his thoughts and feelings, the child is encouraged towards self-knowledge and self-expression in order to be able to remove barriers which impede the movement of the self-actualization drive towards growth, maturity, and fulfillment. This

encouragement towards self-knowledge, self-awareness, and introspection could prompt a narcissistic stance in the child which discourages the acquisition of further receptive language skills. This narcissistic stance is nonpejorative, it is simply an inner direction, a focusing upon mental events within the organism to the exclusion of attention to environmental events. This description of the child's narcissistic stance is similar to the psychoanalytic concept of the development of the observing ego.

The second possible explanation for the failure of nondirective group play therapy to develop receptive language skills lies in the medium of play itself. Axline (1947) stated that play is a child's natural mode of self-expression, for it is a symbolic form of communication that may precede the complete development of language. Before a child learns the intricacies of speech, he is able to express his thoughts and feelings in play. Since play therapy techniques attempt to provide a structured relationship within which a child may communicate through play in addition to verbal exchanges, this technique optimizes the development of both the child's communicative and symbolic skills. If play is viewed in this manner as a regressive phenomenon, then the overemphasis upon play as a symbolic form could discourage the development of further receptive language skills. This would not be expected to

influence articulation skills as well, since a child's capacity to imitate sounds precedes the more abstract understanding of language. In addition, the willingness to imitate sounds is likely tied to the degree of cooperativeness a child exhibits. Since a relationship oriented treatment modality, such as nondirective group play therapy, probably enhances a child's level of cooperativeness with adult figures, this may explain further why these subjects improved on articulation measures. The measure of receptive language requires only pointing and no verbal responses, hence it is less affected by the degree of cooperativeness of the test subject. The effect of cooperativeness on the testing of preschool subjects may be a fruitful topic for future experimental research.

The Comparative Efficacy of Nondirective Group Play Therapy with Speech or Language Delayed Children

Nondirective group play therapy gain scores were significantly higher than the gain scores of the other treatment programs on one of the experimental measures of fluency and articulation, the Revised Arizona Articulation Proficiency Scale. This suggests that in an intensive 14 week therapy program, nondirective group play therapy was the most efficient remediator of dysfluency and articulation errors. The second hypothesis, that nondirective group play therapy is a more efficient remediator than any of the three

traditional treatment modalities, individual speech therapy, group speech lesson, and physical motor training, also is supported. However, this support of the second hypothesis is restricted to statements about articulation or the quality of speech, not measures of receptive language.

Nondirective group play therapy gain scores were significantly different in the negative direction from the gain scores of the other treatment groups on the Peabody Picture Vocabulary Test. This suggests that nondirective group play therapy is the least efficient remediator of receptive language deficits of any of the treatment approaches.

The foregoing results suggest interlocking strengths and weaknesses of direct and nondirective approaches to therapeutic remediation of speech or language delay. In building receptive language skills a direct approach is more efficient, especially when treatment is on a one to one basis. In individual direct therapy a child is bombarded with new stimuli through drill involving ear training and successive approximations of new sounds. He develops skill in attention and discrimination between the new sound and the error sound, skill in self-hearing, and mastery of new sounds in syllables, words and sentences. Van Riper's technique of improving articulation is therefore based on primary mastery of receptive language skills.

Skill in the receptive language area almost necessarily precedes any marked improvement in fluency and articulation because of the structure of the treatment program itself. If this research study had been conducted for a much longer period of time, perhaps gain scores from the individual speech therapy treatment group might have further improved on measures of articulation. More attention should be paid to this learning phenomenon by therapists utilizing the direct individual therapy approach.

The group speech lesson treatment program attained the lowest overall gain scores of any treatment approach. This was contrary to subjective observation of this approach during experimental sessions, since the children in the group speech lesson classes appeared to be making more substantial progress than any other treatment group. There are several possible subjective, but unmeasured, explanations for its inefficiency: (1) the complexity of introducing attitude control concepts to preschool children, (2) the questionable concept of voluntary control, and (3) the lack of group cohesion and commitment. Backus (1947) developed his technique while working with adults in attitude control classes in which considerable emphasis was placed upon open and rational discussion of undesirable habits of thinking and acting. This group discussion formed the basis for later acquisition of more desirable habits

and attitudes. This initial group therapeutic effect is, of course, impossible to attain with preschool speech or language delayed children. In addition, the concept of voluntary control of defective speech has only limited applicability to children, since voluntary control must be acquired in the three adult functioning areas of production of normal speech patterns, muscular tension, and attitudes. The final explanation, the failure to establish group identity, is more difficult to evaluate. Backus (1947) clearly stated that drill in the group situation results in decreased anxiety in speech in interpersonal situations. Evidently, this principle of the transfer of training was not established clearly enough in the speech lesson groups to have the desired therapeutic effect, although no attempt was made to measure this phenomenon. Drill in the group approached closely the interactional quality of the one to one structure of individual therapy.

The physical motor training groups were unsuccessful in developing either articulation or receptive language skills. This questions its validity as a sole treatment technique with speech or language delayed children. This technique is often overlooked both by therapists in clinical practice and by researchers, who have not produced definitive experimentation on the results of physical motor training. Although there is some theoretical literature

espousing the use of physical motor training, little normative or validity research data is available. The details of the relationship between the development of normal speech and physical motor development must be more clearly specified. Although Kephart (1960) stated authoritatively that children who have specific physical motor disorders or developmental deviations involving physical motor areas are very susceptible to difficulties in the development of normal speech and language, little research evidence is available that demonstrates the effectiveness of physical motor training on speech and language development. However, the physical motor training groups in this study possibly benefited from two simultaneous but unmeasured treatment effects: (1) development of physical motor control and coordination; and (2) formation of a social group identity and cohesiveness. These treatment effects probably resulted in increased self-esteem and confidence in social situations. This technique could be utilized more efficiently when combined with one of the other more traditional treatment approaches, since children become bored after continual repetitive exercises and search for more varied stimulation.

Relevance of this Study to Previous Research and Suggestions for Future Research

Lebo (1953) noted that a primary deficiency of research in nondirective play therapy was the failure to use multiple group experimentation with matched experimental controls and pre- and posttesting with experimental measures. Another research deficiency was the fact that most studies of nondirective play therapy have utilized the single case study method combined with subjective judgments of improvement. This research study has avoided these experimental pitfalls and conducted a vigorous and strictly controlled comparative analysis of variance design. Subjects were matched on baseline criteria and randomly assigned to one of five treatment groups with extensive pre- and posttesting on experimental measures. By using multiple subjects and multiple groups, a more concise experimental alternative to the single case study has been constructed. Lebo's (1953) suggestion that the nondirective play therapy technique be evaluated through the results of experimental studies investigating its effectiveness in relation to other procedures has also been met. This study reinforces the viability of nondirective play therapy as a therapeutic alternative with diverse clinical groups and replicates previous research findings with speech or language delayed children.

This study clearly demonstrates that nondirective group play therapy is a viable treatment alternative for preschool children with speech or language delay. It is most efficient in the development of fluency and articulation skills, but least efficient in the development of receptive language. Speculatively nondirective group play therapy may be more efficacious for the early stages of treatment, during which the emphasis is on developing a therapeutic relationship at the child's own pace. The supportive milieu of the play therapy environment hopefully results in decreased anxiety and more comfort in the treatment situation, increased self-esteem, and development of both linguistic and affective expressive abilities. Ideally, after a therapeutic relationship has been established, then other more technical treatment modalities could be used.

The most general conclusion from this study was the importance of a holistic approach to therapeutic speech remediation in which several treatment modalities could be alternated and interfaced for each child. Perhaps by combining a variety of treatment approaches in a successive manner, the clinician may be assured of the most efficient use of his skills. Thus, nondirective group play therapy could best be utilized in conjunction with other treatment modalities. A further advantage of beginning a speech therapy program with a nondirective approach lies in the

added diagnostic perspective. During this period of therapy, valuable observation time is available to insure the accuracy of initial diagnostic formulations that may be only test based. This observation time is especially important because of the limitations of present diagnostic instruments when used with preschool children with speech or language delay.

The development of more reliable diagnostic instruments for use with preschool speech or language delayed children is a major area in which further research is needed. Since these children have only limited verbal abilities, standard assessment procedures lack the sophistication to be completely thorough and reliable diagnostically. The current research could have been bolstered by use of measures of verbal expressive language obtained through standardized sound recordings. These sound samples could be analyzed by syntax and complexity. Verbal expressive samples were not used in this study because of the impossibility of obtaining valid and uniform sound samples from children with such limited verbal expressive abilities. Innovative techniques for obtaining speech samples must be developed before they can be used in research with preschool speech or language delayed children.

Two other major research areas were suggested by this study: (1) comparative investigation of various combinations

of treatment approaches, and (2) further investigation into the effect of nondirective group play therapy on the development of receptive language skills. Comparative study of diverse treatment combinations would aid in devising the most efficient combination and ordering of methodologies for preschool speech or language delayed children. Further investigation into the relationship between nondirective group play therapy and the development of receptive language skills is also necessary to corroborate the results of this study. Replication of this occurrence has both pragmatic and theoretical implication.

Finally, this study suggested these other research topics: (1) the relationship between levels of play and level of language development; (2) the study of parental reactions and attitude changes occurring during treatment of children; and (3) the study of speech and language development in the control group population.

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APPENDIX

A. Scores of Nondirective Group Play Therapy Subjects

B. Scores of Group Speech Lesson Subjects

C. Scores of Individual Direct Speech Therapy Subjects

D. Scores of Physical Motor Training Subjects

E. Scores of Control Subjects

F. Comparative Absolute Ranking of Mean Gain Scores

APPENDIX A: SCORES OF NONDIRECTIVE GROUP PLAY THERAPY SUBJECTS

Subject Number		Arizona	T-D	Peabody
1	Pre	66.5	11	1
	Post	81.5	13	1
	Gain	15.0	2	0
2		75.0	12	70
		90.5	16	62
		15.5	4	- 8
3		76.5	2	76
		88.0	8	68
		11.5	6	- 8
4		51.5	2	11
		73.0	11	10
		21.5	9	- 1
5		84.0	31	2
		98.0	40	1
		14.0	9	- 1
6		74.0	12	78
		78.5	12	18
		4.5	0	-60
7		56.5	0	56
		68.0	11	58
		11.5	11	2
8		85.0	10	30
		89.0	24	4
		4.0	14	-26
9		60.5	6	4
		76.0	15	5
		15.5	9	1
10		60.0	4	24
		75.0	9	12
		15.0	5	-12
$\bar{X}$ gain scores		12.8	6.9	-11.3

APPENDIX B: SCORES OF GROUP SPEECH LESSON SUBJECTS

Subject Number		Arizona	T-D	Peabody
11	Pre	62.0	2	78
	Post	68.5	11	30
	Gain	6.5	9	-48
12		81.0	10	54
		88.0	21	25
		7.0	11	29
13		83.0	10	6
		86.0	20	23
		3.0	10	17
14		54.5	0	24
		60.0	2	71
		5.5	2	47
15		78.5	6	54
		93.0	14	60
		14.5	8	6
16		59.5	2	81
		65.0	2	89
		5.5	0	8
17		69.0	3	96
		86.5	14	89
		17.5	11	- 7
18		47.0	1	96
		59.0	3	76
		12.0	2	-20
19		46.0	2	97
		52.0	3	94
		6.0	+ 1	- 3
$\bar{X}$ gain scores		8.61	6.0	-6.99

APPENDIX C: SCORES OF INDIVIDUAL DIRECT SPEECH THERAPY SUBJECTS

Subject Number		Arizona	T-D	Peabody
20	Pre	68.0	13.4	14
	Post	71.0	13.4	87
	Gain	3.0	0	73
21		82.5	27	35
		87.0	43	47
		4.5	16	12
22		48.0	1	59
		70.5	4	80
		22.5	3	21
23		48.0	3	2
		70.5	4	0
		22.5	1	- 2
24		73.0	10	41
		84.0	12	43
		11.0	2	2
25		49.5	23	2
		55.5	25.1	2
		6.0	2.1	0
26		75.0	9	4
		79.0	10	10
		4.0	1	6
27		84.5	22	88
		83.0	30	83
		- 1.5	8	- 5
$\bar{X}$ gain scores		9.0	4.137	13.375

APPENDIX D: SCORES OF PHYSICAL MOTOR TRAINING SUBJECTS

Subject Number		Arizona	T-D	Peabody
28	Pre	64.0	10	81
	Post	90.0	16	43
	Gain	26.0	6	-38
29		49.0	6	
		73.0	10	-
		24.0	4	
30		84.0	26	36
		87.0	28	71
		3.0	2	35
31		72.0	16	11
		79.5	17	15
		7.5	1	4
32		47.0	1	27
		63.0	4	44
		16.0	3	17
33		73.5	18	2
		65.5	13	6
		- 8.0	- 5	4
34		56.0	2	5
		62.0	2	44
		6.0	0	39
$\bar{X}$ gain scores		10.64	1.57	10.16

APPENDIX E: SCORES OF CONTROL SUBJECTS

Subject Number		Arizona	T-D	Peabody
35	Pre	83.0	17	81
	Post	76.0	29	43
	Gain	7.0	12	-38
36		61.5	11	76
		77.5	17	25
		16.0	6	-51
37		63.0	21	93
		79.5	27	99
		16.5	6	6
38		84.5	37	86
		97.5	46	92
		13.0	9	6
39		95.0	29	5
		90.0	30	47
		- 5.0	1	42
40		12.0	69	65
		28.0	92	47
		16.0	23	-18
41		67.5	5	3
		79.0	10	24
		11.5	5	21
42		78.0	9	36
		70.0	10	84
		- 8.0	1	48
43		76.5	0	9
		85.5	4	10
		9.0	4	1
$\bar{X}$ gain scores		6.88	7.44	1.88

APPENDIX F: COMPARATIVE ABSOLUTE RANKING OF MEAN GAIN SCORES

	Arizona	Templin-Darley	Peabody
Nondirective Group Play Therapy	1	2	5
Group Speech Lesson	4	3	4
Individual Therapy	3	4	1
Physical Motor	2	5	2
Controls	5	1	3