Methods and problems in educating the deaf and blind and a proposed study

Floyd Joseph McDowell

The University of Montana
METHODS AND PROBLEMS IN EDUCATING THE DEAF AND BLIND AND A PROPOSED STUDY

by

Floyd Joseph McDowell
B.S., Montana State College, 1947

Presented in partial fulfillment of the requirements for the degree of Master of Education

MONTANA STATE UNIVERSITY
1956

Approved by:

[Signatures]

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>INTRODUCTION TO THE STUDY AND DEFINITION OF TERMS</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The study</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Definition of terms</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Types of deaf-blindness</td>
<td>5</td>
</tr>
<tr>
<td>II.</td>
<td>SOURCES AND TREATMENT OF DATA, ORGANIZATION OF THE REMAINDER OF THE PAPER, AND REVIEW OF RELATED LITERATURE</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Sources of data</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Treatment of the data</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Organization of the remainder of the study</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Review of related literature</td>
<td>9</td>
</tr>
<tr>
<td>III.</td>
<td>METHODS AND PROCEDURES FOLLOWED IN THE INITIAL INSTRUCTIONAL PERIOD</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>The initial instruction period</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Identification of methods</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Sense training</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
<td>24</td>
</tr>
</tbody>
</table>
Chapter IV. METHODS USED AFTER COMMUNICATION HAS BEEN ESTABLISHED

Learning to read and write ........................................... 26
Speech and speech reading skills strengthened ..................... 27
Instilling the need for speech and language .......................... 28
The academic program .................................................. 29
Other methods of communication .................................... 30
Summary ............................................................................ 33

Chapter V. DEFINITION AND OUTLINE OF THE PROBLEM FOR RESEARCH, AND SUMMARY .................................................. 35
Distinguishing characteristics .......................................... 35
Comparison of methods .................................................. 36
Problems defined ........................................................... 38
Proposed study ................................................................... 40
Summary ............................................................................ 44

BIBLIOGRAPHY .................................................................. 47
CHAPTER I

INTRODUCTION TO THE STUDY AND DEFINITION OF TERMS

INTRODUCTION

The field of education for deaf-blind children is limited by the number of children involved and the number of people actively interested in the problem. There are relatively few individuals with the double handicap. Deaf-blindness occurs most often in adults. Accidents, severe diseases and sickness cause deafness or blindness in those already having one handicap or it can result in both handicaps occurring in one person. Inheritance, rubella during the first three months of pregnancy, birth injuries, and premature births are additional contributing causes of deaf-blindness in children.

Most deaf-blind people are adults because the double handicap occurs more often in the later years of life. Many deaf-blind children are definitely feeble-minded and are placed in institutions for custodial care. The remaining number of children with whom schools and education are directly concerned represent a small percentage of the total. Just what percentages are represented by these groups is undeterminable because the only census data available stresses
the inadequacy of facilities for compiling the figures and
the incompleteness of the census.¹

Census figures on deaf-blind children compiled in 1953
by the American Foundation for the Blind show 190 registered
children under twenty years of age. Of these, fifty-four
were reported uneducable and five were under five years of
age. Of the remaining total of 121 children, forty-two were
enrolled in the five schools for the deaf-blind existing at
that time. The five schools having departments for the deaf-
blind were: the California School for the Blind at Berkeley;
the Iowa School for the Deaf at Council Bluffs; the Massa­
chusetts School for the Blind, (Perkins Institute) at Watertown, Massachusetts; the Michigan School for the Blind at
Lansing; and the New York Institute for the education of the
Blind in New York City. These five schools had seventeen
teachers employed in their deaf-blind departments. This
proportion of students to teachers is apparently a near ca-
capacity operation.²

The incidence of deaf-blindness is small and few are
actively engaged in attempting to teach them, but a look at
the figures stated above indicate a need for greater facili­
ties and effort. The cost of a program for educating these

¹Annette B. Dinsmore, "Survey of Deaf-Blind Individ­
uals," First Report of the Conference of Educators of Deaf-
Blind Children, (Watertown, Massachusetts: Perkins Publica-
tion No. 16, 1953), pp. 18-26.

²Ibid., pp. 28-31.
children and the difficulty in recruiting teachers able and willing to enter the field may be contributing factors to the lag in this area of education. A search for information and studies in the field of deaf-blind education leads to the realization that efforts being made at present need study and evaluation. This paper was an attempt to contribute to the need for information and evaluation relating to deaf-blind children and their education. The methods and procedures used and followed at the California school are described and from these descriptions a problem has been isolated and defined and a method of solution proposed.

THE STUDY

Purpose of the study. The purposes of this study were: (1) To investigate and describe the methods and procedure followed at the California School for the Blind in the Deaf-Blind Department; (2) To isolate from these descriptions one of the major problems which exists in the field, define the problem, and then outline a proposed study designed to answer some of the questions connected with the problem.

Delimitation of the study. The methods and procedures described in this study were the ones followed in the California school. Only those methods which are considered most important by the faculty of the school were described in detail. These methods which were not specifically developed and used in work with the deaf-blind were not
dealt with in detail. It was not the purpose of this study to point out all the problems existing in the field. Only one problem was isolated for examination.

**Importance of the study.** This study should be of particular interest to those people engaged in work dealing with the exceptional child. Administrators and teachers in other schools where the deaf-blind are taught should be interested in knowing what methods and procedures are used in the California school. Furthermore, someone who has the authority, opportunity, and interest could use the problem and the proposed solution to set up a scientifically controlled situation which could lead to correct answers.

**DEFINITION OF TERMS**

The term deaf-blind is self explanatory when it is applied to mean the complete loss of hearing and sight. It is simply the double handicap of deafness and blindness found in a single individual. But a definition for purposes of identification and classification with regard to education is a more complex thing. When is a child deaf-blind for educational purposes? Certainly not only in those cases where the two handicaps are complete.

Many deaf children with severe loss of sight are able to be educated as just deaf, and likewise some blind children with hearing losses are able to be educated as just blind. The problem is to define deaf-blindness in terms which will
allow these variations but at the same time be specific enough to be clear. The National Study Committee on Education of Deaf-Blind Children considered the definition of deaf-blindness at their meeting in January of 1954. A committee from their membership was appointed to study the problem of a definition but to date this committee has not reported.

In the compilation of their register of deaf-blind individuals, the American Foundation uses the following definition: "A deaf-blind child is one whose combined handicaps of loss of hearing and loss of sight are great enough that the child cannot be educated as only deaf or as only blind."3

TYPES OF DEAF-BLINDNESS

In planning and executing an educational program for the deaf-blind, certain factors become eminent. These factors are: (1) degree of deafness and blindness and (2) the age at which loss of sight and hearing occurred.

Factor one must be divided again in cases where one handicap is total while the other is not complete, and similarly, factor two must be broken into two classifications when the two handicaps come at different ages.

Correne Richeleau and Robecca Mack4 classify the deaf-


blind into four groups. Their classifications are: (1) totally deaf-blind, (2) the blind and hard of hearing, (3) the deaf with poor vision, and (4) the hard of hearing with poor vision. They further elucidate by defining the deaf or deafened as those who cannot distinguish sounds. The hard of hearing are those who can understand speech when it is loud or with the use of some instrument. The blind are those who cannot distinguish the outline of things even when highly illuminated even though they can tell the difference between light and dark. Those who can barely distinguish outline of objects, or who have some serious eye defect are classed as having poor vision or defective sight. These classifications of deaf-blind, together with the consideration of the age at which the handicaps are acquired, become paramount considerations in the education of these children.

To simplify matters and to stay within the scope of this study, the general term deaf-blind when used in this study refers to all the variations mentioned above. The lines of distinction are not hard and fast and the physical disabilities of these children often vary from day to day. It should be noted that most partially deaf-blind people have a tendency to grow totally deaf-blind in time. It would seem wise, therefore, to train them so that the almost inevitable will not find them unprepared.
CHAPTER II

SOURCES AND TREATMENT OF DATA, ORGANIZATION OF
THE REMAINDER OF THE PAPER, AND REVIEW
OF RELATED LITERATURE

SOURCES OF DATA

General information concerning the field of deaf-blind education was gathered from informal interviews and conversations with people directly engaged in the work, books written by or about the deaf-blind, professional journals in the field of special education and published proceedings of professional committees and associations.

Specific information concerning the methods and procedures followed in the education of the deaf-blind was gathered through interviews with teachers engaged in teaching the deaf-blind at the California School for the Blind and from three years of experience teaching at that school by the writer. The teachers interviewed at the California school represent over sixty years of experience in the field.

Dr. Berthold Lowenfeld, Superintendent of the California School for the Blind, contributed many ideas and items of information. Dr. Lowenfeld became engaged in the field of special education in Europe over thirty years ago and came
to the United States about seventeen years ago to continue his leadership in the field.

Miss Annette B. Dinsmore and Miss Sophia Alcorn, consultants in Deaf-Blind Services of the American Foundation for the Blind, were also interviewed. Miss Alcorn originated and developed the Tadoma method of teaching speech and speech reading used in work with the deaf as well as the deaf-blind.

TREATMENT OF THE DATA

The data gathered from the sources mentioned above were arranged to describe the procedure and methods followed in the educational program of a typical deaf-blind child with good intelligence. There are certain patterns of behavior and responses which are typical of most deaf-blind children, but in many more ways each child differs from the next and such endless variations are not described in this study.

Just as there are many variations in the behavior and response of these children, so is there a variety of problems encountered in their education. In this study, one of the major problems has been singled out for description. The problem dealt with in this study was that of communication between the teacher and pupil. After the description of the problem, a proposed study is outlined in detail which is designed to answer the most pertinent questions contained in the problem.
ORGANIZATION OF THE REMAINDER OF THE STUDY

Chapter III describes the methods and considerations which are followed in the initial educational program: How the child is brought to school, the type of school, his adjustment period and the beginning processes of education.

Chapter IV deals with the educational program after communication has been established between the teacher and child. In this chapter the various methods of communication used by the deaf-blind are described. Not all of these methods are or ever have been used at the California school, but the faculty of the school is familiar with them and should the occasion require it, they would be used.

In Chapter V, a major problem in the field is isolated and described and then a procedure and study is outlined for the solution of this problem. A summary of this study concludes Chapter V.

REVIEW OF RELATED LITERATURE

The majority of published works on the subject of deaf-blind education were compiled and published in the latter part of the nineteenth century and the first fifteen years of this century. These early publications were largely the works of those who had studied printed reports rather than studying the deaf-blind themselves. The Helen Keller
Souvenir published at the close of the last century and The Life and Education of Laura Dewey Bridgman published in 1879 are outstanding exceptions. These books were compiled and edited by the principals directly involved in the education of these two outstanding deaf-blind women.

Helen Keller's books concerning her own life and philosophies give insight into the effectiveness of her education. The biography of Anne Sullivan Macy is also a valuable source of information about the educational methods used by Helen Keller's teacher.

A book published in 1930 by the Volta Bureau contains statistics on the deaf-blind in North America at that time and has a biographical section containing biographies of some of the deaf-blind individuals listed in their census. This book also has a chapter on different types of education for deaf-blind, but this material is largely argument and conjecture on the relative merits of education for the deaf-blind in a school for the blind or in a school for the deaf. It is not a detailed account of methods of educating deaf-blind children.


4Richeleau and Mack, op. cit.
Examination of the usual sources reveals no recent books dealing with methods of teaching the deaf-blind. Professional publications such as the Journal of the International Council for Exceptional Children, The Annals of the Deaf, The Outlook for the Blind and the Volta Review have from time to time carried articles dealing with the deaf-blind. Some of the articles are accounts and descriptions of particular methods used on a particular child in a specific school. These accounts are valuable contributions to the field. Other articles are of such a personal nature that the material therein is of little use in a study of this nature. Many of the newspaper and magazine articles appear to be of an emotional nature designed primarily for the human interest appeal. For the most part, they contain half-truths and exaggerations about the successes or failures of these doubly handicapped people.

A recent study which deals with the history of the deaf-blind from 1837 to 1952 seems to be quite valuable. No other work of this nature, however, could be found in listings from recent years. The lack of reported research suggests a need for investigations in this particular area of special education.

CHAPTER III

METHODS AND PROCEDURES FOLLOWED IN THE
INITIAL INSTRUCTIONAL PERIOD

INTRODUCTION

Children who come to the California School for the Blind to enroll in the deaf-blind department are assumed to be educable. Those children who are most obviously feebleminded are not taken. When it is known that there is a deaf-blind child in a certain community, the parents of the child are visited by a school representative and they are given information and advice. These visits afford opportunity for observation of the child's actions and reactions and afford a basis for determining educability. There are no tests available to measure potential or capacity of these children. If the school representative, after these visits, has any doubts as to the educability of a child, the child is given the benefit of the doubt and enrolled in school for a trial period.

Some cases are not known until the child is at or past school age. In such cases the child is admitted to school, if, after a brief observation, it appears he might be educable. The psychological ramifications of the parents' attitude toward the child and the opportunities the child
has had for normal development are some of the involvements
the school administration considers when enrolling or reject­
ing a child.

THE INITIAL INSTRUCTION PERIOD

Adjusting to new environment. Upon entering school,
the first consideration for the deaf-blind child is his ad-
justment to his new environment. When possible, one or both
parents remain in the same city as the school for several
days, visiting frequently, but gradually decreasing frequency
of visits. The child is carefully acquainted with his new
surroundings, being led about the room so he may become
familiar with all objects and their locations. At the same
time he becomes acquainted with his teacher and learns to
identify her by texture and shape of her hands, by hand or
arm jewelry, by her clothes, or by smell. Some deaf-blind
people lose their olfactory sense through the same cause as
the loss of sight and hearing, but for those who do have it,
it becomes an invaluable means of identifying many elements
of their environment.

The child has two persons to become adjusted to: His
teacher, who is responsible for his total care during school
hours, and the counselor who has charge of him after school
hours. This adjustment period may take only a few days or it
may require several weeks.

In order to proceed with the processes of educating
the child, the teacher must gain his confidence, love and respect. The teacher keeps a constant watch over the child, helping him get about and satisfying his desires whenever possible. She sees that he does not run into objects that might hurt or scare him. By doing these things and giving love and attention, the teacher builds up a bond of confidence and love between the child and herself. Respect is gained by setting limits for the child that are not too confining and adhering to these limits. Adherence to these limits which are always physical in nature is accomplished through restraining the child, never through any form of punishment or severe correction.

If the deaf-blind child is sufficiently intelligent and alert, gaining his confidence, love and respect is accomplished quite rapidly through these means. The teacher never has more than one new pupil at a time, and the total number of students for whom she is responsible usually does not exceed three. Two students per teacher is the ideal proportion.

Learning to read speech. After the initial adjustment to physical surroundings and new people, the child is exposed to the beginning processes of education. The California school is a completely oral school which means that the method of communication both in the classroom situation and after school hours is through speech and speech reading. The manual alphabet and the language of signs is not taught
nor used. The deaf-blind children at the California school never come into contact with older deaf children or the adult deaf so the oral method is never disrupted.

As soon as the child is adjusted to and accepts the teacher, she starts talking to him. The child's hands are placed on the teacher's face and neck while she talks or vocalizes. The child becomes aware of sound through the vibrations he feels. These vibrations can be felt on the chest, shoulders, back and head as well as the face and neck. This is the beginning of the process of substituting the tactile sense for hearing and sight.

The next step is identification and differentiation in pitch and tone. A high pitched 0-0 is vocalized while the child feels the vibrations and then his hand is held high. The same sound is produced in a low pitch and then the hand is put low. This procedure is repeated until the child learns to indicate low and high tones. Other sounds are vocalized after this response is learned such as a, e, ba ba and so forth.

The child is not asked to mimic these sounds in this beginning training, but if he voluntarily makes the effort to mimic, he is encouraged to do so. When he gives voice and indicates the desire to make sounds, he is ready to be taught speech. Some children show this desire for producing sounds after a few days' exposure to the above process, but others show no desire for several weeks or months, even when
the teacher indicates she wants the child to do so. The teacher indicates or asks the child to give voice by vocalizing while he feels with his hands on her face and neck. Then one of his hands is placed on his own face and neck to indicate he should produce the vibrations he feels on the teacher's face.

When good response is attained by the methods described above, the next step is to teach the child to understand a spoken word through the tactile sense. Any single syllable word whose phonetic elements are clear and distinct can be used. Two such words most commonly used are "arm" and "jump". An active child with an abundance of energy would most likely be interested in a word of action while another child would respond better to a word such as "arm".

As before, the teacher places the child's hands on her face and in a natural voice clearly says "jump". Then she demonstrates by placing the child's hands on her hips while she jumps. She repeats this vocalizing and demonstrating several times before indicating the child should do the same. After saying "jump," instead of placing his hands on her hips, she places the child's hands on his own hips and helps him jump. With sufficient repetition the command and response is learned and work can proceed on new words. When "arm" is used as a beginning word, the process is similar. The word is spoken and then the child is taught to indicate his arm by holding it up or pointing to it. From the first word learned
the child moves on to others like "bow," "run," and "ball". After several such words are learned, the teacher starts using short complete sentences such as "Give me a cup," "Walk around my chair," or "Show me your hair." In each case the requested action is demonstrated and the child is led through the act.

It is not intended that the child recognize or know the meaning of all the words in these sentences, but he is being exposed to language as it is used for communication. At first he recognizes just the simple word with which he is familiar, such as "cup," "run," or "hair," but through repetition he learns to associate certain actions with particular words he feels on the teacher's face. The command "give" assumes meaning after numerous demonstrations.

In this process of teaching the child to read speech through the tactile sense, the teacher takes care to enunciate each word clearly but naturally. Over emphasis of voice, breath or mouth movements has the effect of substituting these exaggerations for the true "feel" of the word. The combination and composite of motion and vibration felt on the face of the speaker is the key to understanding speech for the child and is also the basis for teaching him to speak.

Learning to speak. A deaf-blind child does not speak, because he has never heard or seen speech, or he lost his power to hear and see before he learned to imitate the
intricate sounds and movements necessary for speech. In some very rare cases, injury or disease has caused a deaf-blind child to be dumb, and in such cases, learning to speak is a physical impossibility. In all other cases, the individual has all the necessary organs and latent ability for speech. A child who hears, learns to speak by imitating what he hears and sees. A deaf-blind child learns to speak by imitating what he feels through his hands.

Teaching the deaf-blind to speak is based upon three basic concepts: (1) A desire on the part of the child to speak. Speech is a voluntary action which cannot be forced. (2) A correct speech pattern to imitate. The vibration method (the process described under the preceding heading) establishes the correct pattern of voice, breath and mouth movement for the child to imitate. (3) A systematic development of muscular and imitative skills necessary for speech production.¹

There are two sources of help for these children in their attempts to learn speech. First, they have the feel of the word on the teacher's face to imitate. After many hours of practice, the tactile sense becomes keen enough to distinguish variations in pitch, nasality, direction and strength of breath, and movement. The second source of help is the stimulation and manipulation by the teacher of some of

the muscles and parts of the speech organs.  

When the child's parent is present, an easy word to learn is "mama". The meaning of the word is first learned through speech reading—the teacher saying "mama" and then indicating the parent. The next step is for the teacher to say the word while the child feels her face and then puts his hand on his own face to indicate he should imitate. In some cases, the child will immediately respond with a good clear "ma-ma," but if he shows hesitancy or imitates incorrectly, the teacher helps him say the word. She helps by holding his chin firmly but gently with the thumb and first finger placed on the lower lip. While the child gives voice, the teacher guides him through the proper movements necessary to produce the word.

To teach a child to say "thumb," the child learns the position of the tongue and movement of air through the mouth by feeling the position and movement on the teacher's face. The absence of voice vibration shows him that "th" is a silent element of speech. One finger placed on the point of the chin with pressure to open the mouth will help him to the position for sounding the short u. He is helped to the position for the m in the same way as for "mama".

The forty-four speech elements used as the basis for teaching speech are the ones described by Caroline A. Yale

in her book *Formation and Development of Elementary English Sounds*. Each speech element has a definite pattern of stimulation or manipulation. Through a systematic program of teaching speech, the child learns to associate speech patterns or elements of speech with the stimulation. Later on, the child can be led through the pronunciation of common words easily and quickly by simply indicating the elements of sound through these signals. The ability to speak words usually far exceeds the child's active vocabulary.

Teaching the meanings of words so the child can use them to communicate is accomplished through demonstration and association. Names of things are learned by showing the object to the child. Actions can be demonstrated and some other concepts are learned by placing them in juxtaposition. A small object placed beside a large object and something soft next to something hard will teach the concepts of small, big, hard and soft.

IDENTIFICATION OF METHODS

The Tadoma or vibration method. The vibration method which was described in the paragraph dealing with speech reading, is also known by the name of the Tadoma method. This name was given to the method by Miss Sophia Alcorn who originated and developed it. The name "Tadoma" was derived

---

3 Carolina A. Talse, *Formation and Development of Elementary English Sounds* (Northhampton, Massachusetts: Clark School for the Deaf, 1929).
from the deaf-blind pupils taught by Miss Alcorn in 1926—Tad and Ona. Shortly after that date, she moved to Detroit to become principal of the Detroit Day School for the deaf and at that school she developed the techniques of this method. It is also used in teaching speech to the deaf.4

In the Tadoma method, vibrations and the feeling of muscular movements are the primary avenues by which a child obtains an insight into speech patterns and learns to talk. In the initial stages of teaching speech and speech reading by this method, auditory methods are neither ignored nor discarded but follow the use of vibration rather than being used simultaneously. There are two special points of technique which distinguish the Tadoma method from others which use vibration. (1) The child's hands are placed on the teacher's face to feel the vibration and muscular movements. (2) The child's hands are placed on his own face to help him imitate what he has felt on the teacher's face.5

The Moto-kinesthetic method. In the deaf-blind department of the California School for the Blind, the Tadoma method is used in conjunction with another method of teaching speech known as the Moto-kinesthetic method. This method was originally developed for use with cerebral palsied children by Young and Stenchfield.6 With but very little change, it

4Alcorn, op. cit., p. 41.
5Ibid., p. 44.
6Sara H. Stenchfield and Edna Hill Young, Children With Delayed or Defective Speech (Palo Alto, California: Stanford University Press, 1938).
has been adopted for use in teaching the deaf-blind.

A full explanation of this process of stimulating speech can be found in Stenchfield and Young's book, but in this paper only a few examples are given. Stimulation for the sound of \( h \) is as follows: As the current of air in the human mechanism moves against parts or containing walls on its outward pathway, friction is produced and is audible. This sound is utilized as one element with which to build speech. The letter \( h \) represents this simple sound. If the teacher makes the sound while the deaf-blind child feels the movements and he is unable to imitate it, she places her hand at the child's waistline over the diaphragm while the other hand holds the child's jaw in a lowered position. She now pushes inward forcing air out through the throat and mouth and the air moving against surfaces is the result sought. After sufficient repetition of stimulus and response, the child learns to produce the \( h \) sound when only a light touch is made on the stomach.

To stimulate the sound of \( b \), the teacher places the forefinger and thumb of one hand above the upper lip and those of the other hand below the lower lip to bring the lips together with pressure. Muscles in both the upper and lower lips are stimulated to move firmly together, then immediately to part in order to produce the explosive sound of \( b \). Regulation of the voice is taught by having the child feel the vibration and movement on the teacher's face.
To produce the sound for 1, the point of the tongue is somewhat broadened and is pressed lightly against the upper dental bridge; the sides are free. To bring this about, the teacher moves the lips toward the corners, permitting the teeth to show. With the thumb and forefinger, the teacher presses steadily and evenly on the outsides of the upper jaw. The tongue tends to assume a position opposite this point of pressure. Vibrating air moves out of the mouth by way of the sides of the tongue and the initial sound for 1 is produced. The final sound is produced when the tongue moves to the position for the next speech element.

When the child has difficulty forming and placing his tongue to produce these sounds, the teacher uses two methods to help him. First, the child is shown the position when possible by feeling the teacher's tongue. The second way is to use a tongue depressor to help the child achieve the correct positions.

SENSE TRAINING

The primary goal in the initial instruction of a deaf-blind child is to establish communication by language. The use of sense training materials aids in achieving this goal by developing the tactile sense of the child. Montessori type materials are used and any other kindergarten devices which lend themselves to use through the tactile sense.

Matching three dimensional shaped blocks and objects is usually the first step. This is a positive to positive
matching which is a simpler mental process than positive to negative which is the second step. Form boards and insert type devices introduce the positive to negative matching. Other materials used in this training are: beads of different shapes and sizes, tinker toys, building blocks, nests of boxes, ring pyramids, and all such devices known and used in many pre-school and kindergarten situations.

Flat pieces of wood covered with various textured materials and embossed designs is a device for sense training introduced to prepare the child for braille reading. The sense of touch must develop keenly to distinguish the differences in grades of sandpaper or the differences between silk cloth and cotton cloth. The difference in embossed design on cloth can be distinguished also.

Creative skills with scissors, paste and paper, knitting or crocheting, weaving and other creative activities are introduced when the child is ready. All activities of a constructive nature are encouraged because they tend to overcome boredom for the child and divert the tendency for the deaf-blind to be completely subjective.

SUMMARY

The deaf-blind child enters school and his first task is to adjust to his new environment. His teacher and counselor help him to make this adjustment and at the same time develop mutual respect, love and confidence. When this
adjustment is accomplished, the child is exposed to the Tadoma and Moto-kinesthetic methods of teaching speech and speech reading. A consistent and persistent program using these methods gives the child his first insight into the world of language and communication and he has overcome the greatest hurdle in his road to knowledge and understanding. Sense training materials and techniques help him to achieve these first goals and develop outgoing activities which relieve his boredom and subjectiveness. The next step is to develop and strengthen these abilities.
CHAPTER IV

METHODS USED AFTER COMMUNICATION HAS BEEN ESTABLISHED

By the methods described in the preceding chapter, a limited avenue of communication has been established. The deaf-blind child now knows that things, movements, and emotions have names. He is also aware of his ability to communicate with other people. His education now moves into a phase of strengthening and broadening the avenues of communication which will in turn accelerate the learning process and open new areas of interest and knowledge.

LEARNING TO READ AND WRITE

Reading is introduced first and is begun as soon as the child has a definitely known vocabulary. Grade two braille with all the contractions and abbreviations is used. An object, the name of which is familiar to the child, is shown to him and he speaks its name. Then the written braille word is shown to him and after several repetitions the child learns to recognize and know the meaning of the written word. Reading vocabulary soon matches the speech and speech reading vocabulary, and it is not long before his ability to read words far surpasses his speech and speech reading skills. No
Attest is made to teach the alphabet or spelling as such. The highly contracted form of grade two braille makes the teaching of spelling as it is usually taught an impossibility.

Skill in reading progresses more rapidly than the skill of reading speech through the vibration method and soon reading becomes the focal point for vocabulary building, speech, and speech reading.

Learning to write braille follows naturally the ability to read it and the child quickly learns this skill. A braille writing machine is used in writing instruction. Formation of the braille characters on paper is accomplished by pressing the various key combinations. There are only six keys, and one braille character is written in one motion. Writing with a slate and stylus requires a higher degree of manual dexterity. Using this device for writing requires that the child make a separate motion for each dot in the braille character. An additional advantage of the writing machine over the slate and stylus is that the embossed characters appear on the top side of the paper and are available for reading as soon as they are written. Writing with slate and stylus appears on the under side of the paper, and in order to read the writing, the paper must be removed from the slate and turned over.

Speech and Speech Reading Skills Strengthened

In teaching the child, care is taken to prevent
depending upon braille too much for communication. To communicate efficiently with others, the child must continue to develop his speech and speech reading skills.

All new words which are introduced through reading are also given to the child through speech and he learns to speak the word at the same time. Constant repetition is necessary to hold the various skills at approximately the same level.

The teacher must be careful at this stage to introduce only those new words which are within the child's ability to understand and which can be demonstrated one way or another to him. Many words such as "happy," "sad," "sorry," "want," and "glad" are difficult to demonstrate meaningfully to a deaf-blind child. To add these words to the child's vocabulary, the teacher uses spontaneous or invented situations to demonstrate their meaning. When the child cries for some reason, the teacher quickly goes to the child and tells him he is crying and that he is sad. Or if some occurrence brings a strong response of happiness, the moment is used to teach the child the word "happy".

INSTILLING THE NEED FOR SPEECH AND LANGUAGE

There is another area of consideration the teacher must keep in mind in addition to guiding the pupil through the usual academic achievements. The teacher has the task of awakening in the child the feeling that language and communication is a necessity for him. Unless spoken or written
communication is demanded from the child, he will learn to rely upon indicated desires or gesturing.\(^1\)

The habit of placing his hands on the teacher's face is soon acquired and the child will keep his hand there at times when the teacher may be speaking to others on a level far above his comprehension. This experience, however, is of some benefit. A child with normal hearing is exposed almost constantly to language he does not fully understand, but through repetition and association, he learns to understand much of the language which he hears. The deaf-blind child needs the same exposure to language and his way of getting it is to have his hand on the teacher's face. Hearing children learn to speak because it is advantageous to speak, first as an emotional outlet and then as a means of securing the satisfaction of wants. The deaf-blind child must be placed in the same situation so he will learn to speak and read speech or do without things he wants.

THE ACADEMIC PROGRAM

When the child has acquired some skill in understanding speech, is able to speak himself, and can read and write, the fundamental tools for learning have been acquired and the educational process moves into formalized areas. The usual subject matter areas are covered and the material is taught

in much the same manner as it would be taught to normal children, except for adaptations necessary because of deafness or blindness.

OTHER METHODS OF COMMUNICATION

Use of braille for reading and writing and the use of the vibration method of oral communication begin to assume some limitations when the child's academic achievement and social requirements reach a higher level. When attending social or public gatherings such as clubs, church, lectures, or parties, it would not be either practical or socially acceptable for the deaf-blind person to have his hand on each speaker's face. Clear and correct enunciation are necessary in order for the vibration method to function successfully, and many people lack these qualities in their speech. Other methods of communication must be learned by the deaf-blind if they are to enter and participate in these activities.

There are many methods of communication used by deaf-blind people and each has advantages as well as disadvantages. Dinsmore divided these methods of communication into two groups. The first group was comprised of those methods which require a process of learning on the part of the speaker as well as on the part of the deaf-blind person. The second

---

group required learning on the part of the deaf-blind person only.

**Group 1**
The one-hand manual alphabet
The two-hand manual alphabet
The English two-hand manual alphabet for the deaf-blind
The cross code
The American Morse code
Braille hand speech
Braille
The sign language of the deaf

**Group 2**
The alphabet glove
Printing or writing in the palm
The alphabet card
The vibration method
Mechanical devices

Many of these methods of communication are devices or inventions by adult deaf-blind which have arisen out of their need for communication with other people. The methods which shall be described here are the ones most commonly used or taught in schools.

The one-hand manual alphabet. Another common terminology for this method is "finger spelling" and this method is the most widely known and used. Twenty-six positions or movements of the fingers of one hand form the letters of the alphabet. Words and sentences are spelled out by the speaker while the deaf-blind person feels the positions with his hands. With but little practice, "speaking" and "reading" by this method becomes as rapid as normal conversation. It is through this method of communication that Laura Bridgman...
and Helen Keller received their education.

The sign language of the deaf. This method of communication is used mostly by those individuals who were deaf from early childhood and became blind later in life. The sign language was learned before they lost their sight.

This means of communication is composed of a system of gestures by the hands or arms which stand for words and phrases. It is a difficult means of communication for the deaf-blind because it appeals and depends on sight more than on the tactile sense. For those who do know it, it is the most efficient for speed.

Braille hand speech. There are several variations in the use of this means of communication, but in general it is a system of indicating braille writing. The tips of the first three fingers on each hand are used to represent the dots comprising the braille cell. The little fingers and thumbs are not used. The "speaker" and "listener" sit beside each other. The person speaking places his hands directly over the listener's hands—right hands and left hands together. He then depresses his fingers in the same manner as he would in using a braille writing machine to indicate the braille characters.

The alphabet glove. The use of the alphabet glove requires no learning on the part of the person who is not deaf-blind. This system requires learning only on the part
of the deaf-blind.

The deaf-blind person puts a glove on one hand and on this glove is printed the alphabet and numerals. At the tips of the fingers, at each joint, and in the palm are printed the letters of the alphabet. The numerals are printed on the back side of the glove at the ends of the first joint of each finger. For communication both ways, each word and sentence is spelled out by touching the position representing the letters of the alphabet.

SUMMARY

By use of the vibration and Moto-kinesthetic methods, a limited avenue of communication is established with the deaf-blind child. Braille reading and writing is then taught and by using the combination of these means of communication, vocabulary and language skills are developed. Subject matter in its formalized sense is introduced and the process of education becomes more routine and formalized. An important consideration for the teacher during this developmental period is to keep in mind the importance of repetition and insistence on oral communication of high quality. If oral communication is not insisted upon, the child will rely upon indicated desires and gesturing to obtain his wants and desires.

As educational and social needs indicate, other means or methods of communication are introduced. The vibration
method of speech reading cannot be used in educational and social activities where many people other than close friends are gathered. To allow the deaf-blind to function and profit through such gatherings, other methods of communication are taught such as the one handed manual alphabet, the sign language of the deaf, braille hand speech, and the alphabet glove.
CHAPTER V

DEFINITION AND OUTLINE OF THE PROBLEM
FOR RESEARCH, AND SUMMARY

DISTINGUISHING CHARACTERISTICS

Deaf-blind education uses methods and materials which are common to the fields of deaf or blind education, but in addition, there are some characteristics which are not found in either of these fields. From the descriptions of methods and procedures in the previous chapters, the following characteristics have been drawn.

(1) The instruction is individual. Because of the double handicap and the means of communication used, a teacher can only work with one pupil at a time. Consequently, a teacher of the deaf-blind has only two or three pupils in her charge.

(2) There is a close and intimate relationship between teacher and pupil. This point follows naturally from the first. A deaf-blind child is dependent upon his teacher for the fulfillment of desires and needs and out of this condition grows a strong personal relationship.

(3) Development and use of the tactile sense is of primary importance. The tactile sense is the substitute for
sight and hearing and through its development and use, the deaf-blind individual is to have almost his total contact with the world about him.

(4) A combination of methods and materials from the fields of deaf and blind education are used. In general, the methods are derived from the field of deaf education and the materials from the field of blind education.

(5) The rate of achievement is very slow. When the full implications of the double handicap are considered, perhaps the rate of achievement should not be termed as slow, but only in exceptional cases does a deaf-blind child acquire a vocabulary of more than ten to twenty words in the first year of instruction.

(6) There is a total absence of norms or rating scales of any kind which would serve as measures of ability or effectiveness of teaching. Organized effort to teach the deaf-blind on a scale where all of them in need would have a chance at an education has not come as yet. The number of persons who have had this chance is so small that standardization of any kind of tests or measures would be impossible.

COMPARISON OF METHODS

The history of the education of the deaf reveals that as long ago as the seventeenth century there began a divergence of opinion as to the best methods of teaching the deaf. Because the methods of teaching the deaf-blind have
their roots in the field of deaf education, this divergence of opinion has direct bearing. One school of thought which arose, proposed that educational goals could best be achieved by instructing through the language of signs and the manual alphabet. The second group proposed that best results could be obtained by instruction through the oral method where the child learned to read lips and to speak.

Through the years to the present time, the difference in opinion has flourished, and both methods have been used in different schools for the deaf. One change has occurred. Few educators of the deaf now propose the exclusive use of the manual alphabet and sign language throughout the entire education of the deaf child. This school of thought now advocates a combined use of the oral method and the manual alphabet. They advocate the exclusive use of the oral method in the beginning program of education and the introduction of the use of the manual alphabet as soon as the rate of learning demands a more efficient means of communication. They advocate that speech not be eliminated even after the introduction of the manual alphabet, but be used in conjunction with it.

The "oralists," or those who advocate the use of speech and lip reading throughout the entire education of the deaf child, contend that the use of the manual alphabet and language of signs prevents the development of good English grammar and consequently leads to the inability of the child
to understand what he reads and inability to express himself adequately in writing.

Both sides can point to individual cases which support their claims. The full strength of this argument which goes on continuously in the field of deaf education has not become evident in the field of deaf-blind education, but it is a consideration of which teachers in the field are aware. Laura Bridgman and Helen Keller, who are the most outstanding examples of successful deaf-blind persons, were both educated by the exclusive use of the manual alphabet as the primary means of communication. Juanita Morgan, Leonard Dowdy, and Tad Chapman are examples of the success of the oral method of teaching the deaf-blind, but none of these ever approached the academic heights which Helen Keller achieved. Conclusive proof of the superior value of either method is not furnished by these limited examples, but the implication cannot be ignored entirely.

PROBLEMS DEFINED

From the foregoing material, two specific problems have been isolated and a proposal for the solution of one of the problems will be described and outlined.

The first problem. What are the goals or philosophy which should lead and direct the education of these doubly handicapped children? For the teacher in the classroom and the administrator planning the program there is a need for a
clear statement of the specific goals which should be sought. Teachers and administrators who were asked this question in interviews were unable to define the goals specifically. Happiness and self-realization were most often mentioned, but there was disagreement on the question of whether education should be an attempt to approach the normal or should education be concerned with developing the individual to the heights of his ability with whatever methods and means available.

Teachers and administrators in the fields of deaf, blind, and deaf-blind education are the people who should settle the question of what the goals should be in educating these handicapped children. Attempts have been made in this direction but there is disagreement and a compromise has not been reached.

The second problem. Which method—oral or combined—is most effective and efficient in achieving goals of education? This has been a controversial question dating back to the beginnings of deaf education.

A search of literature concerning the education of the deaf and deaf-blind reveals not a single scientific study which has been recorded to settle this question. Kenneth Hodgson, in his book The Deaf and Their Problems,\(^1\) tells of an attempt made in England recently to

scientifically study the problem with control groups, but the project had to be abandoned because of pressure from those advocating the strict use of the oral method.

The only way the question of which method is most effective will be settled is to compare the two methods in a scientific study. The study outlined below is designed to settle the question perhaps not conclusively, but the results, if not conclusive, would point up areas for further investigation. There are too few deaf-blind individuals of school age to enable matched grouping. Also the lack of standardized tests would make matched groupings impossible. Because the question is one of methods common to both the education of the deaf and deaf-blind, the proposed study is set up for the deaf, as there are sufficient numbers and tools available to allow matched groupings.

PROPOSED STUDY

Criteria for setting up matched groups. The first consideration in setting up a scientific study of this nature would be the criteria to be used in selecting matched groups. The following criteria are proposed:

1. age
2. sex
3. intelligence quotient
4. classification of hearing loss
   A. congenital
   B. adventitious
5. degree of hearing loss
6. age at which the handicap was acquired

**Isolating the groups.** Isolation of the two groups from each other would be necessary. In order that the oral method of instruction operate at full effectiveness, the children in that group would have to be isolated to the extent that they would not come into contact with individuals who use the manual alphabet or signs. Isolation of the group using the combined method of instruction would not be necessary.

**Types of schools.** The type of school, whether residential or day school, must be considered. Problems relating to the type of school would be a separate study. The choice of type of school in carrying out the study proposed here would be made on the basis of availability. Either situation would serve the purpose so long as both groups were in a similar type of school.

**Methods to be used.** After establishing the matched groups in similar physical facilities, each group would be taught by its separate method. One group would be taught using the oral method exclusively. Qualified teachers, trained for that method of instruction, should be engaged. Only those teachers who firmly adhere to and believe in the merits of oral instruction should be used in this situation.

The second group would be taught through the use of
the combined method: exclusive use of the oral method up to
and through the level of academic achievement of grade three,
thereafter introducing the use of the manual alphabet and the
language of signs. When the language of signs is introduced,
only those signs which are systematized and follow correct
grammatical structure would be used. The language of signs
would be taught in the same manner as the meanings of words
are taught when added to vocabulary. The slang forms of
signing which are commonly used by the deaf should be elimi­
inated. As in the case of the first group, care should be
exercised in selecting only those teachers fully qualified
and trained in this method of instruction and who firmly
adhere to and believe in its worth.

Measuring the results. Measuring the effectiveness
and efficiency of these two methods of instruction should go
beyond mere academic achievement. Within the concept of
these methods are implications of social adjustment, per­
sonality development, and development of interests. How­
ever, academic achievement should be the primary measure
for comparison.

Measurements used to compare these two methods of in­
struction could be (1) a full battery of achievement tests
such as the Stanford Achievement Tests, (2) a social adjust­
ment scale such as the Heston Personal Adjustment Inventory,
(3) a personality test such as Children's Apperception Test,
and (4) an interest inventory such as Thurstone's Interest
Inventory. Cross correlations should be run on all of these factors to obtain a broader picture of developments.

The tests mentioned above or others very similar have been used with the deaf. In some instances, allowance has to be made because of deafness, but this factor would not assume too great an importance in this situation because both groups have the same handicap of deafness. In order to obtain a valid sampling, each of the two groups to be compared would have to number fifty or more. No definite number is proposed here because that would be determined by the location of the study and the number of children from which to choose.

These tests should be given at regular intervals by a trained person and not administered by the classroom teacher. The achievement tests and interest inventories should be given each year commencing with the fourth year. The personality tests and social adjustment scales should be administered in the third, sixth, ninth, and twelfth grades. The foregoing test intervals are only suggested. So long as the tests are given at regular intervals any arrangement would be satisfactory. This phase of the study would have to be worked out in detail after the location and facilities of the schools were chosen.

Summarizing and drawing conclusions from the evidences gathered in this proposed study should be a cooperative effort on the part of teachers and administrators from both schools. Differences in interpretation which could not be resolved...
should be included in the final report. These non-conclusive areas would form the basis for further studies.

SUMMARY

The field of deaf-blind education is limited by the number of children involved and the number of people actively engaged in this type of work. Adequate facilities are not available to handle the number of children in need of instruction. There are seven schools with departments devoted to the deaf-blind and approximately fifty children enrolled. Twenty teachers are working with those fifty children. Another one hundred fifty or more deaf-blind children are known to be in need of educational opportunity.

The California School for the Blind is one of the schools having a department for the deaf-blind and there are nine pupils enrolled. Three teachers are employed in this department at the California school. Upon entering the deaf-blind department at the California school, the deaf-blind child first has the adjustment to environment to make. Adjusting to physical environment is accomplished quite rapidly but adjustment to new people requires more time.

The two people most concerned with the child when he enters school are his teacher and his counselor who cares for him after school hours. Their task is to build between themselves and the child a mutual love, confidence, and respect. Within a short time after entering school the child
begins his training. The methods of instruction are purely oral. The Tadoma or Vibration method and the Moto-kinesthetic methods are used to teach the child a means of communication.

As soon as the communication barrier has been penetrated, the child begins to learn braille reading and writing. With the acquiring of these skills, the child has the tools necessary for achievement. Sense training goes along with these beginning processes and plays a primary role as the development of the tactile sense is necessary for acquiring of skill in interpreting his environment.

From the descriptions of these methods and procedures are derived six distinguishing characteristics of deaf-blind education. They are (1) close and intimate relationship between pupil and teacher, (2) individual instruction, (3) primary importance of the development and use of the tactile sense, (4) combination of methods and materials from the fields of deaf and blind education, (5) slow rate of achievement, and (6) complete lack of norms or rating scales.

Two of the problems which exist in the field of deaf-blind education are (1) What are the goals of philosophy which give direction to educational programs for these people? (2) Which method—oral or combined— is the most effective and efficient? Solution to the first problem lies in cooperative effort on the part of leaders in the field to define these goals. Some effort has been made, but there is disagreement and compromises have not been reached.
The basis for the second problem has its roots back as far as the seventeenth century when the two schools of thought concerning the values of each method began to define their beliefs. The argument has never ended and an examination of literature in the field reveals no effort to solve the problem through a scientific study. There is a close relationship between deaf education and deaf-blind education, as the primary method of communication used in the latter field is also common to the field of deaf education.

One solution to this problem lies in the setting up of a scientific study using control groups to test each method. Because of the limited numbers of deaf-blind and the unavailability of standardized measures, the deaf-blind could not be used in such a study. Standardized tests are available for use with the deaf and there are sufficient numbers of them to allow this group to be used.

The proposal for a study of this nature sets up criteria for selecting the matched groups and for selecting teachers. Physical setting and types of school are outlined as well as the methods of instruction. Measuring results and drawing conclusions are to be attempted through a program of tests, measurements, and judgments of a committee of teachers and administrators directly involved in the two situations. Conclusive proof may or may not be achieved through this means, but very pertinent facts should become evident and areas needing further study would be indicated.
BIBLIOGRAPHY
BIBLIOGRAPHY


