JACKSON, SARA CATHERINE. Preschool Training for Deaf and Hard of Hearing Children in Guilford County, North Carolina. (1969) Directed by: Dr. Lawrence M. Vanella. pp. 58

The importance of preschool education has long been recognized by educational authorities and conferences concerning education of the deaf. The reported consensus was that early identification, preschool training, and parental counseling are not only essential for a child developing to his capacity, but that the effect of the lack of specialized preschool training is intensified as the handicapped child increases in chronological age.

Deaf children in Guilford County, North Carolina were offered no preschool educational training prior to September, 1967. The alternatives offered were unsatisfactory, thus plans were formulated for the development of PATH School, Inc.

The purposes and goals of the PATH School were: to provide opportunities for the development and improvement of communication skills of preschool hearing-impaired children, counsel the parents of enrolled children, and educate the community concerning the needs of the deaf and hard of hearing. Available curricula for training programs for the hearing impaired were not applicable to the problems presented by the students at PATH School. Since the curriculum presented was devised for profoundly deaf preschool children, a "trial and error" method was employed and included language and speech, auditory and sense training, and reading readiness. Suggestions for improvement and expansion of the PATH School and similar programs included: (1) a physical plant designed for the school activities;

(2) increased school staff and supportive personnel; (3) materials, equipment, and supplies needed; and (4) extensive research efforts directed towards preschool programs for hearing-impaired youngsters.

PRESCHOOL TRAINING FOR DEAF AND HARD OF HEARING CHILDREN IN GUILFORD COUNTY, NORTH CAROLINA

by

Sara C. Jackson

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Thesis Adviser

APPROVAL SHEET

This thesis has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

Thesis Adviser Lawrence Carrillo

Oral Examination Committee Members Thomas L. Tedford

Herman Middleton

Eugene E. McDowell

April 28 1969
Date of Examination

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FACTORS LEADING TO THE ESTABLISHMENT OF PATH SCHOOL, INC.

Introduction

PATH School, Inc. was established in September, 1967, to more fully meet the needs of the hearing impaired population of Guilford County, North Carolina, and to provide systematic training especially for preschool children with hearing impairments. The name PATH is an abbreviation for Progressive Advancement Through Hearing.

A curriculum to meet the needs of the children and to achieve the goal implied by the name of the school was developed by the trial and error method due to the lack of standardized curriculum guides for preschool programs. The purpose of this study is to present the curriculum at PATH School which may be employed as a guide for the development of similar programs.

The idea for the training center was conceived during the month of June, 1967. At that time a deaf or hard of hearing child residing in Guilford County, North Carolina, had several alternatives for education: (a) he could wait until he was six years of age for enrollment in one of the two residential state schools for the deaf, (b) he could go out-of-state for enrollment in a preschool program, or (c) he could be transported to one of two preschool programs in North Carolina. Since (a) awaiting enrollment meant a waste of valuable learning and developmental

time, (b) out-of-state enrollment was extremely financially burdensome to his family, and (c) in-state preschools were great distances from his home for daily transportation, the reason for establishing a Guilford County school was tentatively established.

Education of the Deaf (Summarized)

The history of the education of the deaf dates to the time of Aristotle, who stated that sound production (language) was directly proportional to educational achievement. Aristotle's influence on educational prospects for the deaf continued throughout medieval times. Since his thoughts were quoted out of context, the term "dumb" became synonomous with "stupid".[1] According to the Justinian Code, the deaf were considered incapable of functioning in normal society, thus not only was their education restricted but they were denied rights and responsibilities.

Language for the Deaf

Bede (Seventh Century) recorded the work of the Bishop John of York who instructed a deaf youth to speak. In the Sixteenth Century, Cardano (Italy) proposed that the deaf could acquire language by associating objects with words and he devised a manual alphabet. His work inspired others such as Ponce de Leon, Pernaud, Bonet, and Delgarno who initiated methods of teaching the deaf in other countries; the first

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[1] Harry J. Baker, Introduction to Exceptional Children. (New York: The Macmillan Company, 1953), p. 116.

book concerning methods of teaching the deaf was written by Bonet. The first emphasis on early childhood education was suggested by Delgarno.[2]

The controversy concerning methods of instructing the deaf in language seemed to stem from the Eighteenth Century; del 'Epee founded a public school in France based on a manual method (sign language) and Heinicke founded a school in Germany based on an oral approach, i.e., teaching the deaf to verbalize language. To this date argument concerning the approach offering the greatest benefit to the deaf continues. Even attempts at compromise such as the combined method (oral and manual) and cued speech (symbols presented for homophonous sounds) have failed to end the controversy.

Although several efforts were made to establish schools for the deaf in the colonial United States, most deaf children were taught by their parents or sent to Europe for instruction. The first permanent school for the deaf was established in Hartford, Connecticut in 1817; the heirs of the founder, Thomas Gallaudet, continued an interest in the deaf and founded Gallaudet College before the Civil war.[3] The manual method of instruction, patterned after the school in Hartford, continued until 1867 when the Clarke Institute for the Deaf (Northampton, Massachusetts) established the use of the oral method.[4]

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[2] Ibid., p. 117.

[3] Ibid., p. 117-18.

[4] Ibid., p. 119.

The controversy in methodology employed persists to the present time, research efforts not withstanding.

> Despite the assent with which "research" is regarded in the United States by teachers and administrators of educational programs for the deaf, major efforts have yet to be made by research centers and systematic research investigators to control, define and effectively describe the teaching-learning process, administrative and supervisory activities and organizational patterns; parents-school relationships; the growth and determination of scholastic and vocational choices; strengths and weaknesses of the types of educational learning, methodology and materials; or any of the more important techniques, attitudes, knowledge and content which is basic to the education of the deaf child.[5]

Connor states that the "quantity and quality of research in the education of deaf children remains disappointingly low and its application in the instructional realm is almost nonexistent."[6] The bulk of the research effort seems to be in the areas of psychological and audiological assessment, preparation of personnel, audio-visual aids, and programmed learning. Many of the important works are based on the practical aspect and consist of a description of experiences; two of these include Groht's approach to teaching language by the natural method and Harris' suggestions for aiding the child to acquire language. Other materials available deal with the subject of parent attitudes toward the child and his handicap.

While little agreement exists between proponents of various methods of teaching language to the deaf, there is great harmony among experts as to the age of beginning the language training.

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[5]Leo E. Connor, "Research in the Education of the Deaf in the United States," The Volta Review, LXV (November, 1963), 71.

[6]Ibid., 78.

Significance of Preschool Education

Authorities such as Gesell and Myklebust have stated the importance of the formative years on language acquisition, mental growth, personality development, and social adjustment. Bloom reports, "In terms of intelligence measured at age seventeen on the Thorndike Absolute scale, about fifty per cent of intellectual development takes place between conception and age four."[7] McNeill states that the critical period for language acquisition is between the age of one and one-half and four and declines thereafter.[8] The developmental pattern required for mental growth during the formative years includes language acquisition because it is a forerunner to the acquisition of reading and writing. When this developmental pattern is disturbed such as through sensory deprivation, acquiring other symbol systems is more difficult; when the primary auditory input, hearing, is absent, the result is language ratardation, especially spoken language.[9]

The need for preschool education for hearing impaired youngsters has been formally recognized by the White House Conference on Education (1965), the National Conference on Audiology and Education of Deaf

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[7]Benjamin Bloom, Stability and Change in Human Characteristics, (New York: Wiley and Sons, 1966) cited by Winifred N. Northcott, "Implications of Head Start Research for Educators of the Deaf" Proceedings of International Conference on Oral Education of the Deaf, II, (Washington, D.C.: The Alexander Graham Bell Association for the Deaf, 1967), p. 1219.

[8]David McNeill, "The Capacity for Language Acquisition," The Volta Review, LXVIII (January, 1966), 18.

[9]Helmer R. Myklebust, "Diagnosis, Learning, and Guidance," The Volta Review, LXIV (September, 1962), 363-64.

(1965) and the Advisory Committee Report on Education of the Deaf to the Secretary of Health, Education, and Welfare (1965). The needs stipulated by the conferences were early identification, parent counseling, and specialized preschool education.[10] The National Advisory Committee on Handicapped Children (1968) stated that "...early education can accelerate social and mental development of handicapped children. On the other hand, lack of educational attention to preschool handicapped tends to increase the negative effect of mental and physical disabilities as the child becomes older."[11] Iandoli, Winkler, and Barton report that the task of rehabilitation is the most complicated for patients ranging in age from birth to school age.[12]

Streng and others state that the most influential, important teachers in a young child's life are his parents because of the amount of time spent in the home environment.[13] Ewing and Ewing state that the most important factor is the parents' attitudes toward the child and his hearing impairment.[14] For this reason, the primary instruction

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[10]Northcott, "Implications of Head Start," p. 1218.

[11]United States Department of Health, Education, and Welfare, Office of Education, Special Education for Handicapped Children - First Annual Report, National Advisory Committee on Handicapped Children, (January 31, 1968), p. 35.

[12]Edward W. Iandoli, Pauline Winkler, and Lewis Barton, "The Albany Hospital Conservation of Hearing Center Pre-School Training Program," The Volta Review, LXII (February, 1960), 63-65.

[13]Alice Streng, et al., Hearing Therapy, (New York: Grune and Stratton, 1958), pp. 12-13.

[14]Lady Irene Ewing and Sir Alexander Ewing, New Opportunities for Deaf Children, (London: University of London Press, 1961), pp. 2-5.

in many preschool programs is parent education and guidance. Many programs such as the John Tracy Clinic work only with parents of very young deaf children in order to provide guidance for home training; Mrs. Spencer Tracy, Director, says that the clinic enrolls families, not children.[15]

Groht states clearly the preschool training program goal of developing language skills: "Since one of the great emancipators of the deaf is the ability to use language for communication, for self-expression, for learning, for pleasure, for broadening of ideas, for socialization, for understanding of the world in which they must live, then the teaching of the language arts is probably the most crucial part of the work of the teacher of the deaf."[16]

Harris emphasizes that preschool training aids the child to enjoy his childhood to the fullest and to be prepared to cope with the aspects of his future years. Many deaf children have never been taught to be independent since the only people in their lives prior to enrollment in nursery school are their immediate family members.[17] Frequently parents, unable to cope with the problems of deafness, are over-protec-

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[15]John Tracy Clinic Correspondence Course for Parents of Little Deaf Children (California: The John Tracy Clinic, 1964), Introduction, p. 3.

[16]Mildred A. Groht, Natural Language for Deaf Children, (Washington, D.C.: Alexander Graham Bell Association for the Deaf, Inc., 1958), p. xviii.

[17]Grace Harris, Language for the Preschool Deaf Child, (New York: Grune and Stratton, 1966), p. 17.

tive of their children and fail to satisfy one of their basic needs, discipline.[18]

Additional problems may be presented to the young deaf child by his community. Some are uninterested in his problems, some feel that any handicap is infectious, and some feel pity. Perhaps because no one in the community is as affected by the young deaf child as his parents, it is not surprising that action recommended for habilitation of the deaf has come from individual and groups of parents of deaf children.[19]

Incidence

Because of the apparent lack of facilities for the training of the deaf, in the Spring of 1967 the North Carolina Parents' Association for Hearing Impaired Children proposed the division of the State of North Carolina into eleven geographical regions and the establishment of at least one preschool training program in each region. Existent programs were concentrated in the Piedmont section of North Carolina with the school at Morganton and Wilson on the bordering areas.

The proposed division of the state placed Guilford County in Region III along with ten other counties: Alleghany, Davidson, Davie, Forsyth, Rockingham, Surry, Stokes, Wilkes, Yadkin, and Randolph. The number of preschool children requiring special educational considerations in Region III of North Carolina was unknown.

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[18]Helmer Myklebust, Your Deaf Child--A Guide for Parents, (Illinois: Charles C. Thomas, 1966), pp. 29-30, 34-38.

[19]Harris, Language for Deaf, pp. 6-7.

To obtain an accurate number of preschool hearing-impaired children is virtually impossible because of many factors including familial attitudes toward deafness, unawareness of the problem, and lack of personnel and facilities to gather statistics and deal with the problem. Estimates of the incidence of hearing impairment in the school age population range from three per cent to twenty-one per cent. Silverman and Davis estimate that five per cent of the school age population have hearing levels outside the range of normal and that from one to two of every ten of this group require special educational considerations.[20]

The most recent available population figures for the State of North Carolina are those given in the 1960 census; the number of preschool children was 735,628. If the estimates of Silverman and Davis are projected to this figure, an estimated 36,781 preschool children in North Carolina have hearing levels outside the range of normal thresholds. Further, the number of children who would require special educational considerations would be between 3,678 and 7,356.

The incidence of hearing impairment among preschool children in Guilford County, North Carolina, may be obtained through a projection of the Silverman and Davis estimates applied to the most recent population figures of preschool children. The estimated number of preschool children in Guilford County, North Carolina, as of July 1, 1968, was

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[20]Hallowell Davis and S. Richard Silverman, Hearing and Deafness, (New York: Holt, Rinehart and Winston, Inc., 1962), p. 416.

37,516;[21] therefore, the number of preschool children in Guilford County whose hearing levels are outside the range of normal is 1,876. The number of those who need special education ranges from 188 to 375.

The estimates of the preschool hearing impaired in North Carolina and in Guilford County do not necessarily include those children whose impairment is due to the maternal rubella epidemic of 1963-65. Dr. Edgar Lowell of the John Tracy Clinic in Los Angeles, California, and Dr. George Pratt of the Clarke School in Northampton, Massachusetts, report that applications for enrollment have increased fifty per cent.[22]

Facilities Offering Speech and Hearing Services For the Deaf

Despite the increased number of children with hearing impairment, facilities in North Carolina offering training are very limited. The school-age group is offered more training than any other age group. Two residential schools for the deaf have been established in Wilson and Morganton with the minimum enrollment age of five years. The other preschool programs are in Gastonia, Raleigh, Durham, and Charlotte.

The speech and hearing centers in colleges, universities and hospitals in North Carolina are primarily concerned with diagnoses,

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[21]Guilford County Bureau of Vital Statistics Survey, personal interview with staff, Greensboro, North Carolina, October, 1967.

[22]McCay Vernon, "Multiply Handicapped Deaf Children, the Causes, Manifestations, and Significances of the Problem", Proceedings of International Conference on Oral Education of the Deaf, (Washington, D.C.: The Alexander Graham Bell Association for the Deaf, 1967), p. 2139, and "Clarke School States New Family Classes for Preschool Deaf," Springfield (Massachusetts) Union, February, 1969.

evaluations, and therapy with school age and adult populations. The majority of the caseload is made up of special problems, e.g., aphasia and mongoloidism. Severely hearing impaired youngsters are referred by the centers to other agencies for rehabilitation and education.

Summary

This chapter presented factors which led to the establishment of PATH School, Inc., which are as follows: the need for preschool training especially for hearing impaired children, a sufficient number of deaf and hard of hearing children in Guilford County, North Carolina to warrant the establishment of the special program, and the lack of local facilities to offer speech and hearing services for the deaf. Substantiating the need for the preschool training center in Guilford County led to the beginning of PATH; the following chapters describe the planning and operation of the school.

CHAPTER II

ESTABLISHMENT OF PATH SCHOOL, INC.

Following a meeting of the North Carolina Parents' Association for Hearing Impaired Children in the Spring of 1967, a group of parents and other interested persons in the Greensboro area formulated plans for the organization of a preschool for deaf and hard of hearing. A corporation was established, officers were elected, and members of the board of directors were selected. The corporation forms were drawn up and submitted to assure that the school would be a non-profit organization, thus exempt from state, federal, and local taxes.

The PATH School, Inc. (hereafter referred to as PATH School or PATH) began operation in September, 1967. Students were enrolled during the month and began classes on October 2, 1967. Classes were scheduled for five days per week from 9:00 to 11:30 a.m.

The PATH Corporation guidelines including by-laws and charter papers indicated that the governing body of the corporation and of the PATH School was a board of directors. The board consisted of a maximum of twenty-five persons elected at the annual corporation meeting for a period of one, two, or three years. Officers of the corporation were included on the board as well as representatives from local industries, civic organizations, and professional fields related to the education of the hearing impaired.

Facility

As most of the volunteer staff members were students at the University of North Carolina at Greensboro and the audiometric test equipment was located there, a church adjacent to the campus was chosen to house PATH School. Representatives from the parents' organization approached the church officials who agreed to provide the necessary classroom and office space at no cost for rent or utilities.

The four classrooms chosen were used by the church as the nursery school, thus the furniture and equipment were the appropriate size. Initially one room was equipped with a one-way window for observation; however, windows were installed in two additional rooms before the first term ended. The kitchen was used for preparing snacks and the fellowship hall was used for a recreation area during inclement weather. An outside enclosed playground equipped with play equipment was also provided.

The differences in the church and school activities necessitated the rearrangement of rooms and furniture. Unnecessary fixtures were removed from the classrooms after church and replaced the following weekend. A cooperative agreement was made whereby the church staff assumed the responsibility for preparing the facility for the school and the school staff readied the classrooms for the church.

Finance

PATH School, Inc. began operation with virtually no operating budget or funds. The parents' organization made plans to sponsor money-

making projects and to solicit donations from individuals and groups. Another source of funds was monthly tuition.

Tuition

Tuition per month for comparable programs seemed to range from none to forty dollars. A tuition of five dollars per week was charged for each child at PATH School; however, no child was denied enrollment on the basis of inability to pay. This nominal sum was chosen because of the family's other financial obligations and because of the conviction that more active participation would result from financial obligation.

Civic and Service Organizations

The bulk of the support during the school term of 1967-68 was furnished by individual and group donations of money and supplies. The groups included church classes and organizations and social and service clubs. Members of the groups frequently allocated money to be used for a specific purpose such as the purchase of electronic equipment or classroom supplies.

Staff

The staff of PATH School for the school term 1967-68 consisted of one full-time paid director-teacher, student speech and hearing therapists in the training programs at the University of North Carolina at Greensboro, student practical nurses from Guilford Technical Institute, parents of students enrolled in PATH, and volunteers from the community.

The duties of the director, in addition to teaching responsibilities, were (1) to organize and supervise the curriculum, (2) to supervise the volunteer helpers, (3) to offer parental education and counseling, (4) to assist in procuring financial aid for the operation of the school, (5) to inform the community of the educational, social, and emotional needs of hearing-impaired youngsters, and (6) to establish and maintain school policy and procedure.

Approximately seven student speech and hearing therapists per semester from the University of North Carolina at Greensboro assisted as teachers in the school. Their duties were to work with the director to provide group and individual instruction in all areas to the students, to work with parents for home training needs, and to help plan and supervise school activities.

Two student practical nurses per week attended PATH School for three days a week for three hours a day. Their duties included supervising recreation, assisting with "snack time" and serving as classroom aids.

Two community volunteers attended PATH School one day a week for two and one-half hours per day. Their duties included serving as classroom aids and assisting with the supervision of play activities.

Parents of students enrolled in the school assisted as classroom aids when needed. Regular duties included responsibility for purchasing, preparing, and serving juice and cookies and making materials and supplies needed in the classroom. Several mothers assumed the responsibility of "story telling" and securing necessary materials.

Students

Prerequisites for Enrollment

Prerequisites for the enrollment of a student were (1) parent-teacher interviews, (2) diagnosed or suspected hearing loss, and (3) age range of three through five years.

Parent-director interviews were conducted prior to student enrollment in PATH School. The purposes of the interviews were (1) to secure information concerning the child's developmental and medical history, (2) to determine the level of the child's training by an exploration of previous training (e.g., home training through enrollment in John Tracy Clinic Correspondence Course) (3) to explain school policies and procedures. A more subtle purpose was to determine parental attitudes toward deafness and the child; this was frequently apparent in the replies to the inquiries concerning future educational plans.

Because of the physical plant and limited specialized equipment, the policy was adopted that multiply handicapped children would be excluded. Studies seem to indicate that maximum benefits can be realized if the major handicap is dealt with first and if all members of the group have approximately the same disorder.[1] At the outset an exception to this policy occured when a child diagnosed as visually impaired, brain damaged, and deaf was enrolled.

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[1]Helmer E. Myklebust, Your Deaf Child--A Guide for Parents, (Illinois: Charles C. Thomas, 1966), pp. 24-25.

The policy concerning the minimum age of three years was adopted because of the relative assurance of the completion of toilet training by that age. Because of the lack of another training program, this policy was disregarded and the children were enrolled at an earlier age; the stipulation was made that parents would be responsible for attending the child if he were not toilet trained. The maximum age limit was raised and a six-year old child was enrolled also because of no available training program.

Enrollment and Grouping

The initial enrollment in October, 1967, was ten children; by the end of the school term, six boys and eight girls were enrolled. The fourteen students were divided into three homogeneous groups; the basis for the grouping was chronological age, maturity, previous training, severity of hearing impairment, and assessment of language and speech.

Accurate audiological evaluations of preschool children is difficult to obtain because of the child's short attention span, and his inconsistent responses to test stimuli. A diagnosis of hearing loss may be made by close observation of the child during the presentation of numerous varied sounds such as rhythm instruments, toys, pure audiometric tones, and masking noise.[2] In view of this, the requirement for

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[2]Curtis R. Smith, "Pediatric Auidology," The Maico Audiological Library Series, VI, Report 9 (n.p.: Maico Hearing Instruments, 1968).

enrollment in PATH School was that an audiological examination had been completed or attempted and that a hearing loss was suspected.

Summary

This chapter has presented the sequence of events leading to the establishment of the PATH School and the eventual enrollment of students. The following chapter describes the curriculum employed at the school and suggestions for future preschools.

CHAPTER III

CURRICULUM OF THE PATH SCHOOL, INC.

The purposes and goals of a preschool training program for the deaf and hard of hearing include the following: (1) to develop and improve communication skills, (2) to provide opportunities for social adjustment, (3) to counsel and instruct parents in home training and (4) to educate the community concerning the needs of the deaf. This section describes the curriculum developed to fulfill these purposes and goals.

The lack of a standardized curriculum for the preschools for the deaf and hard of hearing in the United States was reported by Connor.[1] The curricula which have been developed in the United States seem to be designed for education of the moderately hard of hearing, thus are not applicable for teaching severely or profoundly deaf. The majority of the references herein cited have been written by teachers of the hearing impaired and describe their experiences. Watson reported that the most extensive, systematic study in the area of the education of the hearing impaired had been done by the Soviet Union; that research has been concerned primarily with methods, textbooks, and curriculum.[2]

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[1]Leo E. Connor, "Research in the Education of the Deaf," The Volta Review, LXI (November, 1963), 73.

[2]T. J. Watson, "Research in the Education of the Deaf Outside the United States", The Volta Review, LXI (November, 1963), 85.

Student

One goal of education of the deaf in North Carolina is to standardize curricula in the existing preschool programs in cooperation with the state residential schools for the deaf so that students may dispense with the lowest levels of training and advance directly to the first grade. A committee for this purpose was proposed and established at the October, 1967 meeting of the North Carolina Parents' Association for Hearing Impaired.

Groht and other authorities stated that very young children are not mature enough for formal training in lip-reading, speech, and language and that undue pressure should not be placed on the child.[3] Learning takes place at all times, even during snack time and play time. Learning that is informal will lead naturally to the acquisition of academic skills.

Harris suggested that a preschool training program for deaf and hard of hearing children contain three basic courses of study: Language and speech, auditory training and sense training.[4] These overlap and some part of each is contained in the other, but each class should be designed to stress one aspect. The unit approach was used at PATH so that carryover of subject material from one class to another would be effective and illustrate more readily the use of language to the

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[3]Mildred A. Groht, Natural Language for Deaf Children, (Washington, D.C.: A. G. Bell Association for the Deaf, 1958, pp. 10-11, 17.

[4]Grace M. Harris, Language for the Preschool Deaf Child (New York: Grune and Stratton, 1966), pp. 23-27.

students. For example, a unit centered around community helpers was planned as follows: in language and speech, the names of the community helpers were presented along with tools and functions of the trade: doctor--pills, fireman--waterhose, nurse--thermometer, postman--letter, policeman--whistle. Simultaneously the lessons in sense training were concerned with becoming familiar with the function of those tools: blow the whistle, cross the street. The sounds used for auditory training were those usually associated with warnings, such as whistles and sirens on fire trucks, police cars, and ambulances; bells at railroad crossings; and car horns.

Daily Schedule

The fourteen students at PATH were divided into three groups as previously mentioned. A schedule was devised to assure that each group had an opportunity to participate in all daily activities. Many different programs were tried before the adoption of the schedule shown in Table 1. The selection of this schedule was determined by many factors including: (1) fatigue noted particularly for the youngest group which necessitated the placement of the most significant classes early in the day, (2) the most effective and beneficial employment of the professional staff, and (3) the availability of special equipment, materials, and facilities. Each group was enrolled in the same classes with the exception of another recess for the youngest group; this was initiated because many of the members of that group were being toilet trained, thus they required more parental supervision more frequently.

TABLE 1

SCHEDULE OF CLASSES AT PATH SCHOOL

Group I	Group II	Group III
9:00 - 9:15 Opening Exercises	9:00 - 9:15 Opening Exercises	9:00 - 9:15 Opening Exercises
9:15 - 9:45 Auditory Training	9:15 - 9:50 Language and Speech	9:15 - 9:45 Sense Training
9:45 - 10:00 Snack	9:50 - 10:05 Snack	9:45 - 10:15 Auditory Training
10:00 - 10:30 Language and Speech	10:05 - 10:25 Story	10:15 - 10:30 Snack
10:30 - 10:45 Story	10:25 - 11:00 Sense Training	10:30 - 11:15 Language and Speech
10:45 - 11:00 Recess	11:00 - 11:30 Auditory Training	11:15 - 11:30 Story
11:00 - 11:30 Sense Training		

Opening Exercises

The first daily activity for each group was opening exercises or "getting ready for the day". During this period the children were seated in a semicircle around the teacher at the chalkboard. The teacher printed sentences pertinent to that day: "Today is Monday", and "The sun is shining". Whenever possible pictures were drawn to illustrate the words used.

Before the exercises began, the teachers and the parents conferred to determine if some item should be "discussed" in class that day; for example, if the child had a new pair of shoes, the shoes or a reasonable facsimile was drawn in the appropriate color and a sentence was written about the child and the shoes. When each child's name was printed, he stood and was applauded by the group.

The names of the colors were also printed in the proper color which the children in turn matched to the word and to each object in the room bearing that color. The staff tried to avoid using the same hue each time so that the child would be able to recognize the color despite the shade.

Language and Speech

For the first few months of a normal child's life, he begins to develop language by auditory stimuli from his environment. By the time he begins to talk, he knows the names of objects and persons in his environment such as members of his family, parts of his body, articles of clothing, and toys. The deaf child does not receive audi-

tory stimulation; thus, his language is retarded and compensatory avenues must be opened to alleviate this deprivation.

Frequently parents are most concerned about the deaf child's lack of speech but the most important aspect to educators is understanding. He may be taught to "say" any word but he must be taught the meaning of the word simultaneously.[5]

Language taught to a hearing impaired child should be useful, natural vocabulary which enables him to control his environment. Commands such as close the door, open the door, and run are of little interest to children and give them little comprehensive use of language. The appropriate time to teach a new word or phrase is when a situation arises which demands the use of that word or phrase. An example of poor use of a situation is to command the child to open the door after he has taken his seat in class; a more appropriate use is to ask the child to open the door when he needs to go through that door. The key to effective language development seems to be repetition of meaningful language.[6]

Selection of the units studied in language and speech at PATH School was made from materials from Lexington School for the Deaf,[7]

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[5]Harris, Language for Deaf, p. 3.

[6]Groht, Natural Language, pp. 12-13.

[7]Lexington School for the Deaf, "The Utilization of Residual Hearing," New York, n.d. (Mimeographed.)

Central Institute for the Deaf,[8] Fort Lauderdale Oral School,[9] Groht,[10] Harris,[11] and John Tracy Clinic.[12] Since learning progresses from the known to the unknown, conferences with the parents further determined the selection of the units and the order of presentation. The majority of the children's parents had worked with the names of the parts of the face and head; therefore, that was the first unit studied.

Materials used for the initial presentation of this language unit were dolls and hand mirrors. The nose, eyes, and mouth of the doll were pointed out and then these parts were shown to the child in relation to his face. As the group was able to speechread the part studied, additional parts were added and the facial feature was presented without benefit of the props. To assure that the children comprehended the lesson and to offer opportunities in art, the students drew faces and inserted the parts. Commercial materials such as Mr. Potato used later in this lesson were not presented initially because of the importance of emphasizing realistic facial features. The children seemed to enjoy these lessons as they were permitted to explore

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[8]Committee of Teachers at Central Institute for the Deaf, "Language Outline for the Deaf," (Washington, D.C.: American Annals of the Deaf, 1950), pp. 353-378.

[9]Mary K. Van Wyk, "Course of Study Prepared for Fort Lauderdale Oral School" (Nursery School), June, 1963 (Mimeographed).

[10]Groht, Natural Language, pp. 10-19.

[11]Harris, Language for Deaf, pp. 23-80, 106-158, 263-338.

[12]John Tracy Clinic Correspondence Course for Parents of Little Deaf Children, (California; John Tracy Clinic, 1964).

the mouths, tweak noses, and pull hair (gently, hopefully); they were quite fascinated by the gold teeth and freckles of some staff members. As each unit was studied in detail, names were matched to the objects used.

The other units and examples studied during the school term of 1967-68 are listed in Table 2. These units were presented in a fashion similar to the one shown for teaching the facial characteristics. Initially the objects or pictures were matched to identical items and progressed from that point to a recognition of the spoken word. Pictures of each child's family were used in teaching members of the family until the child was able to generalize. The materials used were the actual object whenever possible: dolls, clothing for dolls and people, pictures, crayons, colored balls and yarn, play furniture, fruit, and toys.

Primary emphasis was placed on language development, not on speech production. In the presentation of the units, key words were emphasized and repeated for each student. Expectations for speech production varied from group to group; the students in the oldest group were expected to attempt the word and were rewarded only for good attempts while those in the youngest groups were rewarded for any efforts. As the year progressed, the expectations were raised for all.

Placing the child's hand on the teacher's face, a sound was made. The child's hand was then placed on his own face for a production of the same sound. Nonsense syllables emphasizing vowels and bilabial sounds were used initially. When an attempt was made, the child was

TABLE 2

LANGUAGE AND SPEECH UNITS

Unit	Example
Parts of body	Head, arms, hands, fingers, legs, feet, toes, trunk (stomach)
Toys	Ball, airplane, doll, truck, tractor
Furniture and fixtures	Stove, table, chair, bed, refrigerator, wall, window, and door
Farm animals	Cow, horse, pig, chicken, duck, dog, cat (kitty), sheep (lamb)
Wild animals	Elephant, bear, tiger
Fruit	Apple, orange, banana, grapes, lemon
Food (grouped according to meal)	Breakfast: bacon, eggs, toast Lunch: soup, sandwich, hot dog, Coca-Cola (Coke) Dinner: steak, potatoes Dessert: pie, cake, ice cream, candy
Members of the family	Mother, daddy, brother, sister, baby
Clothing (related to the family members)	Mother: dress, apron, hose, shoes Daddy: suit, shirt, tie, shoes, socks Brother: jeans, shirt, sneakers, socks Sister: dress, shoes, socks Baby: shoes, rompers, diapers
Numbers	One through five - digits and printed words
Colors	Red, yellow, blue, green, white, black, brown, purple
Social language	Hello, goodbye*
Spatial relationships	Place the chairs under the table, put the toys in the box

*When this unit was studied, each student in turn went to the door, waved goodbye, blew a kiss, and went out. Upon return, each vigorously waved hello.

rewarded by winning a Froot Loop, a brightly colored sugar-coated cereal. Increasing efforts and better speech eventually was the only method for obtaining the rewards.

Auditory Training

The purposes of auditory training are: (1) to make maximum use of residual hearing, (2) to develop a conscious awareness of sound, (3) to help the child become accustomed to his hearing aid, and (4) to condition the child for sophisticated audiometric testing.[13]

One of the most important aspects of language and speech acquisition is auditory stimulation; therefore, auditory training is perhaps the most important consideration for hearing impaired individuals. One of the philosophies of the Lexington School for the Deaf in New York is to provide opportunities for acoustically handicapped students to utilize their residual hearing to the fullest. The key to the achievement of goals set is the development of auditory discrimination. To make maximum use of residual hearing, training must consist of sound stimulation and discrimination.[14]

The procedure for auditory training at PATH School was similar to that suggested in outlines previously listed and progressed from gross to specific in the following manner: sound awareness, gross

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[13]Harris, Language for Deaf, pp. 64-68.

[14]Lexington School for the Deaf, "The Utilization of Residual Hearing," New York, n.d. (Mimeographed.)

sounds, musical sounds, and speech sounds.[15, 16] Each lesson was initially presented stressing visual clues. Gradually the visual clues were de-emphasized; thus, the student began to rely increasingly on auditory clues. In each lesson demonstrations were presented.

Sound Awareness

Because most of the children were congenitally deaf, they were unaware of the presence and significance of sounds. The first lessons in auditory training were concerned with bombarding the children with sound to develop their awareness of sounds; all techniques listed in Table 3 employed gross sounds and methods.

Gross Sounds

After the child displayed an awareness of sounds, work was begun to help him learn to discriminate among and between sounds. This was done initially by using two quite different noisemakers. One of the instruments was sounded while the child watched, and he was encouraged to indicate the one he "heard". When the child understood what was expected of him, the instruments were sounded out of his sight and again he was asked to indicate which he heard. As the child's ability to discriminate increased, more instruments were added. The distinctions between and among the instruments became finer and more abstract as the

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[15] Ibid. Mary Van Wyk, Course of Study. Harris, Language for Deaf, pp. 160-182, 263-338.

[16] Edgar L. Lowell and Marguerite Stoner, Play It By Ear, (California: John Tracy Clinic, 1960), pp. 1-187.

TABLE 3

SUGGESTIONS FOR TEACHING SOUND AWARENESS

Equipment	Technique
Music: record of march or brass band	(1) Show placement of needle on record and wave flag until arm of record player is lifted.
	(2) March when music is heard and stop when music is no longer heard.
Rhythm instruments: drum, horn, cowbell	Same as above
Wooden blocks and hammer	(1) Beat on wooden table with block or hammer to elicit response. Child is expected to raise his head from the table when vibrations are felt.
	(2) Same as above except that child closes his eyes instead of placing his head on the table. Response is opening the eyes when sound is heard.

children's ability increased. The instruments listed in Table 4 were added in the order given.

Musical Sounds

The study of musical instrument discrimination was similar to that described in the preceding paragraphs. In conjunction with auditory training, limited rhythm training was done; this endeavor was successful in teaching tempo and time only with strong encouragement and example of a teacher. Examples of the equipment and techniques used are shown in Table 5.

Speech Sounds

The discrimination of speech sounds was quite elementary for the two youngest groups; they repeated babbling and vowel sounds as they saw or heard the sounds made by the instructor. The older group was able to progress to discrimination of simple words; the purpose of this aspect of training was to prepare the students for speech audiometry. Pictures of familiar toys, items of clothing, pets, etc., were distributed to the group; initially all children had identical pictures. When they were able to display the card depicting the spoken word, different pictures were distributed. To alleviate the possibility of lipreading and to determine the auditory discrimination, the words were spoken outside the visual field of each child in turn.

Preparation for Audiological Evaluations

One of the goals of auditory training was to prepare the students for accurate, sophisticated audiological evaluations; this is

TABLE 4

GROSS SOUNDS

INSTRUMENTS

Cowbell and drum

Wooden hammer and blocks

Cymbals

Flute

Horns

Noisemakers

Crickets

Rattles

TABLE 5

RHYTHM TRAINING ACTIVITIES

Equipment	Technique
Piano	(1) Stand on toes as high sounds are played and stoop when low sounds are made.
	(2) Dance on toes when high sounds are heard and stomp feet in time with slow music.
	(3) Make a long mark on the chalkboard when a "big" (loud) sound is heard and a short one when a "little" (soft) sound was heard.
	(4) March in time with the music, fast or slow.

difficult for any preschool child because of their ability to ignore sound.[17]

This aspect of the training was accomplished using the techniques, instruments, and materials used for hearing testing: the pure-tone audiometer with a set of headphones, and a bone oscillator, rhythm instruments, and selected speech sounds and words.

Since some of the students objected to wearing the headphones, the first step was to get the children to wear the headset. This was accomplished by example and model in most cases; the reticent students watched the teachers and the other students wearing the headsets.

To elicit responses to the test tone, the following procedure was followed:

(1) Using the bone oscillator, the audiometer was set at 500 H_z and the tone was presented. When the vibration was felt, the child holding the oscillator between his fingers raised his hand. When the tone was no longer felt, the hand was lowered.

(2) The headset was placed on the student's head and a 500 H_z tone was presented. The response was the same as previously described. To alleviate the possibility of the tone's being too loud and thus painful, the intensity was set at a low level to begin and slowly increased. When the child was conditioned to this tone, other frequencies were presented.

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[17]Harris, Language for Deaf, pp. 64-66.

The younger groups were not conditioned to speech audiometry. The procedure used with the oldest groups was described in Speech Sounds (p. 31).

Sense Training

As the name implies, sense training is designed to enhance the use of all senses including hearing. This is particularly important to the deaf child since other senses aid in his compensation for reduced hearing acuity. Since sense training is learning that is play for the child, it becomes his bridge to language.[18] The child may begin this activity by matching identical objects and proceeds to matching items according to similarities in use.[19]

The sense training materials used and the activities presented to the PATH School students were numerous. One of the most rewarding lessons was one concerning traffic safety; the children learned what each color of the light meant, then they practiced actually crossing the street.[20] The significance of the colors of the lights was taught by a game played in the classroom: the children walked rapidly when the "green light" was shown, exaggerated slowness and caution when the "amber light" was shown, and stopped instantly when the "red light" appeared. Each child in each group seemed to comprehend this lesson

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[18] John Tracy Clinic Course, Installment 1, pp. 9-11.

[19] Harris, Language for Deaf, pp. 83-105, 263-338

[20] This activity was anxiety-producing for the staff so each accompanying adult was assigned two students whose hands were clutched tightly.

which may be due to the fun involved or to the wariness of the staff. Some of the sense training units, examples, and materials are shown in Table 6; when applicable, the methods used are presented.

Reading Readiness

In these activities no formal attempt was made to teach the children to read. The printed word was presented whenever possible and some children were able to match printed words to familiar objects. Nearly all the children could recognize the numbers and their names as well as those of their classmates.

Story Telling

To aid in learning language, rhythms in speech, and usefulness of speech, nursery rhymes and fairy stories were told to each group. No effort was made to present the stories entirely and they were selected on the basis of the familiarity of the words contained within the text. The following is an example of the method used in presenting the stories. The first two lines of Humpty-Dumpty were used. A stuffed Humpty-Dumpty was placed on a shelf; below the shelf was a poster painting of a wall. As the first line was recited by the instructor, each child in turn pushed the toy off when the clue word fall was said. No time limit was placed on the lessons; the children continued the activity until the instructor detected boredom. Some of the stories presented were: Jack, Be Nimble,[21] Three Bears,

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[21]Each child had a time to be "Jack" but each wore his own name; of course, this helped the children to learn to read their names as well as the names of the others in the group.

TABLE 6

SENSE TRAINING ACTIVITIES

Unit	Examples	Materials	Techniques
Color Matching	Red, yellow, blue, green, white, brown, black, purple	Crayons; yarn; color boards; colored containers; beads; balls and blocks; commercial games: Hickety-Pickety, Ring Toss	(1) Show crayon and ask child to find corresponding color. (2) String beads and blocks. (3) Place colored objects in appropriate colored container.
Object Matching	Toys, animals, balls, trucks, cars, airplanes, shoes, articles of clothing	Trucks, cars, balls, airplanes, blocks, shoes, pigs, horses, pictures of objects, commercial games: Lotto, Playskool, stack toys and rings	(1) Match identical objects in appropriate colored container. (2) Match objects identical in color but different sizes. (3) Match objects of different sizes. (4) Match objects that differ in size and color. (5) Match object using tactile. (6) Match object to picture. (7) Match picture to picture. (8) Match articles according to similarities and classification. (9) Match item to spoken word. (10) Match item and spoken word to printed word.

TABLE 6 - Continued

Unit	Examples	Materials	Techniques
Shapes	Circles, rectangles, triangles, squares, assorted odd shapes	Form Boards, Puzzles, crayons, pencils, paper, scissors	(1) Match shapes by colors. (2) Coordinate shapes by visual clues. (3) Use simple puzzles with the complete parts and progressed to more complicated puzzles. (4) Find shapes studied in objects in the room such as round lightbulb.
Taste	Sour, sweet, salty, hot, cold	Fruit: lemons, oranges, bananas, apples; nuts; coffee; soft drink; cookies; candies	(1) Identify the item by visual clues. (2) Identify the food by taste only, placed in mouth while eyes are closed.
Textures	Hard, soft, rough, smooth	Rocks, cotton, sandpaper, table top	(1) Identify the texture by touching the example and finding its mate. (2) Identify as above using tactile only.
Motor Coordination		Scissors, paper, pencils, blocks, strings, beads, lacing shoes, sewing cards, coloring books	Draw, cut, color, and paste pictures. String assorted beads and blocks.

TABLE 6 - Continued

Unit	Examples	Materials	Techniques
Temperature and weather	Hot, cold, warm, rain, snow, windy	Candles, matches, refrigerated objects, ice, weather, appropriate clothing and pictures for weather	(1) Match the sensation to the appropriate object. (2) Select clothing to correspond to weather condition.
Weights and tactile stimulation	Heavy, light	Assorted drinking cups, balls, toys	(1) Identify by choosing object corresponding to example. (2) Select object placed in paper bag.
Sequences		Lotto games, paper, crayons, beans, cups, pictures of daily activities: brushing teeth, eating breakfast, getting up, cleaning room, dressing, driving to school	(1) Plant bean in dirt, water, and place in sunlight. (2) Draw each step of the planting and growth. (3) When erupted, draw the entire sequence. (4) Act out process from getting up to going to school. (5) Place pictures in sequential order.

Hickory-Dickory Dock, and Baa, Baa Black Sheep. Each was changed to facilitate ease in presentation and to alleviate undue confusion with the assumption that Mother Goose would understand.

Story Readings

The major portion of this activity was spent in trying to teach proper use and care of books. Initially, indestructible, cloth books were used; eventually paper books were introduced. During this period the books were placed on the tables and the children were free to choose any book to examine at will. Ample copies of the same books alleviated disagreements. The books were concerned with simple stories which related to previously studied subjects. Touch Me Books were used as often as possible.

Enrichment

To provide as many learning opportunities as possible, numerous co- and extra-curricular activities were planned. These activities were planned to coincide with units studied in the classrooms.

Trips

During the study of farm animals, the students were transported to a nearby farm to observe the animals; to the surprise of the staff, this was the first time most of the children had seen live farm animals at close range. To facilitate carry-over of knowledge from the farm to the classroom, a Polaroid snapshot was taken and shown to the children immediately, thus enabling them to recall the incident or object

more readily. Other activities included trips to observe reindeer (during Christmas) and to the fire station.

Flms, Plays, Art

Because the students' comprehension of material presented was considered important, planning for this area was time consuming. Film strips were utilized to supplement stories and nursery rhymes; commercial materials such as Show and Tell and the Viewmaster projector were among successful items utilized. One mother related that her child thoroughly enjoyed pantomime on television so a story of Freddy the Frog was dramatized for the children by a volunteer male actor. The majority of art activities undertaken by the children centered around holiday themes. A variety of materials was used to develop concepts and skills.

Special Holidays

No attempt was made to observe the children's birthdays since some fell outside the school calendar but major holidays were celebrated. At Halloween, a jack-o-lantern was created in the usual manner except that each facial area was named by the teacher and repeated by the children. Each child masqueraded in costume for the ensuing party. Santa Claus visited during Christmas and distributed gifts. Decorations for the tree were made as well as gifts for various family members. Valentines were created and distributed to all. Paper flowers "bloomed" for Mother's Day. At Easter, the bunny visited and dispensed baskets, eggs, and candy. Prior to each holiday, lessons in all classes were planned to stress the most familiar points of the holiday.

Psychological Evaluations

During the first term of training, the Leiter International Scale was administered to the students at PATH School.[22] The staff at the Developmental Evaluation Center in Winston-Salem, North Carolina administered the test assisted by the Director of PATH. The scale was given to thirteen students of the PATH School; one of the students was excluded because of severe visual problems. Scores were not recorded for two of the students because base levels could not be obtained. The scores for the remaining eleven students ranged from average to above average, average being ninety-five for the Leiter Scale.

The students' reactions to the test environment were closely observed. Many performed independently but some of the students sought approval after the completion of each task. None of the students seemed to become upset by the test situation but most were noted becoming fatigued.

The interesting result of the administration of the test was not the scores obtained but an analysis of items most frequently missed. As expected, the students performed the most concrete tasks more successfully than those which were more abstract; for example, they were more able to match the test blocks to the example than to arrange the blocks in sequence according to size. These findings were used to adjust the curriculum to compensate for the inadequacies.

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[22]The Leiter Scale is a nonverbal test which is recommended for the testing of preschool deaf children.

Parent Education

As stated, one of the purposes of the school was parent education; therefore, considerable emphasis was placed on this activity. The guidance and counseling sessions were both group and individual; general topics were discussed in group meetings held twice or more per month while specific items were discussed privately semimonthly or as the occasion demanded.

Group discussions revealed a surprising lack of knowledge among the parents concerning hearing loss and concomitant effects. The discussions helped to allay real and imagined fear and anxiety regarding a child's future. Topics discussed included the following:

1. Types of losses
2. Audiometric testing
3. Hearing aid maintenance
4. Normal speech and language development[23]
5. Discipline
6. Home training
7. Parental attitudes
8. School policies and procedure
9. Anatomy of the ear
10. Future educational considerations
11. Types of instruction for deaf.

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[23]Many parents seemed to expect accomplishments beyond the normal child's capability, thus normal development was one of the most frequently discussed topics.

Material and Equipment

PATH School began operation with no equipment or materials whatsoever; however, when the students were enrolled, limited toys and materials had been secured by donations from individuals and groups. Examples of the materials used have been listed.

Auditory training equipment such as individual and group hearing aids, auditory training units, and audiometers were loaned to PATH School for use during the school term. Classroom furniture belonged to the church and was available for use. Additional toys, supplies, and small equipment items were bought and donated during the course of the year.

The implementation and operation of a preschool training program for deaf and hard of hearing youngsters is dependent upon funds and resources available. PATH School was operated on a limited budget and was unable to purchase much equipment and material or to properly staff the school. Operation was dependent upon financial and material donations and volunteer personnel.

A preschool should be housed in a suitable facility used solely for the school and its budget should be sufficient to finance necessities. The suggestions in Long-Range Plans may be used as guidelines but adjustments should be made according to the need.

Long Range Plans

The following specifications are based on the assumption that adequate funds are available for a separate facility and for necessary

equipment and supplies. These goals could be used as a guide to future planning for PATH School.[24]

Facility

The physical plant should consist of playrooms, special teaching rooms, observation rooms, audiological evaluation rooms, an outdoor play area, a lecture room for consultation and parent classes, an office, a kitchen, and bathrooms.

1. Walls and ceilings should be acoustically treated, attractively decorated in light colors, and insulated.
2. Floors should be clean, washable, and quiet.
3. A large washable rug should be provided for the children to sit on.
4. Storage space should be provided to adequately house all equipment and supplies.
5. Large bulletin boards and blackboards at eye level should be attached to the walls.
6. At least thirty-five feet per child of indoor play area and one hundred square feet per child of outdoor play space should be provided. The playground should be dry and protected by a nonclimbable fence at least four feet high.

Prior to opening, the facility should meet licensing requirements for the following:

Fire Department

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[24]Harris, Language for Deaf, pp. 223-242.

Nursery Education - State Department of Public Education

Health and Welfare

City

Staff

Director

The duties of the director should be responsibility for organizing and administering an effective educational program, training and experience in the education of the deaf, training and experience in parent education and guidance, and experience with and knowledge of regulations concerning the organization of day care centers.[25]

Teachers

The number of teachers needed would be determined by the enrollment. Harris recommends that two full-time teachers be employed in addition to the director for ten to twenty youngsters. If possible, the teachers should be trained teachers of the deaf with experience with preschool children; otherwise, they may be experienced nursery school teachers.

Aids

There should be a minimum of three teachers' aids. Their duties would be to supervise playground activity, work with the teachers in the classrooms, and assume as much of the teachers' clerical duties as

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[25]Harris, Language for Deaf, pp. 225-230.

possible to free her for lesson planning, individual work with the children, etc.

Supportive Personnel

Consultants

To assure that maximum benefits are reaped from the education, specialists in various fields should be consulted. The list of specialists might include an audiologist, a speech pathologist, a pediatrician, and educational/child development consultants.

Janitor

The school premises should be cleaned thoroughly each day and whenever necessary during the day.

Cook

If the attendance is for a full day, a hot meal must be provided for lunch. Morning and afternoon snacks must also be prepared.

Secretary

The role of the secretary would be to perform customary clerical duties. She could also serve as a receptionist.

Materials, Equipment, and Supplies

The lack of specific materials for teachers of the deaf was reported by Connor. He further stated that little research had been done in this general area and complains that most speech and hearing inventors and investigators have dealt primarily with studies of hearing

and speech evaluations, induction loop systems, and visible speech monitoring.[26]

Playroom Equipment

Playroom furniture should be durable, attractive, and washable. The furniture should be proportioned to the children's size.

1. The table should be approximately twenty inches tall and the chair seat should be ten inches from the floor, with twenty to twenty-two inch backs. Tables of assorted shapes should be provided dependent upon their uses; for example, a U-shaped table would be useful for auditory training while a round table could be used for the library corner.
2. Easels should be portable and of kindergarten height. Each should be double for painting on both sides and be equipped with paint trays.
3. Books should be durable and in good condition. They should vary in content as well as in degree of difficulty.
4. A variety of other equipment should be included to provide as many varied play experiences as possible. These would include housekeeping equipment such as stove, refrigerator, mop, broom, dustpan, and playstore equipped with cash register with money and life-size articles.
5. Indoor play equipment: tricycles, cardboard boxes, and hollow blocks.

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[26]Leo E. Connor, "Research in the Education of the Deaf," The Volta Review, LXII, (November, 1963), 73-74.

6. Assorted toys such as balls, trucks, airplanes, dolls and doll clothes, and farm animals.

Classroom Materials

Materials needed for the classroom would include flannel boards with felt figures, movable blackboards, mirrors - mounted or portable - at the proper height, chart stands, and slot charts.

Audio-Visual Aids

The list of audio-visual aids would include record player and records, slide projector, screen, slides, and a file of pictures of various objects and activities.

Classroom Supplies

Classroom supplies needed are too numerous to list but would include scissors, primary crayons and pencils, assorted paper, paint brushes, assorted paints, and paste.

Sense Training Materials

Many materials are needed for the sense training activities. Some of the basic items might include wooden puzzles, wooden blocks, assorted Lotto games, lacing shoes, sewing cards, and construction sets.

Auditory Training Equipment

Equipment used for auditory training is expensive to purchase. Because of the need for specialized maintenance and service, selection of equipment should be based on the availability of competent local

service. Specifications should be studied very carefully. The staff should experiment with available equipment to assure it performs the function needed. A partial listing of auditory training equipment needed is listed below.

1. Amplification system with headsets for at least six children
2. Teacher microphone
3. Rhythm band instruments: assorted noisemakers, piano
4. Audiometer
5. Group auditory training units
6. Individual auditory training units
7. Tape recorder and tapes.

Summary

Chapter III contains a description of the curriculum created for PATH School, Inc. The curriculum contains established goal-fulfilling activities and inovative procedures designed to meet the individual needs of hard of hearing and deaf children enrolled at PATH School, Inc. The philosophy and goals of each course of study are recounted with examples of units and materials presented. Included are long-range goals for expansion and improvement of the school, the staff, and services provided for the students and parents.

CHAPTER IV

CONCLUSIONS AND DISCUSSION

Summary

The preschool years are a critical period for mental growth, language acquisition, and personality development. Language acquisition is included in mental growth because it is a prerequisite for reading and writing. Alterations or disturbances occurring in the developmental patterns of children may affect the acquisition of symbol systems; for example, sensory deprivation particularly the absence of hearing results in language and speech retardation.

The importance of preschool education has long been recognized by educational authorities and conferences concerning education of the deaf. The reported consensus was that early identification, preschool training, and parental counseling are not only essential for a child developing to his capacity, but that the effect of the lack of specialized preschool training is intensified as the handicapped child gets older.

Deaf children in Guilford County, North Carolina, were offered no preschool educational training prior to September 1967. Parents had the alternatives of postponing enrollment until children were old enough to attend one of the residential schools for the deaf, enrolling the child in one of the programs out of state, or driving long distances daily for one of the two preschool programs in the state. None of these

alternatives was satisfactory, thus plans were formulated for the development of PATH School, Inc.

A corporation was established, officers were elected, and members of the board of directors were selected. The school began operation in a church kindergarten. The staff of PATH School was made up of one full-time director-teacher and student and community volunteers. The budget of the school was limited, thus operation of the school was dependent upon financial and material donations.

The purposes and goals of the PATH School were: to provide opportunities for the development and improvement of communication skills of preschool hearing impaired children, counsel the parents of enrolled children, and educate the community concerning the needs of the deaf and hard-of-hearing. A curriculum to fulfill these goals included language and speech, auditory, and sense training for the students and group and individual counseling for the parents. The data secured from the results of a nonverbal psychological test administered to the students aided in adjusting the curriculum to meet the conceptual/intellectual needs of the students.

Long-range goals for the PATH School were postulated. Since the goals were heavily dependent upon the availability of funds and resources, suggested guidelines for expansion and improvement were presented.

Further consideration for expansion and improvement of preschool training programs for the deaf and hard of hearing must be based on systematic research of education and rehabilitation of the deaf. How-

ever, methods of instruction, materials and equipment considered necessary and curriculum offerings have been suggested.

Discussion

Studies indicate that intelligence quotients of a group of deaf individuals are equal to the range shown in a group of hearing individuals,[1] thus the question arose as to why graduates of many schools for the deaf have only the equivalent of an eighth grade education.

Breunig polled a sample of one hundred deaf men and women who had attended colleges with the normal hearing. The questionnaire contained information pertinent to this study: primary school background, the role of parents, and attitudes of fellow students and faculty. Conclusions were: (1) that the deaf could successfully attend colleges for the hearing when academically and psychologically qualified to do so and (2) that effective oral education at primary and secondary levels is mandatory and attendance in regular secondary schools is a prime prerequisite for success. The respondents rated qualities important in seeking an education with the hearing. Interestingly, the two highest were: personal integrity (desire and optimism) and communication skills; the lowest rated quality was mental skills.[2]

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[1]Helmer E. Myklebust, Your Deaf Child--A Guide for Parents, (Illinois: Charles C. Thomas, 1966), p. 94.

[2]H. Latham Breunig, "An Analysis of a Group of Deaf Students in Colleges with the Hearing," Paper presented at the 1963 International Congress on the Education of the Deaf, Washington, D.C.

Studies conducted by the staff of the Audiology Clinic of the University of Manchester further supported the above findings. The linguistic development of the young deaf children receiving home training appeared to be directly proportional to the parental attitudes and family structure rather than to mental capabilities.[3] The most successful programs for deaf children were those in which home training was coordinated closely with the preschool program.[4]

Limitations of the Study

This study has dealt with the establishment of a day school for preschool, hearing-impaired children. No attempt has been made to compare and contrast day and residential school programs and the effect of each upon the child's development.

The PATH School program was developed to offer the oral method of instruction only. No efforts were made to expound upon reported controversy between oral and manual methods of training.

The study dealt primarily with the establishment of PATH School and described the program for the first year of operation. No formal follow-up of students enrolled was attempted.

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[3]Lady Ethel C. Ewing, "Some Psychological Variables in the Training of Young Deaf Children," The Volta Review, LXI, (February, 1963), 68-73.

[4]Sir Alexander Ewing, "Linguistic Development and Mental Growth in Hearing Impaired Children," The Volta Review, LXI, (April, 1963), 180-87.

Implications for Future Research

The research needs for education of the deaf in North Carolina is virtually unlimited due to the lack of available studies in the area. Nearly all aspects would bear systematic studies.

The controversy of the method of instruction used in training the deaf has persisted for centuries. A detailed study of groups trained exclusively in each method, oral, manual, or a combination of the two, could be instigated with particular emphasis on social adjustment, personal adjustment, personality, academic achievement, and occupational status.

Further study of the effects of early preschool training are needed to aid in the establishment of more programs. Groups with and without preschool training should be studied throughout their school years to compare and contrast achievement and adjustment. A comparison of the results of psychological test scores could also be done.

The observations of the administration of the Leiter Scale aided in adjusting the curriculum at PATH School to meet the needs of the students. The administration of such a test prior to, during, and after enrollment should be done to determine alterations in the curriculum as well as a measurement of progress.

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