

THE EDUCATION OF DEAF CHILDREN BY THE ACOUSTIC METHOD

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The education of deaf children in the Illinois School for the Deaf by the Acoustic Method is not a recent innovation. Attempts or endeavors along these lines are recorded in the reports of the superintendents of the school as far back as 1894, when the first permanently organized class was formed. Encouraging results of these early efforts were recognized. No satisfactory reason is presented as to why this phase of our special educational work was not continued as a part of the definite policy of the school. I assume our predecessors found the equipment inadequate for the purpose and probably too cumbersome in construction for continued successful use. Recent advances in radio, acoustic and electrical engineering warrant, in our judgment, renewed efforts to re-establish confidence in this method of instruction.

There has been a good deal of loose talk and thinking about acoustic education—its aims and purposes. Sharp differences of opinion have been expressed as to its real merits and its place in an educational program designed for deaf children; a disagreement as to how intensively and how extensively this kind of education should be carried on in our schools. There ought to be an attempt made to reconcile these conflicting views. I am happy to have the opportunity of submitting the plan adopted and the policy followed for acoustic education in the Illinois school. We believe in acoustic education and wish to reiterate what we have said about it previously—i.e., "Schools for the deaf failing to provide

such training are not doing all they should for their pupils."

Dr. Max A. Goldstein, Director of Central Institute for the Deaf, St. Louis, Missouri, defines the Acoustic Method as follows: Stimulation or education of the hearing mechanism and its associated sense-organs by sound vibration as applied either by voice or any sonorous instrument. This definition is, for our purposes, at least, wholly satisfactory and acceptable. A former superintendent of the Illinois school stated, many years ago, the purpose of acoustic education was "to secure for them (the pupils) such instruction as they would receive in the ordinary schools, were they able to receive it in the public schools." This principal objective holds good today; it is the end we are striving for in our own work.

Our present organization and program of acoustic education had its beginning in 1931. A class of eight young children was organized for the purpose of testing the practical usefulness of an instrument known as the Teletactor, devised and designed by Dr. Robert H. Gault of Northwestern University. This instrument consisted of a high fidelity microphone at the teacher's desk; a powerful amplifier; an electromagnetic receiver and vibrator for each child; a microphone fixed to each pupil's desk; and a set of ear-phones for each child. The progress and the results obtained from this experiment were from time to time reported upon in the professional literature. I shall not take time now to

elaborate upon these reports. I do want to say, however, the opportunities to observe what might be done through hearing, through seeing and through feeling led to further study and experimentation. We thoroughly investigated and tested at least a dozen different makes and types of hearing aids. Every instrument had commendable features; none of them had all we desired. We accepted for use the type we believed would best serve our purposes. Extensive use of hearing aids began in the fall of 1936. The pupils were tested and classified. A year later a newly completed combination dormitory—school building was equipped for the purpose. We were traveling a road we knew had innumerable pitfalls; but one which we felt, none the less, led to a constructive educational program. We are succeeding.

Approximately 150 pupils are now under instruction in this department. Twenty-six of these children have come to us from schools for hearing children. There is a multiple hearing aid in each classroom and every pupil in the department has a set of air conduction earphones with the exception of eight, who prefer the bone conduction type. The pupil recorded as having the greatest amount of hearing has a thirty-five decibel loss in the speech range.

Thirty-four children in the group are not making satisfactory progress. They are considered to be "acoustic failures" and will be transferred to other classes next semester. We believe their places will be readily filled by other pupils now in school and from the new children entering next Fall. Thus approximately twenty per cent of the entire school population is being educationally benefited by the use of hearing aids.

You may logically ask: What types of deaf children in the school are receiving this kind of education? There are three general groupings, classified as follows:

- (1) Hard of hearing children.....
Congenital and adventitious.
- (2) Adventitiously deaf children.....
Those in whom the loss of hearing is due to disease or accident. These children are totally deaf within the speech range.
- (3) Children who had always been considered to be deaf or who had lost all apparent usable hearing before

normal speech and language patterns were acquired.

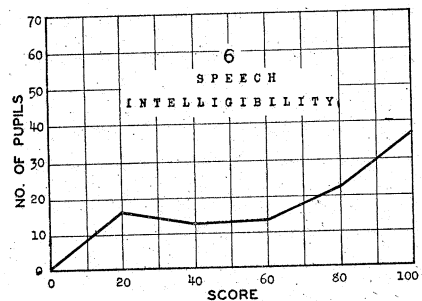
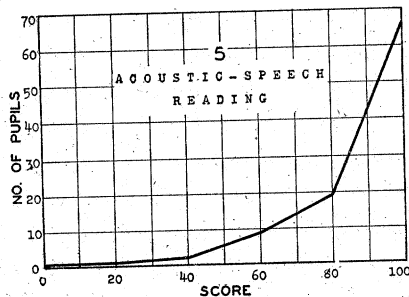
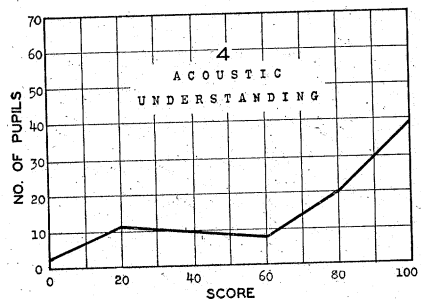
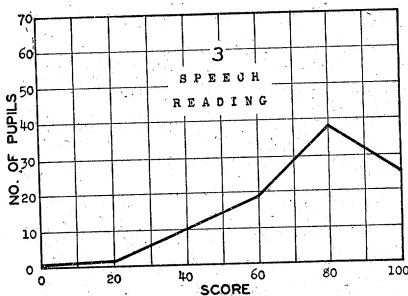
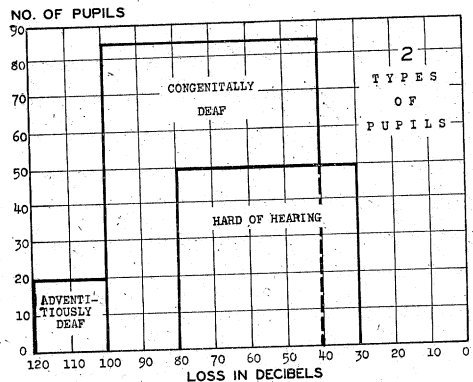
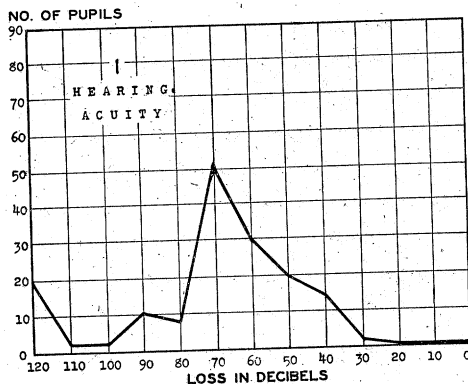
See graph 2 for distribution of types.

There are forty-nine children in the first group. Their hearing was partially trained. This had enabled them, before entering the department, to acquire some speech and some language, the quality of which, however, in many cases was poor. Nineteen children are in the second group. They acquired speech and language before loss of hearing. Their educational problems are very similar to those in the above group—especially the adventitiously hard of hearing. This type of deaf child is usually found to be living an isolated life in our schools for the deaf. Nothing can be done to train his hearing. He must get everything from sight and reading. Eighty-three children are in the third group. These pupils did not have the ability to understand speech through hearing when they came to the school. They were selected on the basis of their hearing acuity as disclosed by audiometric tests. See graph 1 for results of these tests.

To determine the effectiveness and the efficiency of our policy, a five point testing program was set up. This program includes: (1) Drill vocabulary; (2) Speech intelligibility; (3) Acoustic understanding; (4) Acoustic understanding with speech reading; (5) Speech reading.

The drill vocabulary was developed through the use of several word lists. Horn's, as published in the 24th Yearbook, Dolch's, as found in the 36th volume of the Elementary School Journal (1936) and Thorndike's—First 2500 Words, were the most helpful.

Speech intelligibility tests were administered by two members of the faculty, assisted by four auditors. The auditors wrote what they understood the children to say. Every child tested was given ten unrelated sentences to read aloud. Each sentence was read three times. Two of the auditors were permitted to look and listen. The other two auditors were permitted to listen only. The tests were scored on the basis of 100 per cent for the ten sentences. Ten points credit was allowed for each sentence read correctly the first time. Five points credit was allowed when the sentence was read correctly on second



trial. Two points credit was allowed when the sentence was read correctly on the third trial. The following are some examples of the sentences used for this purpose:

- (1) My folks will come for me in the car.
- (2) Our dog sleeps all of the time.
- (3) Everyone was frightened when the lights went out.
- (4) What time will you be ready?
- (5) Do you live on a farm?
- (6) The girl saw her friend on the street yesterday.

Graph 6 shows the results of this test.

The test for acoustic understanding (hearing) was administered by two people, each of whom read ten sentences to the children. The pupils, in this test, put down on paper what they heard the examiners say. The examiners' faces were covered. The children had to depend entirely upon hearing. Graph 4 shows the results of this test.

The next test was given in a similar manner, excepting the pupils were permitted to look at the faces of the examiners as well as listen to them. You will find the results of this test interesting, as shown in graph 5.

The last test was given by the same examiners. This test was similar to that usually applied in determining the proficiency of pupils in speech reading. Graph 3 shows the results of this test.

As already stated, the principal objective is to develop a well-rounded program of instruction through the training of hearing. Nearly all formal classroom work is preceded by acoustic drills on

the important vocabulary and language patterns involved. The pupils are receiving what we choose to call a "hearing vocabulary" for each subject studied. This is especially true in the primary and intermediate grades. Our program for the classes in the upper grades is not so well organized. Most of the pupils in these classes were in other divisions of the school for several years before the acoustic department was established.
