THE EFFECTIVENESS OF AN IN-SERVICE EDUCATIONAL ACTIVITY ON TEACHERS' ATTITUDES TOWARD COMMUNICATIVELY DISORDERED CHILDREN

A Thesis

by

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ABSTRACT

THE EFFECTIVENESS OF AN IN-SERVICE EDUCATIONAL ACTIVITY ON TEACHERS' ATTITUDES TOWARD COMMUNICATIVELY DISORDERED CHILDREN. (May 1982)

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The focus of this study was to examine the impact, if any, that an in-service educational activity on communication disorders had in creating more favorable teacher attitudes toward communicatively disordered children.

A traditional post-test only, equivalent group design was employed in the study. The experimental group received an in-service activity on communication disorders and was then administered The Teacher Attitude of Communicative Handicaps (TACH). The control group was given only the TACH with no in-service activity. The Mann-Whitney U Test was used to statistically compare responses between the experimental and control groups.

Statistical analysis revealed that a significant difference existed in six of the twenty-eight TACH statements. The results suggested that an in-service educational activity was effective in creating more favorable teacher attitudes toward communicatively disordered children.

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CHAPTER I

Introduction

The purpose of this study is to examine the impact that an in-service educational workshop dealing with communication disorders has on regular classroom teachers' attitudes toward communicatively disordered children. Regular classroom teachers frequently do not recognize communication disorders in children (Diel and Stinnett, 1959). When teachers do recognize disorders they often resent having such children in their classroom (Dublinske, 1974). In any instructional situation, no matter what the status of the instructional materials and curriculum, the most salient variable is the teacher (Williams and Naremore, 1974). Therefore teachers could help children with communication disorders in their classroom (Johnson, 1967). If teachers' attitudes toward these children are favorable, they will communicate their feelings to the communicatively disordered child as well as their peer group thus generating an accepting attitude (Kough and DeHaan, 1957). If teachers have negative attitudes toward children with communication disorders, then these children develop negative feelings toward themselves. Consequently, their peers also generate negative attitudes toward these children (Rosenthal and Jacobson, 1968).

Statement of the Problem

In-service educational activities are needed in elementary schools to assist teachers in developing more favorable attitudes toward communicatively disordered children (Dopheide and Dallinger, 1975). Teachers with little or no training in communicative disorders may have an unfavorable attitude toward children with communication handicaps. Therefore it is important that teachers be trained in order to increase their level of awareness of communication disorders. Ernest Siegel (1969) finds that in-service training programs serve the following purposes: (1) bring current research and innovation to the attention of teachers; (2) enable teachers to identify with the field of special education; (3) dramatize to teachers the importance of their role; (4) provide examples of interdisciplinary functioning to create awareness of the roles of other professionals; and (5) provide a teacher experience-sharing forum. In light of this study, Siegel's findings show that in-service programs can increase teachers' awareness and create a more favorable attitude toward communicatively disordered children.

Purpose of the Study

The purpose of this study is to determine if an in-service educational workshop has an effect upon attitudes of elementary classroom teachers toward communicatively disordered children.

Statement of the Hypothesis

Teachers who participate in the in-service workshop will have a more favorable attitude toward communicatively disordered children as compared to teachers who do not participate.

Assumptions of the Study

1. In-service educational activities are an effective means of creating attitude change in elementary classroom teachers.

2. The instrument devised for purposes of this study is both statistically valid and reliable.

3. The groups used in the study are comparable.

Limitations of the Study

1. This study is limited to two elementary schools in the Cabarrus County School System. Therefore the empirical findings may be generalized only to that group of teachers.

2. Participants in the study are limited to kindergarten through sixth grade teachers in each of the two schools.

3. The measure of teachers' attitudes toward communication disorders is limited to the teachers responses on the twenty-eight item attitude scale, The Teacher Attitude of Communicative Handicaps, (TACH).

4. Teacher experiences, such as having had a course in communication disorders and/or having a communicatively disordered family member or friend may result in more positive scores not attributable to the in-service activity.

Methodology

A traditional post-test only, equivalent group design is employed in this study. The experimental group is presented the in-service workshop and then administered the Teacher Attitude of Communicative Handicaps hereafter referred to as TACH. The control

group is administered the TACH with no in-service workshop. The effect of the in-service activity is determined by statistically comparing scores on the TACH between the two groups using the Mann-Whitney U Test.

Definitions

For clarity of meaning and convenience of the reader, certain terms that are used throughout this study are defined in the following listing. These definitions are simplified for purposes of this study.

1. Articulation disorder is the abnormal production of speech sounds, e.g., substitutions - a child may say "Wun fast" for "Run fast;" distortions - a child may say "I sheep in bed" for "I sleep in bed;" omissions - a child may say "The do_ _an jum_" for "The dog can jump."

2. Attitude is the complex set of internally learned thoughts, feelings, and tendencies about people, ideas, and things in the external world which influence the likelihood of behavior (Heun, L. and Heun, R., 1975).

3. Communicative disorder is the loss or inability to express one's self clearly or to understand others.

4. Fluency disorder is a disrupted speech flow characterized by hesitations, prolongations, repetitions, and blocks.

5. Hearing impairment is the loss of hearing acuity and/or hearing discrimination and may be classified as hard of hearing or deafness.

6. In-service educational workshop refers to programs designed to provide teachers with opportunities to increase their knowledge, insight, understanding, and skills in working with handicapped individuals (Gearheart, 1976).

7. Language disorder is a deficiency in vocabulary or a retardation in the development of conventional sentence structure, and often a significant inadequacy in the formulation of ideas.

8. Teacher Attitude of Communicative Handicaps (TACH), is the scale used in this study to measure teacher attitude consisting of twenty-eight statements with a four point Likert scale of strongly agree (SA); agree (A); disagree (D); and strongly disagree (SD).

9. Voice disorder is the absence or abnormal production of vocal quality, pitch, loudness, resonance and/or duration.

Scope of the Study

The scope of this study is to determine the effects of an in-service education workshop on elementary school teachers' attitudes toward communicatively disordered children in their classrooms. As a result of the study, the reader becomes familiar with one method which a public school speech-language pathologist may use to enhance the regular classroom teachers awareness and attitudes toward communication disorders.

CHAPTER II

Review of the Related Literature

Preface

Most American educators agree that the purpose of education is to help each child develop the maximum of their potential. The school's responsibility is to provide opportunities for the special needs child, not only for the "whole education" of the child, but also for the education of the "whole child" (Gearheart, 1976). To educate the "whole child," teachers need to be aware of how to deal with the special needs of communicatively disordered children (Phillips, 1975).

> It is being unrealistic to assume that a handicap such as a hearing loss or a speech defect can be ignored on the grounds that it is not of immediate concern to the teacher whose business supposedly is the education of the child. In reality, such a handicap should be of vital concern to the teacher and to the school, because it may well explain why the child is retarded in his studies, is socially immature, or is definitely a behavior problem (Anderson, 1953, p. 4).

Wendell Johnson (1967) states that "teacher knowledge of communicative handicaps will generally enable them to see much more clearly how to deal with such children." If teachers' attitudes toward these children are negative, then children with communicative disorders develop negative feelings toward themselves and consequently their peers also generate negative attitudes toward these children

(Rosenthal and Jacobson, 1968). Programs designed to increase teachers' levels of awareness toward the communicatively handicapped population seem to be a viable technique to insure more favorable attitudes toward communication disorders (Gearheart, 1976; Johnson, 1967; Phillips, 1975). This chapter discusses important aspects of communication disorders and the education process. Related areas of concern will be devoted to the following topics: (1) historical overview; (2) incidence figures; (3) teacher reliability in identifying communicatively disordered children; (4) teachers' attitudes toward communication disorders; (5) effects of in-service educational activities; and (6) role of the speech-language pathologist with the classroom teacher.

The literature reviewed for this study was selected for the following reasons: (1) The historical overview illustrates major educational amendments which have occurred due to federal, state, and local legislative rulings in conjunction with educational trends; (2) The prevalence of communication disorders in school-aged children reveal that this handicap is the most frequently occurring handicap in the schools; (3) The incidence of communication disorders in school-aged children requires that the regular classroom teacher become aware of communication disorders, and be able to accurately identify such children. The teacher's ability to recognize communicatively disordered children in the classroom may enhance such children's chances of academic success; (4) Teacher attitudes toward communicatively disordered children are reflected in their behavior. This behavior strongly influences the social and educational growth

of exceptional children. Therefore favorable teacher attitude toward communicatively disordered children may help these children reach full academic, social, and emotional growth; (5) To help increase accurate teacher referrals and favorable attitudes, an in-service educational activity that provides direct teacher participation is an effective strategy for speech-language pathologists to employ for creating attitude change and increasing knowledge; (6) Cooperation between the speech-language pathologist and the classroom teacher is important in enhancing overall educational success of communicatively disordered children. The interrelatedness of the above topics present evidence from the literature that the education for communicatively disordered children is best undertaken when teachers have knowledge of communication disorders in children and understand the role and purpose of the speech-language pathologist in the school setting.

Historical Overview

Only during the last two decades has the United States given any serious attention to the problems of the communicatively disordered population (Berry and Eisenson, 1956). Since 1910, when the Chicago public schools began a program of special remedial services for communicatively disordered children (Moore and Kester, 1938), both local and state support of programs for the communicatively disordered increased substantially (Taylor, 1981). Federal support for such programs began in the 1960's, when many state legislatures decided to educate the handicapped in the most normal setting possible (Gearheart, 1976).

The Education For All Handicapped Children Act of 1975, Public Law 94-142, created more important advances. Public Law 94-142 guarantees the right of all handicapped children to receive a free appropriate public education, indicating that "free appropriate education" implies special educational and related services that are provided in conformity with an individual education program (Public Law 94-142, 1975).

Historically, the field of education has defined basic skills as being the three R's - reading, writing, and arithmetic (Dublinske, 1979). However, as a result of the Education Amendments of 1978, Public Law 94-561, the definition of basic skills was expanded to include reading, mathematics, and effective written and oral communication. These two legislative acts played a significant role in implementation of programs to enhance communication skills in all children. As a result, regular classroom teachers must now teach handicapped children in their classes including communicatively disordered children.

Incidence Figures

Studies indicate that five to twenty-five percent of the school-aged population have significant communication disorders. One of the most conservative estimates is that reported by the American Speech, Language, and Hearing Association (ASHA) for the 1950 White House Conference (ASHA, 1952), which reports that five percent of the population between the ages of five and twenty-five have significant communication disorders (See Table 1). For a number of years this report has served as a point of reference for

subsequent studies, most of which tend to place the figure somewhat higher than five percent. Based on the majority of recent studies, an average of eight to ten percent of children now enrolled in school exhibit some type of oral communicative disorder (Phillips, 1975).

Table 1

Incidence of Speech Disorders According to the Mid-Century White House Conference Report

Disorder	Percent Of Population
Functional articulation	3.0
Stuttering	0.7
Retarded speech development (language)	0.3
Voice	0.2
Cerebral palsy speech	0.2
Cleft palate speech	0.1
Hearing impairment with speech defect	0.5
Total	5.0

Communication disorders are the most frequent handicapping problems occurring in school-aged children (Filter, 1977; Milisen, 1971). Wendell Johnson (1967) suggested that the low estimate of five percent could be visualized as being equal to the population of Los Angeles. Their number equals or exceeds the population of twenty-seven states. Because of the prevalence of these disorders, regular classroom teachers need training in the area of communication disorders.

Teacher Awareness of Communication Disorders

Throughout the United States, teachers are becoming more aware of the necessity to emphasize communication development, specifically speech and language, as an integral part of regular classroom curriculum (Pickering, 1978). Teachers have had the opportunity to observe children a large portion of the day and in a variety of circumstances, therefore they have been in an ideal position to determine which children have any communication disorders which may interfere with their academic, social, and/or emotional development. It has not been necessary that teachers be able to identify specific deficits as defined by speech-language pathologists, but teachers do need to recognize the presence of problems related to language, articulation, voice, fluency, and hearing (Byrne and Shervanian, 1977). Their ability to recognize communicatively disordered children could enhance such children's chances of academic success (Phillips, 1975).

Studies have been done to determine the degree of accuracy that teachers have in identifying and recognizing communication disorders. In particular, Lloyd and Ainsworth (1954) indicated that teachers wanted to work more effectively with children having communication disorders, but were aware of their inadequacies. Lloyd and Ainsworth concluded that teachers consistently have not referred communicatively disordered children to the speech-language pathologist or have referred them inaccurately. The percentage of accurate referrals teachers make tend to rise as the severity of the disorder increases (Pronovost, 1970). Pronovost interpreted this phenomenon in two ways: (1) teachers consistently failed to identify a large percentage of communicatively disordered children or (2) the speech-

language pathologists have lost perspective on what constitutes a speech problem and have been unnecessarily severe in their judgements of defective speech. Clausen and Kopatic's study in 1975 indicated that twenty-eight percent of the teachers failed to identify the normal speech of one of ten subjects, and further, eighty-two percent did not detect dysfluency of a ten year old stuttering child. The overall accuracy of the teachers in identifying normal and defective speech was approximately seventy-two percent. Diehl and Stinnet's study (1959) and also James and Cooper's study (1966) had similar results, indicating that teachers fail to refer a significant number of children who are classified as communicatively disordered by speech-language pathologists.

Teachers' abilities to accurately refer communicatively disordered children are vital because public school speech-language pathologists rely on their cooperation. Lloyd and Ainsworth (1954) stated that the amount of cooperation obtained is influenced by the classroom teacher's knowledge of communication disorders. The closer the knowledge of the teacher has been to the speech-language pathologist, the more likely cooperation has been obtained. The knowledge teachers have concerning communicatively disordered children had a potent influence on the social and emotional adjustment of such children, both in terms of the teacher-child interaction and in terms of the relationships between the disordered child and his/her peers (Haring, 1958). Johnson (1967) discussed the fact that wittingly or unwittingly, classroom teachers favor certain standards of speech, voice, and language. Each day the teacher creates a situation in which the child with a communicative disorder tends to be

either demoralized or helped not only to improve his/her problem, but also to live gracefully with the problem as long as it persists. Therefore, it is of extreme importance that educational leaders and teachers be aware of communicatively disordered children and their special needs (Johnson, 1967).

Teacher Attitudes Toward Communicatively Disordered Children

Attitude has been described as a "learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein and Ajzen, 1975). In light of this study, concern has been directed to creating more favorable attitudes toward communicatively disordered children by classroom teachers. Attitudes which teachers have are reflected in their behavior and influence strongly the social and educational growth of exceptional children (Haring, 1958). Baruch (1945), Boynton, Dugger, and Turney (1934), and Ojemann and Wilkinson (1939) found a relationship between adjustment of teachers and the adjustment of their pupils. Well-adjusted teachers were able to enhance the personal adjustment of the pupils whom they taught.

The idea has been often expressed that the disadvantaged child is further disadvantaged by his teacher's setting standards that are inappropriately low (Hillson and Myers, 1963; Rivlin, undated). If teachers have negative attitudes toward children with communicative disorders, then children with communication disorders in their classes developed negative feelings toward themselves. Consequently, communicatively disordered children's peers also generated negative attitudes toward these children (Rosenthal and Jacobson, 1968).

Teacher attitudes toward communicatively disordered children in the regular classroom are affected by certain variables. For example, Phillips (1976) indicated that respondents in her study who had taken a basic course in speech remediation were more knowledgeable and more accepting of children with communication disorders.

Educators are increasingly stressing the importance of positive teacher attitudes toward communicatively disordered children. Attitudes that prospective teachers hold toward exceptional children have been modified in light of the implementation of Public Law 94-142, The Education For All Handicapped Children Act of 1975. Orlansky (1975) suggested that an introductory undergraduate course in special education could present opportunities for modifying attitudes of the prospective teacher. The introductory course could possibly be the only exposure to exceptional children in the entire teacher preparation program.

It is believed that the capacity of teachers to accept handicapped children could be increased by modifying attitudes in the following three ways: (1) accurate and realistic knowledge/understanding of handicapped school children, including their education, physical, emotional, and social needs; (2) understanding of teachers' own needs and how these needs affect behavior and attitudes toward handicapped children; and (3) opportunities for teachers to express freely their feelings toward children with communication disorders (Haring, 1958).

Two kinds of teacher attitude groups have affected communicatively disordered children in the regular classroom (Dublinske,

1974). One attitude group is termed by Dublinske as "solution people." The solution person's primary concern has been to have someone else assume responsibility for the communicatively disordered child in their classroom. Dublinske felt that if the teacher was a "solution" person the chances of implementing recommended instructional activities successfully were limited. The other attitude group was termed "needs people" by Dublinske. This group of teachers have frequently sought information to help them deal more effectively with communicatively disordered children. If the teacher indicated an interest in the needs of the child, the chances of successful implementation of recommended activities were greater (Dublinske, 1974).

The success of the speech-language pathologist in the public schools depended on many factors, i.e., adequacy of resources, budget allotment and caseload size, but of prime importance were the attitudes of the regular classroom teacher toward each communicatively disordered child (Cook, 1978).

Effects of In-Service Educational Activities

Research lent support to the assumption that certain educational techniques could modify attitudes of regular classroom teachers toward a realistic acceptance of exceptional children (Haring, 1958). Use of active participation techniques as a means of creating attitude change have been proven an effective strategy of change. An interaction experience which allowed the participant to directly observe various objects, people, and events could, by virtue of participation in the experience, help him acquire new beliefs about himself or other people; about consequences of his own

behavior or others' behaviors; and about his environment (Fishbein and Ajzen, 1975).

One type of active participation experience could be an in-service educational activity for teachers. Dopheide and Dallinger (1975) studied how to best implement an in-service program for regular classroom teachers. They administered a pilot in-service program of cooperative assistance for teachers and the school's speech-language pathologist. The goal for the program was to improve the participants' cooperation in helping children with communication problems. The conclusions drawn were: (1) there is a need for in-service training of this type, especially in schools with newly initiated language, speech, and hearing services; (2) the design and planning phase of the in-service should include a broad sampling of participant needs, interests, issues, problems, and background in communication disorders; (3) that a child-centered, problem-solving workshop could be an effective format. Also, the use of videotapes was likely to be even more effective when children with real problems were used. The results of the Dopheide study revealed that good communication developed between teachers and speech-language pathologists. Also, teachers' gains in understanding children with communication problems were seen as a start toward improving cooperative relationships between speech-language pathologists and teachers.

Ernest Siegel (1969) found that in-service programs served the following purposes: (1) brought current research and innovation to the attention of teachers; (2) enabled teachers to identify with the field of special education; (3) dramatized to teachers the

importance of their role; (4) provided examples of interdisciplinary functioning to create awareness of the roles of other professionals; and (5) provided a teacher experience-sharing forum. In-service educational programs have helped create teacher awareness and effected more favorable attitudes toward communicatively disordered children.

Educational theorists recognize that teachers received little formal training in classroom communication theory and skills and that the classroom constitutes an oral communication situation in which the child is influenced - whether favorably or unfavorably - through the teacher's control or manipulation of the situation (Lynn, 1977). In a 1970 review of teacher incompetencies, Anderson reported: (1) of those non-speech teachers who had taken undergraduate speech communication courses, most received only what was available in the general courses open to students from all majors; (2) at that time, only twenty-seven percent (N = 122) of the NCATE-accredited undergraduate institutions offered a basic speech communication course designed specifically for teacher trainees; and (3) only nineteen NCATE schools in the nation required teacher trainees to take such a course. In brief, a significantly large population of practicing classroom teachers had little or no training in the specific communication theory and skills needed for classroom use. The fact that a need for such training existed had been clearly established by both speech communication and education professions. National surveys had regularly produced data demonstrating the need for such training (Anderson, 1970; Orban, 1970; Trauernicht, 1964; Walwick, 1967).

Siegel (1969) illustrated the regular classroom teacher's dilemma in the following way: "Regular classroom teachers, plagued with a few exceptional children, not understanding them and feeling ineffective in teaching them or in bringing about behavioral modifications, could feel frustrated, insecure and threatened. Having developed a feeling of insecurity arising out of inability to deal effectively with the problem child in the classroom, the teacher could unconsciously react to the child in a less than favorable manner."

The greatest modification that could be made to change teacher attitude was the inclusion of specific special education course work for all teachers (Cruickshank, 1975). Some universities offered an Introduction to Special Education course in the general education sequence. Unfortunately, in many cases, this was an elective rather than a required course. This course should be offered to both undergraduates and graduate level students so that prospective elementary teachers, who pursued B.A. degrees in education, could become oriented to the exceptional child - a child they were statistically likely to encounter in their classroom (Siegel, 1969; Cruickshank, 1975).

Since so few teachers had pre-service experience dealing with special education, in particular communication disorders, the next option was in-service educational activities. These programs not only helped modify attitudes but also increased levels of awareness and knowledge in regular classroom teachers. Increase in teacher knowledge significantly affected teachers' attitudes which were then

more conducive to the education and to the emotional well-being of the handicapped child (Siegel, 1969).

In-service training could allow opportunities for teachers to work with handicapped children as well as illustrating techniques which could be instrumental in helping the child academically. Ratchick and Koenig (1963) stated that "negative teacher attitude could often be changed by means of an understanding of the nature of the child's handicap and the manner in which it might affect daily behavior." An important function of in-service training programs was that attitudes teachers already had could often be shaped and changed. Kough and DeHaan (1957) stated that if "teachers' attitudes toward the child were positive and if teachers accepted the handicap as a limitation that could be overcome, they would communicate their feelings to the child and help generate a spirit of confidence."

Role of the Speech-Language Pathologist and the Regular Classroom Teacher

Ainsworth (1965) examined two possible roles of the school speech-language pathologist - participant and separatist. He felt that the most desirable role for the speech-language pathologist was that of participant. Regarding the participant's role, he stated:

> This concept viewed the role of speech specialist to be that of an independent professional who provided a remedial and therapeutic service to the children in the schools. The speech specialist was obligated to make a direct contribution to, and thus be an integral part of, the on-going educational program. This specialist was obligated to carry out this work in such a way that it would reinforce and, in turn, be reinforced by appropriated educational activities in the total school program.

Neidecker (1980) defined the roles of the speech-language pathologist in the following manner:

(1) The school speech-language pathologist planned, directed, and provided diagnostic and remediation services to communicatively handicapped children. Work was done with children who had articulation problems, voice disorders, dysfluency (stuttering) problems, hearing impairments; as well as speech, language and hearing problems associated with such conditions as cleft palate, cerebral palsy, learning disabilities, emotional and behavioral disturbances, autistic behavior and aphasia.

(2) The speech-language pathologist was also responsible for cooperation with other school and health specialists including audiologists, nurses, social workers, physicians, dentists, special education teachers, psychologists and guidance counselors. Cooperative planning with these individuals on a periodic basis resulted in effective diagnostic, habilitative, and educational programs of communicatively disordered children.

(3) One of the most important roles of the school speech-language pathologist was working with the coordinating classroom teacher in an effort to implement and generalize remediation procedures for the handicapped child. Wholehearted cooperation between the speech-language pathologist and the coordinating teacher was vital if the child was to receive the help that a speech-language pathologist could provide. Teachers needed to feel the importance of what the speech-language pathologist was doing as well as feel that they also appreciated their role (Ainsworth, 1965). The

speech-language pathologist needed to alert the regular classroom teacher to communication disorders and help increase their knowledge and understanding of the nature of such disorders. In-service educational activities presented by the speech-language pathologist to teachers was an effective way to increase teacher knowledge as well as creating more accepting attitudes (Haring, 1958).

(4) Another responsibility of the speech-language pathologist was parent counseling. These interactions were potentially beneficial to the child in that the parents could express concerns, or problems experienced in the home which in turn created a well-adjusted family unit (Taylor, 1981).

(5) In accordance to Public Law 95-561, The Education Amendments of 1978, speech-language pathologists must participate in basic skill improvement programming for students whose oral communicative skills were not impaired but could be improved. Such involvement would permit increased interaction of the speech-language pathologist with teachers (Taylor, 1981).

The attitude of the teacher was of great importance in establishing and maintaining remediation for the disordered child. The speech-language pathologist could be most successful in meeting all responsibilities by being a "participant" in schools served as well as initiating in-service educational activities to help increase teacher knowledge, in effect, creating more accepting attitudes in the teachers.

Summary

As a result of changes that have taken place in education, regular classroom teachers have been confronted with communicatively disordered children in their classrooms. However, teachers have had little or no training in the area of communication disorders. Lack of teacher knowledge and understanding toward communication disorders could result in negative teacher attitudes toward such disordered children. Teacher attitudes are important in the education of handicapped children. Therefore training could improve attitudes as well as develop successful cooperation between the speech-language pathologist and the regular classroom teacher.

CHAPTER III

Procedures

Introduction

This chapter describes the population involved in the study, the development of the instrument used in collecting the data, procedures used in collecting the data, and the methods used in analysis of the data collected.

According to Best (1977) research studies can be divided into three categories - historical, descriptive, and experimental. Experimental research describes what will be when certain variables are carefully controlled or manipulated. The focus was on variable relationships. This study was categorized as experimental. As such, it was concerned with manipulating certain stimuli, treatments, or environmental conditions and observing how the condition or behavior of the subject was affected or changed. For the purpose of treating and analyzing the data obtained from the study, the Mann-Whitney U Test was employed. The 0.05 level of significance was used as criterion for determining significance of the data.

Participants in the Study

The participants in the study were two groups of classroom teachers employed in kindergarten through sixth grade county schools. Group A, the experimental group, consisted of forty-four teachers.

Group B, the control group, consisted of twenty-seven teachers. The selection of the experimental and control groups was randomly decided. Each group had equal opportunity to serve as the experimental or control group.

All participants in the experimental group (Group A) were kindergarten through sixth grade county school teachers. Forty-seven faculty members were employed for the 957 student population. Of the forty-seven teachers employed, forty-four were active participants in the forty-five minute in-service activity dealing with communication disorders. After the in-service activity, the participants were given the Teacher Attitude of Communicative Handicaps (TACH), the twenty-eight item Likert scale devised by the author.

All participants in the control group (Group B) were kindergarten through sixth grade county school teachers. Thirty-two faculty members were employed for the 719 student population. Of the thirty-two teachers employed, twenty-seven were given only the TACH with no in-service activity.

Research Design

A traditional post-test only, equivalent group design was used in the study. Group A was presented the in-service activity and then given the TACH. Group B was given only the TACH with no in-service activity. The effect of the in-service activity was determined by statistically comparing scores of the TACH between the two groups using the Mann-Whitney U Test.

The Program: Communication Disorders Workshop

A forty-five minute Communication Disorders Workshop was presented with the following three goals: (1) increase awareness of the elementary population of communicatively disordered children; (2) create better understanding and insight into the unique educational problems these children may experience; and (3) create more accepting attitudes toward communicatively disordered children in the regular classroom.

First, the participants in Group A experienced nine simulations of communication disorders. Each simulation is described in Appendix A.

Next, brief introductory information was presented via use of transparencies and an overhead projector. The transparencies showed overall incident rates of communication disorders; breakdown of incident rates for each particular disorder (i.e., language, voice, articulation, fluency, and hearing) and percentages of associated academic problems. (See Appendix B for a summary of information presented).

A ten minute segment of the film: Introduction to Speech and Language Disorders produced by Iowa State University (1976) was viewed. The participants viewed children with the following disorders: language, voice, articulation and stuttering.

Information was presented concerning the interrelatedness of communication disorders and possible educational problems, as in the areas of listening, reading, spelling, and disturbed behavior. The importance of identifying communicatively disordered children to

prevent unnecessary academic, social, and economic failures was also stressed.

As an active participation exercise, the teachers were divided into five groups in order to compete in a teacher attitude and knowledge game dealing with communication disorders. A leader for each group was decided by the participants. Ten minutes were allowed to complete as many of the twenty questions as possible. Each question had four possible responses: most appropriate, appropriate, less appropriate, and inappropriate. Each response had a weighted score from +2 (most appropriate), +1 (appropriate), -1 (less appropriate), and -2 (inappropriate). As soon as the group decided upon an answer, the leader signaled by raising a hand. The question was assigned a score and the group was given the next question. The same process occurred in all the groups. After the ten minute time restriction, scores were tallied and the highest scoring group received a reward. (See Appendix C for the questions used).

The final part of the workshop was devoted to the role of speech-language pathologists in the elementary school. The roles discussed included: (1) providing diagnostic evaluations to determine the nature of the problem; (2) providing individual and/or group therapy sessions for each disordered child; (3) cooperation with the other school and health specialists; (4) working with the classroom teacher in an effort to implement and generalize remediation procedures for the child; and (5) parent counseling. It was stressed that it was most valuable for the speech-language pathologist to be a "participant," i.e., becoming an integral part of the on-going educational program in each school served.

In conclusion, copies of suggestions for classroom teachers were given to all participants. The information dealt with (1) general suggestions to keep in mind when working with communicatively disordered children; and (2) specific suggestions to use for particular disorders. For example, specific suggestions were given to use with hearing impaired children, articulation disordered children, language disordered children, dysfluent children, and voice disordered children. (See Appendix D for a copy of the materials). The administration of the twenty-eight item Likert scale was devoted to the last ten minutes of the workshop.

The control group, which consisted of twenty-seven teachers, was given the TACH. The author attended the scheduled 3:00 p.m. teachers' meeting and administered the TACH during the first ten minutes of the meeting. The control group received no in-service activity. They were instructed to indicate a response as best they could for each of the twenty-eight items. No questions were permitted during the testing time.

Instrumentation

This study used an attitudinal scale to measure the effectiveness of the workshop and subsequent attitude change. The development of TACH resulted from modifications of the Scale of Educators' Attitudes Toward Speech Pathology and Audiology (SEASP) (Phelps and Koenigsknecht, 1977). Consultation with speech-language pathologists, regular and special educators as well as educational administrators led to several revisions and additions/deletions in the TACH. The TACH consisted of twenty-eight statements with a four

point Likert scale of strongly agree (SA); agree (A); disagree (D); and strongly disagree (SD); in which the participants were instructed to indicate their preference. Twelve of the statements were rated as positive, i.e., the respondent would be indicating a more favorable attitude by indicating either the strongly agree or agree categories. Positive statements were numbers 3, 5, 7, 8, 10, 11, 12, 13, 14, 19, 21, 22, and 28. Fifteen of the statements were rated negative, i.e., the respondent would be indicating a more favorable attitude by indicating either the strongly disagree or disagree categories. Negative statements were numbers 1, 2, 4, 6, 9, 15, 16, 17, 18, 20, 23, 24, 25, 26, and 27.

Pilot Study

A pilot test of the attitude scale and workshop was conducted at Appalachian State University. The workshop and scale was presented to an undergraduate class in the Department of Speech Pathology and Audiology. The scale above was given again to a class in the Department of Administration, Supervision and Higher Education. The choice of these groups was based upon the willingness of the administration to cooperate as well as accessibility to the author.

As a result of the workshop pilot study, time changes were modified in the workshop. Instead of using a tape recording of different communication disorders, it was decided that a segment from the film: Introduction to Speech and Language Disorders would be more effective in terms of illustrating each disorder. The lecture parts of the workshop were also given more time as well as the simulations and teacher game.

In terms of the attitude scale, several modifications were made. The suggestions received from the pilot study groups included only comments to improve the clarity of instructions and eliminate item ambiguity. A copy of the final scale used in the study is included in Appendix E.

Collection of the Data

The administrators of the Cabarrus County School System were contacted by the author seeking their cooperation in the study. The project was fully explained to the principals of each school and permission to carry out the project was obtained.

The author conducted the Communication Disorders Workshop and then administered the TACH to the experimental group at 2:45 p.m. on March 2, 1982. The author was given permission to present the TACH to the control group at 3:00 p.m. on March 3, 1982.

Statistical Procedures

For the purpose of treating and analyzing the data obtained from the study, the Mann-Whitney U Test, a non-parametric test used with independently drawn random samples, was employed. The 0.05 level of significance was used as criterion for determining significance of the data.

CHAPTER IV

Results of the Study

Introduction

The focus of this study was to determine if an in-service educational activity created more favorable attitudes in elementary school teachers as compared to teachers' attitudes who did not receive the in-service activity. The Teacher Attitude of Communicative Handicaps (TACH) was administered to the experimental group as a post-test while the control group was administered only the TACH. This group received no in-service educational activity. Data was collected from both groups and was then statistically interpreted, analyzed and tabulated.

Statistical Analysis of Data

For purposes of this study, statistical significance was established at the .05 level. Best (1977) indicated that if the significance of the difference exceeds the .05 level, the researcher may conclude that chance fluctuations in the estimate will account for such a difference in as many as five out of 100 cases.

Collection of the data was obtained by using the twenty-eight item Teacher Attitude of Communicative Handicaps (TACH). Respondents were asked to indicate their attitude with respect to each statement. A four point Likert scale was used to assign weighted

values to each of the twenty-eight items ranging from strongly agree to strongly disagree, i.e., 1 = strongly agree, 2 = agree, 3 = disagree, and 4 = strongly disagree. A comparison between the experimental and control groups' responses on each of the twenty-eight items was calculated by means of the Mann-Whitney U Test.

The Mann-Whitney U Test was used to determine whether the distributions of scores in two independent groups were drawn from two identical population distributions (Shavelson, 1981). If the figures of the population distributions were similar, the U test could be used to examine the null hypothesis that the two populations were identical with respect to their central tendency. The U test, a non-parametric or distribution free test, was appropriate for the ordinal data used in this study (Ferguson, 1966).

Null Hypothesis

There is no significant difference between attitudes of teachers who participated in the in-service educational activity on communication disorders as compared to those teachers who did not receive the in-service educational activity.

Discussion of Table 2

Table 2 presents the statistically analyzed data collected from both the experimental and control groups. An explanation of the information found in Table 2 is as follows: (1) Column 1 states each of the twenty-eight items found on the TACH and their ratings such as positive (+) or negative (-); (2) Column 2 designates the responses of the experimental group (Exp) and control group; (3) Column 3 illustrates each option that was available to each

Table 2

Results of the Statistical Analysis

Question	Group	OPTIONS SA	OPTIONS A	OPTIONS D	OPTIONS SD	$\bar{X}$	Mann-Whitney U Test	Z	P
Speech therapy causes a child to become self-conscious about being different from his/her peers. (-)	Exp	3 7.0%	8 18.0%	20 46.0%	13 30.0%	32.8	453.5	-1.82	0.069
	Control	0 0.0%	1 4.0%	15 56.0%	11 41.0%	41.2			
Teachers would rather have a trainably mentally handicapped child in their classroom rather than a communicatively disordered child. (-)	Exp	2 5.0%	10 23.0%	20 46.0%	12 27.0%	36.1	588.0	-0.08	0.939
	Control	2 7.0%	4 15.0%	15 56.0%	6 22.0%	35.8			
Speech therapy improves a communicatively disordered child's self-concept. (+)	Exp	22 50.0%	21 48.0%	0 0.0%	1 2.0%	33.2	472.0	-1.66	0.097
	Control	8 30.0%	18 67.0%	1 4.0%	0 0.0%	40.5			
The extra time/attention that communicatively disordered children require of the regular classroom teacher is to the detriment of his/her peers. (-)	Exp	0 0.0%	9 21.0%	24 56.0%	10 23.0%	39.7	398.0	-2.46	0.014*
	Control	1 4.0%	10 37.0%	15 57.0%	1 4.0%	28.7			

Table 2 (continued)

Question	Group	OPTIONS SA	A	D	SD	$\bar{X}$	Mann-Whitney U Test	Z	P
Communicatively disordered children are well-behaved in the classroom. (+)	Exp	3 7.0%	10 23.0%	28 65.0%	2 5.0%	35.3	573.0	-0.11	0.916
	Control	0 0.0%	9 33.0%	16 59.0%	2 7.0%	35.8			
Teachers would rather have a gifted and talented child in their classroom rather than a communicatively disordered child. (-)	Exp	13 30.0%	15 34.0%	15 34.0%	1 2.0%	35.9	588.5	-0.07	0.945
	Control	8 30.0%	9 33.0%	9 33.0%	1 4.0%	36.2			
Language is the method of expressing one's self either verbally or in writing or gesture. (+)	Exp	21 49.0%	20 47.0%	2 5.0%		36.2	550.0	-0.42	0.675
	Control	14 52.0%	13 48.0%	0 0.0%		34.3			
Early treatment of communication disorders improves the child's success in speech therapy. (+)	Exp	25 57.0%	19 43.0%	0 0.0%		33.1	467.0	-1.72	0.085
	Control	10 37.0%	16 59.0%	11 4.0%		41.0			
Speech-language pathologists are not successfully treating elementary school children with voice problems. (-)	Exp	1 2.0%	10 24.0%	22 52.0%	9 21.0%	34.0	526.0	-0.58	0.563
	Control	0 0.0%	3 11.0%	20 74.0%	4 15.0%	37.0			

Table 2 (continued)

Question	Group	OPTIONS SA	OPTIONS A	OPTIONS D	OPTIONS SD	$\overline{X}$	Mann-Whitney U Test	Z	P
Communicatively disordered children should be given every opportunity to take part in regular classroom activities. (+)	Exp	27 61.0%	17 39.0%	0 0.0%		33.0	441.0	-2.08	0.037
	Control	10 37.0%	16 59.0%	1 4.0%		42.0			
The concept of "acceptance" is more evident in a classroom when a communicatively disordered child is a member. (+)	Exp	12 29.0%	26 62.0%	4 10.0%		31.0	392.0	-2.52	0.012*
	Control	2 7.0%	18 67.0%	7 26.0%		41.4			
Being placed in a regular classroom improves a communicatively disordered child's chances for academic success. (+)	Exp	13 32.0%	25 61.0%	3 7.0%		30.4	386.5	-2.51	0.012*
	Control	2 7.0%	20 74.0%	5 19.0%		41.0			
Speech therapy helps the communicatively disordered child relate better to his/her peers. (+)	Exp	22 50.0%	22 50.0%	0 0.0%		33.0	462.0	-1.81	0.070
	Control	8 30.0%	18 67.0%	1 4.0%		41.0			
Regular classroom teachers need training in the identification of communication disorders. (+)	Exp	17 39.0%	27 61.0%	0 0.0%	0 0.0%	34.0	500.0	-1.30	0.194
	Control	8 30.0%	16 59.0%	2 7.0%	1 4.0%	39.0			

Table 2 (continued)

Question	Group	OPTIONS				$\bar{X}$	Mann-Whitney U Test	Z	P
		SA	A	D	SD				
Removing children from the classroom periodically during the week for speech therapy is not an effective method of delivering speech therapy. (-)	Exp		3 7.0%	23 54.0%	17 40.0%	39.0	432.5	-2.08	0.038*
	Control		3 11.0%	20 74.0%	4 15.0%	30.0			
Communicatively disordered children do not complete their assignments as well as their classmates. (-)	Exp	1 2.0%	19 44.0%	19 44.0%	4 9.0%	35.0	549.0	-0.42	0.670
	Control	1 4.0%	10 37.0%	13 48.0%	3 11.0%	37.0			
Teachers would rather have a physically handicapped child in their classroom rather than a communicatively disordered child. (-)	Exp		4 9.0%	29 67.0%	10 23.0%	36.0	550.5	-0.43	0.666
	Control		4 15.0%	17 63.0%	6 22.0%	34.0			
A communicatively disordered child's classroom behavior generally requires more patience from the teacher. (-)	Exp	6 14.0%	32 73.0%	5 11.0%	1 2.0%	34.0	516.5	-1.07	0.285
	Control	5 19.0%	13 48.0%	7 30.0%	2 7.0%	39.0			

Table 2 (continued)

Question	Group	OPTIONS				$\bar{X}$	Mann-Whitney U Test	Z	P
		SA	A	D	SD				
Speech-language pathologists should help teachers understand how speech therapy can improve communication disorders. (+)	Exp	10 23.0%	33 77.0%			38.0	479.0	-1.54	0.123
	Control	11 41.0%	16 59.0%			32.0			
Regular classroom teachers possess the expertise necessary to work with communicatively disordered children. (-)	Exp		5 11.0%	30 68.0%	9 21.0%	34.0	521.0	-0.987	0.328
	Control		5 19.0%	11 41.0%	11 41.0%	39.0			
Speech therapy helps a child perform better in academic subjects. (+)	Exp	5 12.0%	33 77.0%	4 9.0%	1 2.0%	37.0	505.5	-1.14	0.254
	Control	7 26.0%	17 63.0%	2 7.0%	1 4.0%	33.0			
Teachers need training in methods of working with communicatively disordered children in their classroom. (+)	Exp	10 23.0%	34 77.0%	0 0.0%		35.0	540.0	-0.83	0.407
	Control	6 22.0%	18 67.0%	3 11.0%		38.0			
Teachers would rather have an emotionally handicapped child in their classroom rather than a communicatively disordered child. (-)	Exp		3 7.0%	22 50.0%	19 43.0%	36.0	591.0	-0.04	0.968
	Control		1 4.0%	15 57.0%	11 41.0%	36.0			

Table 2 (continued)

Question	Group	OPTIONS				$\bar{X}$	Mann-Whitney U Test	Z	P
		SA	A	D	SD				
A teacher who uses exaggerated lip movement helps a child with an articulation disorder to speak better. (-)	Exp		16 38.0%	22 52.0%	4 10.0%	35.0	565.0	-0.03	0.978
	Control		10 37.0%	15 56.0%	2 7.0%	35.0			
A communicatively disordered child requires additional time and effort by regular classroom teachers. (-)	Exp	4 9.0%	37 84.0%	3 7.0%		34.0	522.0	-1.17	0.242
	Control	3 11.0%	18 67.0%	6 22.0%		39.0			
It is best to complete a sentence for a child who stutters. (-)	Exp		2 5.0%	24 56.0%	17 40.0%	39.0	415.5	-2.27	0.023*
	Control		5 19.0%	17 63.0%	5 19.0%	29.0			
Stuttering is more common among younger students (K-1) than older students. (-)	Exp	1 2.0%	9 21.0%	28 67.0%	4 10.0%	40.0	363.0	-2.82	0.005*
	Control	1 4.0%	15 56.0%	10 37.0%	1 4.0%	27.0			
Group speech therapy is as effective in correcting communication disorders as individual therapy. (+)	Exp	1 2.0%	21 49.0%	19 44.0%	2 5.0%	34.0	529.0	-0.69	0.491
	Control	0 0.0%	12 44.0%	13 48.0%	2 7.0%	37.0			

*Statistically significant at the .05 level.

respondent, i.e., strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD); a breakdown of how many respondents in both groups answered each option; row percentages of each option. It should be noted that row percentages may sometimes not equal 100% because of rounding off of percentages; (4) Column 4 gives the Mean Rank ($\overline{X}$) scores of both the experimental and control groups which is determined by replacing the original responses in Column 3 with number 1, 2, 3, 4. . . . .N. This rank order of scores from lowest to highest reveals how the probability of a particular event, i.e., $U \leq$ some value, can be determined by the ratio of the number of the ways subjects' scores can be rank ordered in that event to the total possible orderings of subjects' scores; (5) Column 5 displays the Mann-Whitney U Test score. To calculate the Mann-Whitney U Test, the scores from both groups are pooled together so that there are $n_1 + n_2 = N$ scores considered together. Second, these N scores are arranged in order of their magnitude regardless of group. Each score, however, is labeled with the group from which it came. Third, a rank is assigned to each score according to its magnitude. A rank of 1 is assigned to the lowest score, a rank of 2 is assigned to the next highest score, and so on, until a rank of N is assigned to the highest score. Fourth, the sum of the ranks for each of the two groups is found and the larger sum, called T_L = larger sum of the ranks, is used. The fifth step is to calculate the U statistic as follows:

$$U = n_L n_S + \frac{n_L (n_L + 1)}{2} - T_L,$$

where n_L = number of subjects in the group with the larger sum ranks, and n_S = number of subjects in the other group; (6) Column 6 shows the conversion of the U into a Z score, Z_u. Reference is made to the Table of Critical Values of U in the Mann-Whitney Test (Downie and Heath, 1974); (7) Column 7 reveals the related probability resulting from the determined Z_u, which is also obtained from the Table of Critical Values of U in the Mann-Whitney. Rejection of the null hypothesis is based upon the size of the experimental and control groups. In this study, $n > 20$, so the sampling distribution of U is approximately normal. Thus, by converting U into a Z_u score and referring to the Table of Critical Values, the decision can be made whether or not to reject the null hypothesis.

Discussion of Results

The analysis of the data revealed that a significant difference at the 0.05 level existed in six of the twenty-eight statements. The questions with significant differences between the experimental and control groups were as follows:

Question 4 - Teachers in the experimental group indicated strong disagreement with the statement that the extra time/attention communicatively disordered children required of the regular classroom teacher was detrimental to peers while teachers in the control group disagreed to a lesser extent.

Question 11 - Teachers in the experimental group tended to strongly agree that the concept of "acceptance" was more evident in a classroom when a communicatively disordered child was a member whereas the control group teachers agreed to a lesser extent.

Question 12 - More teachers in the experimental group agreed more strongly that being placed in a regular classroom improved a communicatively disordered child's chances for academic success.

Question 15 - Although both the experimental group and control group teachers disagreed that removing children from the classroom periodically for speech therapy was not an effective delivery method, the experimental group disagreed more strongly.

Question 26 - Teachers from both the experimental and control groups disagreed that it was best to complete sentences for a child who stuttered, however, the experimental group disagreed to a stronger extent.

Question 27 - The experimental group teachers disagreed with the statement "stuttering was more common among younger students (K-1) than older students." The control group tended to agree with the statement.

CHAPTER V

Summary, Conclusions, Implications and Recommendations

Introduction

Chapter V includes a summary of the study; conclusions drawn from the data; implications of the study based on the results of the statistical analysis of the data; and recommendations for further research.

Summary

The purpose of this study was to determine if in-service educational activities have a significant effect upon attitudes of elementary classroom teachers toward communicatively disordered children.

Literature related to the study was reviewed and reported under six headings: (1) literature related to historical educational acts; (2) literature related to incidence rates of communication disorders; (3) literature related to teacher awareness of communication disorders; (4) literature related to teacher attitudes toward communicatively disordered children; (5) literature related to effects of in-service educational activities; and (6) literature related to the role of the speech-language pathologist and the classroom teacher.

The subjects of this study were two groups of classroom teachers employed in kindergarten through sixth grade county schools. Group A, the experimental group, consisted of forty-four teachers. Group B, the control group, consisted of twenty-seven teachers. Group A received a 45 minute workshop on communication disorders while Group B received no such activity. A traditional post-test only, equivalent group design was used. The data were subjected to the Mann-Whitney U Test, a non-parametric test used with independently drawn random samples.

Conclusions

This study supports much of the existing research concerning the effects of in-service educational activities in creating favorable attitude change. This study indicates that teachers who participated in the in-service educational activity responded more favorably on the Teacher Attitude of Communicative Handicaps (TACH) as compared to teachers who did not participate in the in-service activity. Specifically, teachers who participated in the in-service activity indicated more favorable attitudes in terms of the extra time and attention they need to better help communicatively disordered children. Experimental group teachers agreed that "acceptance" is more evident in a classroom when a communicatively disordered child is a member. Experimental group teachers also strongly indicated that the regular classroom helps a communicatively disordered child's chances for academic success and that removing these children from the regular classroom periodically for speech therapy is an effective delivery model. In regards to the specific disorder

of stuttering, the experimental group of teachers disagreed strongly with the statement "it is best to complete sentences for a child who stutters" and that "stuttering is more common among younger students (K-1) than older students."

It is concluded that the in-service educational activity presented to the experimental group of teachers was indeed effective in creating six significant attitude changes. These attitude differences between the experimental and control groups support the assumption that in-service educational activity programs can modify attitudes of regular classroom teachers toward a realistic acceptance of exceptional children. Conclusions are supported by the fact that use of active participation techniques as a means of creating attitude change is an effective strategy. It may be concluded that the in-service educational activity presented for purposes of this study was effective in creating six attitude differences between the experimental and control group teachers.

Implications

This research project was an attempt to determine if more favorable attitudes of regular classroom teachers toward communicatively disordered children could be enhanced via an in-service educational activity. The findings have several important implications. Teachers' responses to the selected items of the TACH indicated areas in which speech-language pathologists could initiate faculty developmental activities that might result in greater understanding and knowledge of communicatively disordered children. For example, teachers from both groups indicated strongly that speech-language

pathologists should help teachers understand how speech-language therapy can improve communication disorders. Both groups also indicated that they do not possess the expertise necessary to work with communicatively disordered children and that they need training in methods of working with such children in the classroom.

Freeman (1982) found that thirty-four out of fifty (68 percent) of the speech-language pathologists in public school settings throughout North Carolina did not conduct any type of in-service educational activity during the 1981-1982 school year. Speech-language pathologists need to perform this service to faculty members of the schools they serve not only to increase teacher knowledge and understanding of communication disorders but also to emphasize the speech-language pathologist's role and the importance of the speech-language program in schools. As Ainsworth (1956) has stated, it is imperative for the speech-language pathologist to be a participant by making direct contributions to the on-going educational programs in schools they serve.

The findings of this study have implications for improving teacher awareness of communicatively disordered children and their special needs. Identification of such children may help teacher-child interaction as well as better social and emotional adjustment of these children.

Recommendations

Several recommendations for additional studies in the area of teacher attitudes have become obvious to the author. The following are recommendations for future research.

The author recommends a study of the effects of variables such as age, sex, grade level taught, educational level achieved, amount of exposure to communication disorders, and amount of knowledge of communication disorders on teacher attitudes toward communicatively disordered children.

Also, a greater amount of time should be allowed for the implementation of the in-service educational activity. As in this study, only forty-five minutes were allowed to the author to present the in-service program and create possible attitude change. More significant results might be obtained if more than one in-service activity over the course of two to three months are used.

Summary of the Study

It is evident that classroom teachers should have some basic understanding of the etiology of communication disorders as well as rehabilitative procedures used by the speech-language pathologist. The speech-language pathologist should assist the teachers to understand the speech-language program so that the teacher may be more supportive of the speech-language pathologists' work and also assist the communicatively disordered child within the classroom. The in-service educational activity on communication disorders presented for purposes of this study to the experimental group of teachers was effective in increasing teacher knowledge and creating more favorable attitudes as compared to the control group of teachers. The teachers in the experimental group seemed to find the simulations of different communication disorders most enlightening. The teacher game also seemed to highlight enthusiasm and high motivation in the

participants. The author received positive feedback dealing with both of these activities. Increasing teacher knowledge and favorable attitudes towards communicatively disordered children are vital for the education of any communicatively disordered child.

APPENDIX A

Simulations of Communication Disorders

APPENDIX A

Simulations of Communication Disorders

Oral Motor Difficulties I

Purpose: To have you experience problems associated with oral motor disabilities.
Materials: Crackers.
Description: Chew two crackers but do not swallow. Tell your partner your name, address and phone number. Use Complete sentences.

Oral Motor Difficulties II

Purpose: This exercise illustrates oral motor disabilities.
Materials: Water, cups, paper napkins.
Directions: Take a small sip of water. Hold it in your mouth. Do not swallow. Tell your partner the date and time. Use complete sentences, e.g., "The correct time and date is 2:45 p.m., Tuesday, March 2, 1982."

Comprehension Difficulties III

Purpose: This exercise simulates some of the problems that a child with a comprehension disability may experience.
Materials: Tape recorder, cassette tape, different colored tokens.
Description: Turn on tape recorder. Play recording and follow instructions from the Token Test. Rewind tape.

Hearing Impairment IV

Purpose: The purpose of this exercise is to demonstrate the difficulties children with hearing losses experience.
Materials: Cotton balls, tape recorder, cassette tape.
Directions: Turn on tape recorder. Place cotton balls in your ears. Listen to the tape without adjusting the volume. Rewind tape.

Auditory Memory V

Purpose: This exercise is an example of problems with immediate recall.
Materials: Tape recorder, cassette tape.
Description: Turn on tape recorder. Without the assistance of paper and pencil, answer the questions on the tape. Rewind the tape.

Listening Difficulty VI

Purpose: This exercise has you experience problems in sorting out conflicting pieces of information.
Materials: Tape recorder, cassette tape.
Directions: Turn on tape recorder. Listen to the math problems and calculate the answer without using paper or pencil. Rewind tape.

Weak Voice VII

Purpose: This exercise simulates the problem of having a weak voice.
Materials: None.
Description: Have your partner stand ten feet away from you. Take turns telling each other your address, the date, and the time. (Remember to whisper, NO voicing.) Have your partner guess what you have said.

Non-Verbal Communication VIII

Purpose: This exercise simulates the difficulties one may experience in non-verbal communication.
Materials: None.
Directions: Without talking or writing, tell your partner what you plan to eat for lunch or dinner.

Unintelligible Speech IX

Purpose: This exercise simulates some of the frustrations a child with an articulation problem might have.
Materials: None.
Description: Place the palm of your hand firmly against your mouth and say the name of a major city. Have your partner guess what you have said. Repeat it until they get it right.

APPENDIX B

Summary of Information Presented Via Overhead Transparencies

APPENDIX B

Summary of Information Presented Via

Overhead Transparencies

I. Discussion of overall incidence of Communication Disorders in the elementary school population.

II. Breakdown of particular incident figures for each of the following disorders:

A.	Articulation	(47.0%)
B.	Language	(46.7%)
C.	Fluency	(3.9%)
D.	Voice	(2.3%)

III. Discussion of associated academic problems communicatively disordered children may have:

A.	Reading problems	(33.9%)
B.	Writing problems	(5.6%)
C.	Mathematic problems	(5.0%)
D.	Spelling problems	(6.8%)

APPENDIX C

Questions Used for the Teacher Game Activity

APPENDIX C

Questions Used for the Teacher Game Activity

1. The way to help a stutterer when he is trying to say a word is:
   a. time him
   b. leave him alone
   c. say it for him
   d. criticize

2. The best place to seat a hearing-impaired child in the classroom is:
   a. close enough to you so he can hear your voice loudly
   b. close to the front of the room with a full advantage of seeing the board
   c. beside his/her best friend
   d. anywhere -- the hearing aid will compensate

3. Providing proper language stimulation and vocabulary building activities will help the _____ child.
   a. deaf
   b. articulation disordered
   c. language disordered
   d. hard-of-hearing

4. It is important that the child with a _____ or _____ disorder have a medical examination.
   a. hearing, articulation
   b. stuttering, hearing
   c. language, voice
   d. voice, hearing

5. If a communicatively disordered child does not complete his/her academic classwork, you would:
   a. show him how disturbed this makes you
   b. encourage him to work faster
   c. be firm and urge him to keep trying harder
   d. accept what he has attempted to do

6. A child with normal intelligence and a mild hearing loss constantly asks you to repeat information. You would:
   a. become irritated at this behavior
   b. seek another professional's advice about his/her behavior
   c. keep repeating information upon his/her request
   d. refer the student to the speech-language pathologist

7. A teacher's major contribution to voice improvement may be in his/her ability:
   a. to become "tuned in" to voice quality and recognize deviant voice behaviors
   b. to quickly and consistently refer to the speech-language pathologist
   c. to correct the vocal problem him/herself
   d. to make a quick medical referral

8. If a child has a breathy voice, it would be best for you to:
   a. see if his breathiness disappears when he talks louder
   b. refer him/her to the speech-language pathologist
   c. make a medical referral
   d. call parents and see if child is sick or has always talked like that

9. You would become most concerned about a fifth grader's speech if he/she said:
   a. "wun wabbit" for "run rabbit"
   b. "mover and faver" for "mother and father"
   c. all blends incorrectly (i.e., re, fl, sl, gr)
   d. "wewo wemon" for "yellow lemon"

10. You would become most concerned about a kindergartener's speech if he/she said:
    a. "m-m-m-my n-n-n-name is B-B-Baker"
    b. "wun wabbit" for "run rabbit"
    c. "sue" for "zoo"
    d. all his th words incorrectly

11. Which person would least likely have an operation removing the larynx and vocal folds:
    a. newborn infant
    b. 65 year old adult
    c. 35 year old adult
    d. 10 year old child

12. A child who has difficulties in the ability to relate concepts presented visually will probably have problems in which academic areas:
    a. reading, math
    b. English, science
    c. writing, spelling
    d. math, science

13. A tearful child comes to you. His/her peers have been making fun of his/her speech. You would:
    a. hear him/her out and then refer to a school psychologist
    b. comfort the child and tell him/her how sorry you are
    c. talk freely about his/her communication difference without feeling sorry
    d. give a class presentation discussing communication disorders

14. A child with a language disorder is having difficulty answering your question out loud in class. You would:
    a. say "think about what you want to say before you say it"
    b. ask him to correct him/herself
    c. overlook his/her difficulty and call on another student
    d. say it for him/her

15. Speech therapy may help a child perform better in his/her:
    a. academic subjects
    b. interpersonal relationships
    c. family relationships
    d. overall educational program

16. Communicatively disordered children may perform worse in academic subjects because:
    a. they always have a low potential for learning
    b. they are not capable of functioning at an accelerated rate
    c. it is expected of them
    d. they are not receiving specialized remediation in their weak areas

17. A child will understand communication disorders better when:
    a. the teacher discusses this topic
    b. a communicatively disordered child is in their classroom
    c. a communicatively disordered person is in the family
    d. he/she sees a film concerning communication disorders

18. Do not compare the communicatively disordered child with others because:
    a. you will make him/her feel inferior
    b. he/she will begin to feel "uptight" when communicating
    c. he/she will progress as best he/she can on the basis of what he/she is capable of doing
    d. you will make him/her self-conscious

19. The speech-language pathologist at your school keeps to her/himself and you would like information about a communicatively disordered child. You would:
    a. go to the principal and ask for advice
    b. wait and see if the speech-language pathologist presents a workshop
    c. go directly to the speech-language pathologist and ask for information
    d. discuss the situation with other teachers

20. A child with a severe stuttering problem will not participate in oral activities. You would:
    a. demand that he/she participate
    b. interrupt him/her and ask another child to help
    c. encourage him/her no matter how long it takes
    d. make him/her perform orally in front of the class for punishment

Answer Code

	+2	+1	-1	-2
Q 1.	b	a	c	d
Q 2.	b	a	c	d
Q 3.	c	d	b	a
Q 4.	d	a	c	b
Q 5.	d	b	c	a
Q 6.	d	b	c	a
Q 7.	a	b	c	d
Q 8.	b	c	d	a
Q 9.	c	d	b	a
Q 10.	a	b	c	d

	+2	+1	-1	-2
Q 11.	a	d	c	b
Q 12.	a	d	c	b
Q 13.	c	d	a	b
Q 14.	a	b	d	c
Q 15.	d	a	b	c
Q 16.	d	c	b	a
Q 17.	c	b	a	d
Q 18.	c	d	b	a
Q 19.	c	a	d	b
Q 20.	c	b	a	d

APPENDIX D

Suggestions For Classroom Teachers

APPENDIX D

Suggestions For Classroom Teachers

The following is a list of suggestions to keep in mind when working with a communicatively handicapped student.

-- when a communication problem is suspected, find out if the student is receiving special help.
-- if he is not receiving therapy, refer him (every school must provide needed services).
-- if he is receiving therapy, contact the speech clinician working with him and ask what they are doing and what you may do to help.
-- help the student to feel relaxed in class.
-- do not overprotect the student from speaking.
-- encourage the communicatively handicapped student to talk and take part in discussions.
-- try to reduce any anxiety over speaking.
-- do not allow others to tease or ridicule him.
-- your speech is a model that will be copied; use it well.
-- watch for signs of any physical defects or illness which might cause or contribute to a communication impairment.
-- if an associated problem is suspected, refer for special evaluation (give specific reasons for referral).
-- know that a communication impairment does not automatically mean that the student is slow or dumb.
-- talk freely about the student's communication difference without finding fault, showing disappointment, or feeling sorry for him.
-- do not ask a communicatively impaired student to correct himself or try harder without being requested to do so by the speech clinician.
-- do not show impatience or disapproval when he does not speak well.
-- as with all students, do not compare the communicatively impaired student with others - allow him to progress on the basis of what he can do.
-- do not give non-professional advice, e.g., "Take a deep breath before you speak" or "Think about what you want to say."
-- emphasize vocabulary in class.
-- don't allow poor speech as an excuse for poor academics.
-- do not interrupt the student when talking.
-- do not talk for the student whenever communicative difficulty is evident.
-- occasionally allow the communicatively impaired student to do non-oral work in which he may excel, e.g., art, writing, etc.
-- do not allow unnecessary excuses but do not give impossible tasks either.

The Hearing Impaired Child
Suggestions for Teachers

1. When speaking in the classroom avoid using a loud voice. Lip movements should not be over-exaggerated, and the speaker's face should be clearly visible to the child.
2. Be sure the child has had a medical evaluation or has had his hearing checked by the school. These checkups give information about physical condition of the ears and the level of hearing.
3. Encourage the child to participate in extra-curricular activities in and outside of school.
4. Make sure the classroom is well-lighted so that the child has every opportunity to see and hear what is going on around him.
5. Seat the child at an advantage in the classroom and make sure he can see the board. Allow him to turn around at any time to ask another child a question.
6. Make the other children in the class aware of the child's handicap.
7. Pay special attention to developing the child'd language. Take advantage of every opportunity to teach the child a new word; the hearing impaired child has to be taught every new written or spoken word.

The Articulation Disordered Child
Suggestions for Teachers

1. Watch for physical defects that might be contributing factors.
2. Establish good relations with the child.
3. Be a good model of correct speech.
4. Stimulate conversation.
5. Concentrate on positive reinforcement for correct speech.
6. Do not reinforce unacceptable speech.

The Language Disordered Child
Suggestions for Teachers

1. Do not interrupt the child when he speaks - let him practice and experience.
2. Provide proper language stimulation.
3. Provide activities to build vocabulary.
4. Expand the child's sentences.
5. Paraphrase what you say.

6. Do not criticize his use of language.
7. Use positive reinforcement when he uses language correctly.

The Disfluent Child
Suggestions for Teachers

1. Do not label the child a stutterer.
2. Do not criticize or call attention to the child's atuttering but accept his speech just as it is.
3. Do not show obvious concerns about his stuttering.
4. Build up his confidence and encourage him to be comfortable with speaking.
5. Look in his eyes when he speaks.
6. Try to avoid the kind of situations that make the symptoms more severe and provide opportunity for situations that minimize the symptoms.

The Voice Disordered Child
Suggestions for Teachers

1. Be sure the child has had a medical examination.
2. Keep the child from straining his voice in any way; i.e., talking, shouting, or screaming in an unnatural range; coughing or clearing the throat excessively; talking while other loud noise is present.
3. Inform significant others in the school of the child's voice problem.
4. Provide the most relaxing and pleasant environment.
5. Be a good model; use your "best" voice.

APPENDIX E

Teacher Attitude of Communicative Handicaps

APPENDIX E

Teacher Attitude of Communicative Handicaps

This is an attitude scale on communication disorders developed for the regular classroom teacher. Please read the following statements carefully and then indicate your response by circling one of the categories: Strongly Agree = SA; Agree = A; Disagree = D; Strongly Disagree = SD.

1. Speech therapy causes a child to become self-conscious about being different from his/her peers.
   SA A D SD
2. Teachers would rather have a trainably mentally handicapped child in their classroom rather than a communicatively disordered child.
   SA A D SD
3. Speech therapy improves a communicatively disordered child's self-concept.
   SA A D SD
4. The extra time/attention that communicatively disordered children require of the regular classroom teacher is to the detriment of his/her peers.
   SA A D SD
5. Communicatively disordered children are well behaved in the classroom.
   SA A D SD
6. Teachers would rather have a gifted and talented child in their classroom rather than a communicatively disordered child.
   SA A D SD
7. Language is the method of expressing one's self either verbally or in writing or gesture.
   SA A D SD
8. Early treatment of communication disorders improves the child's success in speech therapy.
   SA A D SD
9. Speech-language pathologists are not successfully treating elementary school children with voice problems.
   SA A D SD
10. Communicatively disordered children should be given every opportunity to take part in regular classroom activities.
    SA A D SD
11. The concept of "acceptance" is more evident in a classroom when a communicatively disordered child is a member.
    SA A D SD
12. Being placed in a regular classroom improves a communicatively disordered child's chances for academic success.
    SA A D SD
13. Speech therapy helps the communicatively disordered child relate better to his/her peers.
    SA A D SD

14. Regular classroom teachers need training in the identification of communication disorders.
    SA A D SD
15. Removing children from the regular classroom periodically during the week for speech therapy is not an effective method of delivering speech therapy.
    SA A D SD
16. Communicatively disordered children do not complete their academic assignments as well as their classmates.
    SA A D SD
17. Teachers would rather have a physically handicapped child in their classroom rather than a communicatively disordered child.
    SA A D SD
18. A communicatively disordered child's classroom behavior generally requires more patience from the teacher.
    SA A D SD
19. Speech-language pathologists should help teachers understand how speech therapy can improve communication disorders.
    SA A D SD
20. Regular classroom teachers possess the expertise necessary to work with communicatively disordered children.
    SA A D SD
21. Speech therapy helps a child perform better in academic subjects.
    SA A D SD
22. Teachers need training in methods of working with communicatively disordered children in their classroom.
    SA A D SD
23. Teachers would rather have an emotionally handicapped child in their classroom rather than a communicatively disordered child.
    SA A D SD
24. A teacher who uses exaggerated lip movement helps a child with an articulation disorder to speak better.
    SA A D SD
25. A communicatively disordered child requires additional time and effort by regular classroom teachers.
    SA A D SD
26. It is best to complete a sentence for a child who stutters.
    SA A D SD
27. Stuttering is more common among younger students (K-1) than older students.
    SA A D SD
28. Group speech therapy is as effective in correcting communication disorders as individual therapy.
    SA A D SD

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