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## A Survey of the Reading Program at the Nebraska School for the Deaf

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A SURVEY OF THE READING PROGRAM AT THE NEBRASKA  
SCHOOL FOR THE DEAF

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A Thesis  
Presented to  
the Faculty of the Department of Education  
University of Omaha

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

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by  
George Propp  
June 1959

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## CHAPTER I

### INTRODUCTION

Several times during the past few years the Nebraska School for the Deaf has been critically attacked for its failure to provide adequate educational opportunities for the deaf children of Nebraska. An impartial study of the school followed, and this study showed that the Nebraska School for the Deaf was, in comparison with similar schools, carrying out its function quite well. However, the charge of educational retardation at the Nebraska School for the Deaf was one that could not be denied. Educators of the deaf everywhere are concerned about the fact that the deaf child is not obtaining an education equal to that of his hearing brothers and sisters.

Reading is the crucial factor in obtaining intellectual growth. Achievement in every school content subject is dependent upon the child's ability to read intelligently and effectively. One cannot help but conclude that the objective of improved educational achievement for the deaf can not be attained without attacking the problem of reading retardation.

#### I. THE PROBLEM

During the past year an extensive attempt to overcome some of the retardation of Nebraska School for the Deaf pupils



was begun by the administration and faculty of the school with the cooperation of the Board of Control, the Department of Education of the State of Nebraska and most of the parents. This ambitious undertaking has been handicapped extensively by the lack of statistics and data on the present achievement of Nebraska School for the Deaf pupils. Naturally, the role of reading as a causative factor in the retardation of the general school academic program was to be one of the basic points of attack. More data was needed about the reading problems to make revitalization of the entire school program more than a hit and miss affair.

The several objectives of this study were as follows:

1. to determine the nature and extent of reading retardation at the Nebraska School for the Deaf.
2. to measure as far as possible the success of the present school reading program.
3. to seek possible causes of retardation.
4. to uncover points of attack.
5. to achieve agreement on goals.
6. to provide the basis for continuing study and to stimulate further research and experimental study.

## II. NEED FOR STUDY

There is a great need for additional study and experimental research in the field of reading. For the deaf child

a weakness in reading, concomitant with language, is the basic factor in his total educational retardation. One should not be lead to believe that educational achievement of the deaf can be improved without first accelerating the reading program. There is no evidence to suggest that teaching techniques or methods can be devised to raise general academic achievement above that of the reading level. Paul McKee<sup>(1)</sup> states that beyond the third grade level a pupil who does not understand a statement which he attempts to read does not understand the same statement when read or spoken to him. Apparently it is as difficult to understand the instructional talking as it is to read. Is there any alternative, then, but to teach fourth grade subject matter to a child with fourth grade skill in reading? Before an upward revision of the deaf school curriculum can take place, higher reading skills must be developed, and to organize a sound reading program the school needs specific knowledge as to the present standards of achievement.

Most achievement test data pertaining to education of the deaf places reading attainment near the bottom of the scale of all academic endeavor. Fusfield<sup>(2)</sup> in 1954 made

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<sup>(1)</sup>Paul McKee, The Teaching of Reading in the Elementary School (Boston: Houghton Mifflin Company, 1948), p. 11.

<sup>(2)</sup>William M. Cruickshank, Psychology of Exceptional Children and Youth (Edgewood Cliffs, Prentice Hall, Inc.), p. 133.

an achievement survey of all deaf students taking the Gallaudet College entrance examinations. His study, made with a Stanford Battery, showed that reading skills stood seventh and ninth in nine areas tested. The median reading score of 134 candidates was 7.5. This was well below the median grade equivalent of 9.2 for the entire test. These figures represent the elite students of the American deaf educational institutions. Here again the need for attacking the reading problem is emphasized.

The great mass of reading research being carried on in the public school systems of America can not be applied to the field of deaf education. The reading problems of the deaf are largely unique and require separate study. True, techniques and measuring devices can be borrowed from the public school reading program, but it would be an error of the first magnitude to assume that the deaf child can't read for the same reasons that his deaf brother can't. The "Why Johnny Can't Read" controversy casts little light upon the reading problems of a school for the deaf, as where would a deaf school go in the national trend toward phonetic teaching of reading?

Successful reading is not spontaneous. It evolves from a well integrated, carefully planned reading program. The school must give the deaf child sufficient reading skill to compensate for the loss of the vital avenue of hearing. If

some light can be thrown on the causes of retardation, the school will be in a better position to prevent and cure. That is the purpose of this survey.

The Nebraska School for the deaf is presently in an enviable position to capitalize upon the results of this study. An enthusiastic administration and an alerted faculty at all levels are fully aware of the problem of reading retardation. Parents of the deaf children are also cognizant of the problem and are eager to help. Funds for any necessary books and material are almost assured and enthusiasm for revitalizing the reading program is abundant. To take advantage of all these favorable factors data is needed, and it is needed now.

### III. DELIMITATIONS

Although the problem may be typical of that which exists in many schools for the deaf, this study was limited to the reading program at the Nebraska school.

This study was not intended as an unfavorable comparison between the School for the Deaf and the public school children in reading achievement. The norms of the public school children were used because they represented a reliable and convenient yardstick against which to establish the probable extent and trend of reading retardation. Although the same skills may be required, it was not implied that the deaf children

should achieve the public school norms. (Because the deaf child is definitely handicapped in acquiring reading skills, a school for the deaf reading program could fall far short of the public school level of achievement and still be termed highly successful.)

It was also one of the premises of this study that the reading problems of the Nebraska School for the Deaf arise from the fact that the children, being deaf, are handicapped in acquiring reading skills.) The teaching competence of the Nebraska School for the Deaf faculty was not suspect. This study should not be regarded as criticism of the Nebraska School for the Deaf teaching staff as the factor of teaching competency was not investigated.

#### IV. DEFINITIONS

None of the terms used in the survey are unique in the field of educational research. However, it might be wise to clarify a few points that may be confusing. By an "adequate reading program" is meant one from which a child gets sufficient reading skills and techniques to understand the reading matter at the grade level where the child happens to be.

In the public schools "grade level" and "curriculum level" are synonymous terms. This is not true in a school for the deaf. Deafness reduces the child's educational capabilities; hence, is not able to keep apace with his hearing

counterpart. The rate at which curriculum level falls behind grade level varies with different subjects and with different classes. At graduation it may be anywhere from two to five years.

The program at the Nebraska School for the Deaf also has other dissimilarities which should be clarified. The typical deaf child entering the Nebraska School for the Deaf at the age of five does two years of preparatory work before entering the first grade. These two years of preparatory work are necessary in order that the deaf child may acquire the tools of learning that he so badly lacks. Hence, when the child enters the first grade he is at least seven years old. This puts the average age at each grade level approximately two years ahead of that of the public schools. The matter is compounded even further by the fact that many parents are reluctant to send their children away from home at such an early age. As a result, many deaf children are first brought to school at the ages of six, seven and upward.

#### V. THE ORGANIZATION OF THIS STUDY

Being a survey of a somewhat analytic nature this survey covered the entire school reading program at the Nebraska School for the Deaf. Some of the findings were inconclusive, but that was one of the objectives of the study---to find problems for further research to solve.

Chapter II of this study deals with previous research in the field of deaf education. Much of this chapter is based upon summarization of previous work. The third chapter deals with the present level of reading achievement of all boys and girls in the Nebraska School for the Deaf above the first grade level.

Chapter IV treats the effect of the present school reading program as determined by the difference in the scores of Stanford Achievement tests given a year apart. In this chapter an attempt was made to gauge the rate in reading improvement, as well as to determine the more significant points of attack.

A detailed analysis of a single class unit will be given in Chapter V. Individual differences, age, sex, physical, mental and emotional are analyzed in this unit of the study.

The effect of some remedial reading work done at the Nebraska School for the Deaf will be reported in Chapter VI with the objective of determining the value of such work. Other techniques and procedures used at the school to overcome reading retardation will also be discussed in this chapter.

The final chapter will deal with conclusions drawn from the study, and a list of recommendations will be presented.

## CHAPTER II

### PREVIOUS RESEARCH AND BACKGROUND

Although it is generally recognized that weakness in language arts is the fundamental drawback in giving the deaf child an education equal to that of his hearing brothers and sisters, reading as a problem in itself has not received due attention. American Annals of the Deaf in a catalogue of all research on deaf education lists 150 Doctor Dissertations and 960 Masters' Theses.<sup>(1)</sup> Of this number only seven of the Doctorate Studies and twenty-eight of the Theses deal with the problem of reading. On the basis of these figures reading has received approximately three per cent of the total research effort in deaf education.

Gallaudet College in Washington D.C. has been most prolific in the matter of turning out research in the field of deaf education.

A good deal of the published matter relating to deaf education can be found in one or the other of the following periodicals: (1) American Annals of the Deaf, (2) the Volta Review, (3) Exceptional Children.

Research material in the field of reading can largely

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<sup>1</sup>Richard W. Flint, Francis C. Higgins, Donald M. Padden, "Doctors' Dissertations and Masters' Theses on the Education of the Deaf", American Annals of the Deaf, 100:343-417, September, 1955.



be classified into four categories as follows: (1) comprehensive surveys of reading abilities, (2) methodology of teaching reading, (3) comparisons of deaf readers with hearing children, (4) studies of specific skills, (5) speech-hearing acuity-reading relationships.

One of the most comprehensive studies made in the reading area of deaf education was that of Gladys S. Pugh in 1946.<sup>(1)</sup> Her study involved pupils from fifty-six schools. Using a large number of cases she was able to devise tentative norms based entirely upon the abilities of deaf children. Her highly authoritative work covers all factors relating to reading achievement of deaf school children. Her recommendations for the treatment of reading problems have been widely adopted.

One of the more interesting studies on methodology of teaching reading to the deaf was the Helen Thompson experiment as summarized by Gates.<sup>(2)</sup> Though the experiment took place more than thirty years ago, it is still timely as it contradicts a vast amount of the wordage recently devoted to the phonetic approach. Using sight methods exclusively, Dr. Thompson achieved phenomenal success. With a group of first

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<sup>1</sup>Gladys S. Pugh, "Summaries from 'Appraisals of the Silent Reading Abilities of Acoustically Handicapped Children'", American Annals of the Deaf, 91:331-349, September, 1946.

<sup>2</sup>Arthur I. Gates, The Improvement of Reading (New York: The MacMillan Company, 1947), pp.509-524.

grade deaf children she was able to develop reading skills superior to those of normal New York City school children. Her methods and materials were subsequently adopted by many of the schools working with deaf children.

In 1956 Barbara Griffin of the Rochester School for the Deaf made a reading evaluation based upon the public school norms of the Informal Reading Inventory.<sup>(3)</sup> Rochester, a private school using the finger spelling method of teaching, has had considerable success in developing language abilities superior to that of most deaf schools. Miss Griffin tested 102 pupils and found that reading retardation averaged about four years. She found that the range of scores was very great and that correlation with intelligence test scores was insignificant. She also reported on the need for continuing study.

One of the better studies dealing with vocabulary development is that of Margaret H. Fitzgerald.<sup>(4)</sup> She made an exhaustive study of the vocabulary difficulties of deaf children and also made some practical and authoritative recommendations for improving vocabulary skills.

In another published article Fitzgerald also gives a

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<sup>3</sup>Barbara Griffin, "Reading Evaluation, a Continuing Study", The Volta Review, 60:476-477, November, 1958.

<sup>4</sup>Margaret H. Fitzgerald, "Vocabulary Development, American Annals of the Deaf, 94:409-449, November, 1949

very good summarization of reading difficulties in deaf education.<sup>(5)</sup> Her generalizations are borne out by most research and may be briefly reviewed as follows:

1. Reading is the key to educational achievement for the deaf child
2. The significant level of development of reading skills is in the middle grades
3. The "hump" in reading is at about the fourth grade.
4. There is room for improvement of teaching techniques.
5. Vocabulary development is the major problem followed by sentence and paragraph comprehension

It must be added that a good deal of published matter pertaining to the reading problems in deaf education is not of a research nature. Much of this published material may be factual, but frequently, particularly when aimed at parents, it subordinates truth to wishful thinking. An example of such irresponsible statements that do a disservice to the deaf child as well as the educator is as follows: "by putting standardized textbooks into the child's hands very early . . . the vocabulary handicap is never encountered".<sup>(6)</sup>

A good deal of information about the problems of reading

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<sup>5</sup>Margaret H. Fitzgerald, "Reading--Key to Progress for Deaf Children", American Annals of the Deaf, 102:404-415, November, 1957.

<sup>6</sup>Sister Anna Rose, "They Can't Help But Read," The Volta Review, 58:382, November, 1956.

in schools for the deaf can also be obtained from the reports of the various conventions, such as the Proceedings of the Convention of American Instructors of the Deaf which is published every other year as a Senate Document. From this and similar reports one may obtain a good consensus of opinion on the problems of teaching reading to the deaf. This dissemination of information is healthy and good, but skepticism in assimilating this type of material is not out of order. Many of the teaching procedures reported may work well as an experiment but fail as a classroom technique, for, as Gates puts it, any individualized work is bound to achieve favorable results even if the technique itself has little merit. (7)

#### SUMMARIZATION OF RESEARCH

A review of the research on the reading problems in deaf education reveals that data supports the following conclusions:

1. Reading is basic toward the acquisition of knowledge.
2. The deaf child is severely retarded in reading achievement. The extent of this retardation may vary, but for the average deaf child in school it is upward of four years.

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<sup>7</sup>Gates, op. cit., p. 122.

3. The factors causing retardation are many and complex.
4. Reading retardation limits total school achievement.
5. The most significant grade levels are in the lower intermediate grades.
6. Vocabulary and comprehension are the most difficult skills for the deaf child to acquire.
7. The deaf child has a poor command of concepts and has difficulties with abstractions.
8. Remedial and individualized work shows favorable results.
9. The advantages of using standardized textbooks outnumber the disadvantages.
10. Reading and language are related skills
11. There is a need for continuing research and for more experimentation

## CHAPTER III

### MEASURE OF ACHIEVEMENT

In order to determine as accurately as possible the extent of retardation in reading, it was decided to give all pupils at the Nebraska School for the Deaf a comprehensive reading test, one that measured total reading skill as well as specific skills. Retardation was determined by the degree to which the deaf student fell short of the public school norms.

#### I. ACHIEVEMENT IN TOTAL READING SKILL

The Gates Basic Reading Tests were administered to all pupils in the Nebraska School for the Deaf in mid-February of 1959. The Gates Tests were chosen as a reliable measure of both general and specific reading skills.

The Gates Basic Tests were given to all pupils in grades five through eleven. The Advanced Primary Battery was given to the two fourth grade classes and the Primary Battery was given to grades one through three. At the time the tests were given the school had classes at all grade levels except the twelfth. There were two classes at the first grade level, two fourth grade classes and two eighth grade classes. Two classes at the same grade level were treated as separate units in this survey for the reason that they were not doing

the same work. Two Preparatory classes were not included in the testing program. Two "slow", or "special", classes were tested but not included in the survey because of the difficulty of determining their grade level. The scores of 116 pupils in the first through eleventh grade were used in this survey.

The distribution of the 116 scores made in the Gates Reading Tests is shown in Table I. All scores of each class were distributed over a grade placement scale graduated at intervals of five-tenths of a grade level. All scores fell within a grade placement range of 1.5 to 10.0.

The table shows that achievement is normal in the primary grades and that retardation becomes progressively more severe as the child moves up the school ladder. Only one student above the third grade surpassed the norm for his grade. Sixty-one of the 116 scores are below the fourth grade placement level.

The figures at the bottom of the table show the total number of pupils in each class, the median score, the calculated norm and the range of all scores in each class. It will be noted that the median scores of grades I and II are above the norm, while the median score of nine eleventh grade pupils is less than fifty per cent of the norm for that grade. Retardation is not serious until the child reaches the fourth grade level in the Nebraska School for the Deaf reading program.

TABLE I  
DISTRIBUTION OF AVERAGE SCORES MADE IN GATES READING TEST  
BY PUPILS OF THE NEBRASKA SCHOOL FOR THE DEAF

Grade	Grades													
Placement	Ib	Ia	2	3	4b	4a	5	6	7	8b	8a	9	10	11
10.0-Up												1		
9.5-9.9														
9.0-9.4														
8.5-8.9														
8.0-8.4														1
7.5-7.9													1	1
7.0-7.4														1
6.5-6.9											1			
6.0-6.4											2			
5.5-5.9								1					1	
5.0-5.4								1	1			2	2	3
4.5-4.9								1				3		1
4.0-4.4						1	1	1			3	5	2	2
3.5-3.9						1	1	2	1	3	4	2	2	
3.0-3.4			3	4	4	3	2	1	3	4	1			
2.5-2.9	1	4	2	4	1	3	3		4	3				
2.0-2.4	5	3	1	1										
1.5-1.9	1													
1.0-1.4														
Total	7	7	6	9	5	8	7	7	9	10	11	13	8	9
Median	2.4	2.5	2.9	3.0	3.1	3.0	3.3	3.7	3.1	3.3	4.2	4.2	4.7	5.0
Norm	1.6	1.6	2.6	3.6	4.6	4.6	5.6	6.6	7.6	8.6	8.6	9.6	10.6	11.6
Range	1.0	.7	1.8	1.4	.8	1.6	1.7	2.4	2.4	1.0	3.3	6.4	4.2	3.8

NOTE: The norms were arrived at by considering the months from September to mid-February as six-tenths of a year. The range was based upon the actual difference between the highest and lowest test score.



Of considerable significance is the increase in the range of the scores as one reads from left to right. This wide range of scores in the classes in the upper grade levels is a regrettable situation, but one that a small school can hardly hope to avoid.

The fact that lower primary grades showed no retardation was surprising. The explanation that the first grade pupil at the Nebraska School for the Deaf is actually in his third year of school was not considered adequate. It must be assumed that the reading skills most difficult for the deaf to acquire are those which begin to appear at the upper primary level. The chart of reading skills needed at each level which was prepared by Lenora Quill<sup>(1)</sup> offered some clues as to what particular skills trouble the deaf children at this grade level. Using this chart (Appendix A) as a guide, it became apparent that the skills needed in the upper primary and lower intermediate grades were widely different from those needed at the kindergarten level. Apparently the deaf child flounders because of difficulty in acquiring the following skills: (1) enlargement of vocabulary, (2) ability to follow directions, (3) ability to summarize or to select central thought, (4) ability to see relationships, (5) ability to use dictionary, (6) ability to read problems with under-

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<sup>1</sup>Lenora Quill, "Reading Skills to be Developed for Children Who Are Deaf," Exceptional Children, 23:278, March, 1957.

standing, (7) ability to visualize situations. All the aforementioned skills are in addition to improvement of kindergarten skills.

Gates, too, dwells at considerable length on what he calls the transition period from Primary to Intermediate reading.<sup>(2)</sup> He enumerates many of the difficulties listed above and adds the following: (1) polysyllabic words, (2) difficulty of recognizing words with reduced cues, (3) phrases and word combinations.

## II. ACHIEVEMENT IN SPECIFIC READING SKILLS

This section of the survey was based upon the individual profiles of the specific skills measured by the Gates Tests. The distribution of the scores in each specific reading skill would, of course, show the same trend as revealed by the distribution of the average scores in Table I, that is, a much wider range at the upper class levels.

Examination of individual profiles showed that the acquisition of skills in the lower levels was much more stable than in the upper classes.

Table II shows the mean score achieved at each grade level in each of the reading skills measured by the Gates Tests. Vocabulary, as noted before, was the only specific

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<sup>2</sup>Gates, op. cit., p. 33.

TABLE II

MEAN SCORE ACHIEVED BY NEBRASKA SCHOOL FOR THE DEAF  
PUPILS IN SPECIFIC SKILLS TESTED BY THE GATES  
READING TESTS

Class	R.V.	G.S.	U.D.	N.D.	L.C.	Range
11	4.5	5.2	4.0	8.7	4.2	4.5
10	4.4	4.6	2.9	6.2	4.2	3.3
9	4.3	4.3	3.0	6.1	3.5	3.1
8a	4.5	*	4.6	*	3.9	.7
8b	2.8	*	3.5	*	3.1	.7
7	3.4	*	3.7	*	2.8	.9
6	3.6	*	5.3	*	3.5	1.8
5	2.7	*	3.7	*	2.9	1.8
	W.M.	P.M.	(Advanced Primary Test)			
4a	2.6	3.2				.6
4b	3.0	3.2				.2
	W.R.	S.R.	(Primary Test)			
3	2.8	3.2	2.8			.4
2	3.3	3.2	2.8			.5
1a	2.2	2.3	2.4			1.2
1b	2.3	2.4	2.5			.2

NOTE: R.V.--Reading Vocabulary, G.S.--General Significance, U.D.--Understanding Directions, N.D.--Noting Details, L.C.--Level of Comprehension, W.M.--Word Meaning, P.M.--Paragraph Meaning, W.R.--Word Recognition, S.R.--Sentence Recognition, P.R.--Paragraph Recognition.

\* (an asterisk) denotes that timing error invalidated scores of the test.

skill common to all three test levels. Five skills were measured in the Gates Basic Test administered to grades five through eleven. These skills, abbreviated in the top of each column in Table II, were: reading vocabulary, general significance, understanding directions, noting detail and level of comprehension. The Advanced Primary Test measured only two skills, word meaning and paragraph meaning. The Primary Test measured three skills: word recognition, sentence recognition and paragraph recognition.

In the development of vocabulary it was found significant that the deaf child at the Nebraska School for the Deaf achieves nearly half his total vocabulary development during his first two years in school. The relation between vocabulary, average and normal achievement is shown graphically in Figure 1.

It was noted that the deaf reader was much superior in noting details than in other skills measured. This is no doubt due to the fact that it is a skill dependent to a considerable extent upon visual cues. Skill in vocabulary and level of comprehension were nearly identical in most cases. Surprisingly, understanding directions showed poorly despite the fact that many of the items in this section of the test were similar to instructions in work books which are in quite common use throughout all grades at the Nebraska School for the Deaf.

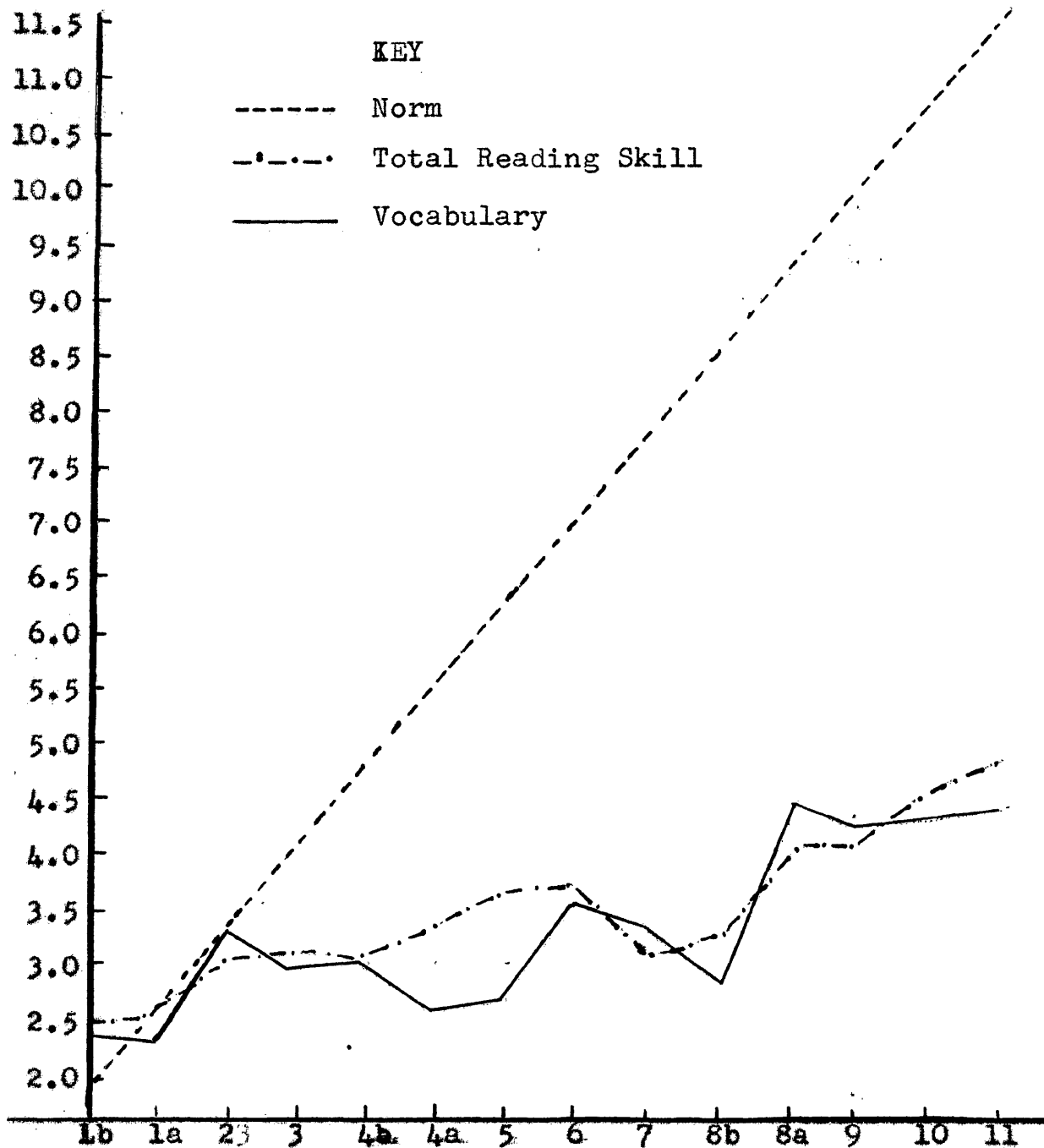


FIGURE 1

COMPARISON OF MEAN VOCABULARY SKILL WITH TOTAL  
READING SKILL AND WITH NORMAL ACHIEVEMENT

### III. SUMMARY

Measurement of the reading achievement of the pupils at the Nebraska School for the Deaf revealed a severe retardation. The lower primary grades showed a surprising strength in reading skills. Retardation began at about the third grade level and grew progressively more severe in the upper grades.

Lower primary classes were well balanced. Homogeneity over the various skills tested was good and the range of total reading strength of all members of these classes was very low. On the other hand, the wide spread of achievement in the upper grades indicates a poor academic situation, and much individualized work is called for.

\*Scores made in the Gates Reading Tests indicate that the typical pupil at the Nebraska School for the Deaf can not hope to attain more than fifty per cent of the reading power of normal children. His general academic achievement will be vastly handicapped by this factor.

## CHAPTER IV

### EVALUATION OF THE PRESENT READING PROGRAM

The evaluation of the present reading program at the Nebraska School for the Deaf was made by comparing the reading scores of two tests taken a year apart. The Gates Tests could not be used for this purpose as there had been no previous Gates evaluation at the school. To measure the progress of the pupils in reading data was taken from the Stanford Achievement Tests. Form J of the Stanford Battery was administered in early March of 1958 and Form K was given in May of 1959. Advanced, Intermediate, Elementary and Primary Batteries were used at the most appropriate grade level.

The Stanford Tests measure only two reading skills, word meaning and paragraph meaning, as against the five skills tested by the Gates Basic Battery. For the purpose of this survey only the average of the two Stanford reading scores were used. There was not much spread between the individual scores in word meaning and paragraph meaning, although word meaning was generally slightly lower but not consistently so. It might be pertinent to point out that scores made in the Stanford Test are quite similar to those made in the Gates Tests with the Stanford scores being slightly higher. For example, the mean of all 11th grade scores in the Gates Test was 5.8 compared to 5.7 for the Stanford average.

Pupils used in this part of the survey were from the second through the eleventh grade. The two first grade classes were not used in this survey as they had not taken the Stanford Tests in 1958. Total scores used in this evaluation numbered ninety.

Progress of the pupil in the reading program was determined by subtracting the 1958 Stanford Test reading score from the grade level score made in 1959. A pupil with a grade score of 4.9 in 1958 and a 5.0 score in 1959 would be showing an improvement of .1 of a grade level. This was termed the pupil's improvement score. This score was calculated for all pupils used in this survey and the scores were distributed as in Table III. To provide an adequate distribution the scores were spread over a range graduated at .2 of a grade level. All scores fell within a range of plus 1.4 to minus 1.2, a total spread of 2.6.

The biggest impact made by Table III is to show that forty of the ninety cases involved showed no improvement in reading skill. Twenty two of this number showed a loss of more than one-third of a grade level. The number of negative improvement scores in the lower grades was very small. In the upper grades more than half of the pupils showed negative results. Norms for the test call for an improvement of 1.2 in grade level over the period of time between the two tests. Only three of the ninety pupils



TABLE III

GAINS MADE BY NEBRASKA SCHOOL FOR THE DEAF PUPILS  
IN STANFORD READING SCORES DURING THE  
PERIOD OF 1-2 SCHOOL YEARS

Gain	Grades													
	1b	11b	2	3	4b	4a	5	6	7	8b	8a	9	10	11
1.3-1.4								1			1	1	1	1
1.1-1.2														1
.9-1.0			2						1					1
.7-.8			1			1		2			3			
.5-.6			2	1	1	1	1	1	2	1	1			1
.3-.4				1	2		1		2	1	2		1	
.1-.2			1	2	1	1	2	1	2			1	1	1
.0				2		1	2	1				2		
-.1-.2				2			1	1		2	1	2		1
-.3-.4									1	1		2	1	
-.5-.6										1		1		2
-.7-.8										3		2	1	1
-.9-1.0										1	1			
-1-up													2	1
Total			6	8	4	4	7	7	8	10	9	11	7	9
Mean			.65	.14	.35	.38	.11	.49	.32	.38	.41	.14	.24	.19

achieved or surpassed this norm. Granted that one does not expect deaf pupils to progress at the same rate as hearing boys and girls, it would not be unreasonable to expect average improvement of at least .6. Only sixteen pupils, less than 18 per cent, achieved this figure of minimum growth expectancy.

Three of the pupils showed a decline in reading skill of more than a total grade. This is even more serious when viewed with the knowledge that this decline represented more than one-fourth of their total reading skill. In none of the three cases involved were illness, absenteeism or physical factors the determining cause.

To determine the effectiveness of the present reading program at each grade level the mean improvement of each class was calculated. These mean improvement scores, rounded off to the one-hundredth, are shown at the bottom of Table III. Again one must note that all high school classes have negative results. This is in spite of the fact that the Nebraska School for the Deaf continues to teach reading skills up to graduation. A poor return is apparently being obtained from the effort being put into the reading program.

A comparison of the Stanford scores in word and paragraph meaning show little significant difference between the two scores. Seldom, however, does the vocabulary

score exceed that of paragraph meaning. This seems to bear out the implication that poor vocabulary is the main cause of comprehension difficulties.

This evaluation of the rate of reading growth of pupils at the Nebraska School for the Deaf shows that progress, even when considering the deaf child's handicap in acquiring skills, is vastly inadequate. To keep pace with the subject content of the school academic program it seems essential that the deaf child make progress of at least .6 of a grade level each year. Beginning with the present 2.4 grade level in the first grade, an improvement of .6 each year would bring the median twelfth grader up to a level of 9.2. This should be the immediate objective.

Probable causes of retardation have been enumerated in previous chapters of this survey. However, the fact that the younger child can make progress where the more mature student fails seems to indicate a further search for causes. The poor rate of growth in reading by Nebraska School for the Deaf pupils may be due to one or more of the following factors: (1) lack of sufficiently skillful teaching techniques; (2) the tendency, as Gates points out, of pupils at the Intermediate level to rest upon their oars;<sup>(1)</sup> (3) the failure of the school program to demand more from the pupil in the way of reading skill.

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<sup>1</sup>Gates, op. cit., p. 35

## CHAPTER V

### A DETAILED ANALYSIS OF A SINGLE GRADE UNIT

In order to uncover some of the probable causes or factors in the reading retardation of students at the Nebraska School for the Deaf a detailed analysis of a single grade unit was made. For this analysis the ninth grade class was chosen. The reasons for choosing this particular class were several: First, it was one of the largest classes in school, numbering thirteen students; second, it had the widest disparity in achievement; and third, it was composed of students of widely different educational background.

All pertinent data pertaining to the members of this class is given in Table IV. The thirteen students in the class, seven girls and six boys, are listed in order of their rank in grade level scores made in the Gates Basic Test. Letters of the alphabet are assigned each student in column one. The second column gives the chronological age of each student at the time the tests were given, February, 1959. Column three gives the number of years that each student has been in school. Time spent in any educational institution and even private tutoring is counted. The I.Q. of each ninth grade student, as determined by the Welscher-Bellevue Performance Test, is given in column four. The fifth column gives the average reading score made in the

TABLE IV

CHARACTERISTICS RELATED TO READING SKILLS OF THIRTEEN NINTH  
GRADE PUPILS AT THE NEBRASKA SCHOOL FOR THE DEAF

I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pupil	C.A.	yr	I.Q.	1958	1959	Gain	R.V	G.S	U.D	N.D	L.C	Avg	ra-	R.A	Rank
				S'fd	S'fd								nge		
A	15-4	9	114	*	8.9	---	10.7	9.1	10.4	12.3	7.6	10.0	4.7	15-4	3
B	17-4	11	103	4.9	4.9	0.0	5.2	6.0	3.4	7.3	4.4	5.3	2.9	10-5	1
C	17-4	12	85	5.1	4.9	-.2	5.2	4.3	4.4	5.4	5.5	5.0	1.1	10-2	6.5
D	16-2	11	124	4.5	4.3	-.2	4.4	4.6	2.8	9.0	2.8	4.7	6.2	10-0	4
E	18-4	13	94	4.2	4.2	0.0	3.8	5.0	2.8	8.6	2.8	4.6	5.8	9-9	6.5
F	15-9	10	94	*	4.8	---	4.8	4.6	3.0	6.1	4.5	4.8	3.1	9-9	9.5
G	15-6	11	106	4.0	3.3	-.7	4.5	4.3	3.0	6.6	2.8	4.2	3.8	9-4	5
H	16-2	11	77	4.3	3.8	-.5	4.3	4.3	3.8	5.7	2.9	4.2	2.8	9-4	9.5
I	15-7	10	113	4.3	4.4	.1	5.6	3.6	3.0	5.7	2.7	4.1	2.7	9-3	2
J	16-11	11	107	4.6	3.9	-.7	3.8	4.0	3.0	6.0	3.8	4.1	3.0	9-3	8
K	16-7	12	100	3.5	3.1	-.4	2.7	4.3	2.9	6.4	3.9	4.0	3.5	9-2	12.5
L	17-5	10	103	2.7	4.0	1.3	2.4	5.4	2.4	5.6	2.1	3.6	3.4	8-9	12.5
M	19-5	14	92	4.2	3.9	-.3	3.8	3.4	2.9	4.6	3.5	3.6	1.7	8-9	9.5

NOTE: An asterisk (\*) signifies that pupil was not tested.

1958 Stanford Achievement Test and column six gives the 1959 Stanford scores. Column seven gives the gain or loss made in the 1959 test when compared with the 1958 scores. The six scores of the Gates Basic Test are given in Columns eight through thirteen. They are respectively, reading vocabulary, general significance, understanding directions, noting details, level of comprehension and the average. The fourteenth column gives the range of the five skills tested by the Gates Battery. Reading age of the pupils is given in column fifteen, and the last column shows academic rank (report card grades).

Some factors affecting the performance of individual students, such as educational background, are not given in Table IV. Student "A", the only case to exceed the norms for the class, entered the Nebraska School for the Deaf in September of 1959 as a transfer from the public school system of Nebraska. He is hard of hearing and has excellent speech and language. He may not be considered a product of the Nebraska School for the Deaf.<sup>(1)</sup> Student "C", also hard of hearing, is semi-paralyzed from the waist down. She has spent four years at the Nebraska School for the Deaf and the rest of her educational background consists of attendance at the J. P. Lord School in Omaha and some private tutoring.

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<sup>1</sup>The answer to the question of what this boy is doing in a class which is generally six years below his reading level is answered in column 16. In his placement tests when he first entered school he ranked sixth in math.

Students "F" and "M" were both transfers from a school for the deaf in neighboring states. Student "I" entered the Nebraska School for the Deaf in January of 1958 as a transfer from the Lutheran School for the Deaf in Detroit, Michigan. The Lutheran School is a denominational institution using the oral method of instruction. In an accident during the summer of 1958 Student "J" suffered some brain damage. Besides having double vision, she is subject to fatigue and is emotionally unstable. Student "K" spent about eight years in a class for exceptional children in another city in this state and "L", although totally deaf, spent several years in regular classes in a small outstate school district.

The rest of the students in the class, B, H, D, E and G, have received all, or most, of their training at the Nebraska School for the Deaf. It is interesting to note that these five students seem to set the mode of achievement for the entire class.

None of the students have deaf parents, and only one, "B", has deaf siblings. Four come from broken homes. Only one of the students, "E", has a record of excessive absenteeism.

One should note that the chronological age given in Table IV shows that the children in this class are considerably older than normal children at this grade level. In this particular class chronological age is nearly three years above the age of ninth graders in the public school system.

The I.Q. scores were taken from a Welcher-Bellevue Performance Test. The scores shown in column four of Table IV were recent in some cases and as much as three years old in others. It must be noted that the Welscher-Bellevue Performance Test is a non-verbal test. While it does measure native intelligence, it is not as accurate a guage of learning ability as a verbal test would be. Hence, the correlation between the I.Q. scores and the scores in reading achievement is very low. In this particular group of students the correlation was plus .246, which is of little significance.

The information contained in columns five, six and seven has been dealt with in Chapter IV. The improvement in reading achievement for this class was negative, a decline of 115 of a grade level. Norms and values used in the "K" form of the 1959 Stanford test were the same as those for the "J" form used in 1958. Therefore, an upward revision of norms could not be responsible for the decline. The relatively close relationship between the Stanford and Gates scores seems to indicate that the loss in reading skill was real. This should be a matter of vast concern.

The array of scores covering the skills tested in the Gates Basic Tests bears out the statement made in Chapter III. Deaf students seem to excel at the visual skill of noting details. This particular class, however, rated weaker in understanding directions than did the rest of the school popu-



lation. It should also be noted that vocabulary scores are remarkably similar to the average score of the entire test. Rank in vocabulary correlates nearly perfectly with rank in the total test. Student "I" is a startling exception in this trend. Although ranking second in vocabulary, he is ninth in total skills. This is no doubt due to an individual difference factor. \*This particular student regards the too obvious solution to a test problem as a "trap" and then marks the second best answer.

The weakness in vocabulary achievement of this class is compounded by the fact that, in addition to a regular reading period, these pupils had an additional period devoted to vocabulary building.

The correlation of Gates Reading Test scores to academic achievement is very significant. A correlation of plus .767 indicates that reading skill is the key factor in academic achievement. The reading scores also correlate high, plus .697, with achievement scores made in the entire Stanford Battery.

This study of individual scores and factors related to reading achievement raised more questions than were answered. Again a highly individualized reading program seems to be called for. Many of test results seem to be inexplicable. For instance, why should a healthy, normal, well-adjusted girl with a strong competitive spirit suffer the same loss in reading skill as the student who during the same interim

suffered brain damage and received a powerful emotional shock? Also, why should the most industrious scholar in the whole school show zero improvement in reading skill?

One does not expect consistent results in any testing program involving human variables. Many of the scores made in this testing program may be suspect as far as reliability is concerned as many of the students tested near the extreme low range. The effect of this upon the total testing program may be negligible.

## CHAPTER VI

### A PROBE OF REMEDIAL WORK AND OTHER FACTORS

If a revitalization of the reading program at the Nebraska School for the Deaf is to come about, present teaching techniques need to be evaluated so as to determine which methods are to be concentrated upon. If teaching techniques are entitled to receive credit for reading success, they must also share the responsibility for failure.

#### I. REMEDIAL WORK

There may be some question as to what exactly constitutes remedial work. Gates holds that all classroom work in reading should be remedial.<sup>(1)</sup> Generally it is assumed that any highly individualized technique aimed at improving specific reading skills may be termed remedial reading.

During the summer months of 1958 a brief remedial program was carried out in order to determine the value of such work. It involved, necessarily, only pupils who resided in Omaha. Unfortunately, only seven students of the desired age and grade level could take part. Due to the small number of subjects in this experiment, the results must be accepted cautiously.

The remedial program was patterned after the one in

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<sup>1</sup>Gates, op. cit., p.121.

effect at the University of Omaha. It involved speed and directed study skills. The work covered twenty sessions over a period of seven weeks. All students in the program were tested under identical conditions at the beginning and at the end of the experiment with the Iowa Reading Test, Batteries Am and Cm respectively. The program consisted of speed reading exercises with a reading rate controller and some directed study work out of the McCall-Crabb Test Lessons in Reading.<sup>(1)</sup> The Test Lessons selected at the grade level of difficulty most appropriate to the known grade level of the student. The mean of the results obtained from the seven students is represented graphically in Figure 2. The dotted line shows day to day improvement in reading rate and the solid line shows progress, in grade level scores, in the directed study phase of the program.

It is apparent from the graph of reading rate that the speed factor should cause little concern for the teacher of the deaf. However, reading for speed was largely mechanical and most of the subjects in the remedial program had very little comprehension at their top reading speed. Progress in the directed study portion of the program was much less spectacular, but it provided considerable hope. It was found that progress in study type work was not steady, there being many ups and downs in the individual graphs. Analysis to determine

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<sup>1</sup>William A. McCall and Lelah M. Crabbs, Standard Test Lessons in Reading, (New York: Columbia University, 1926).

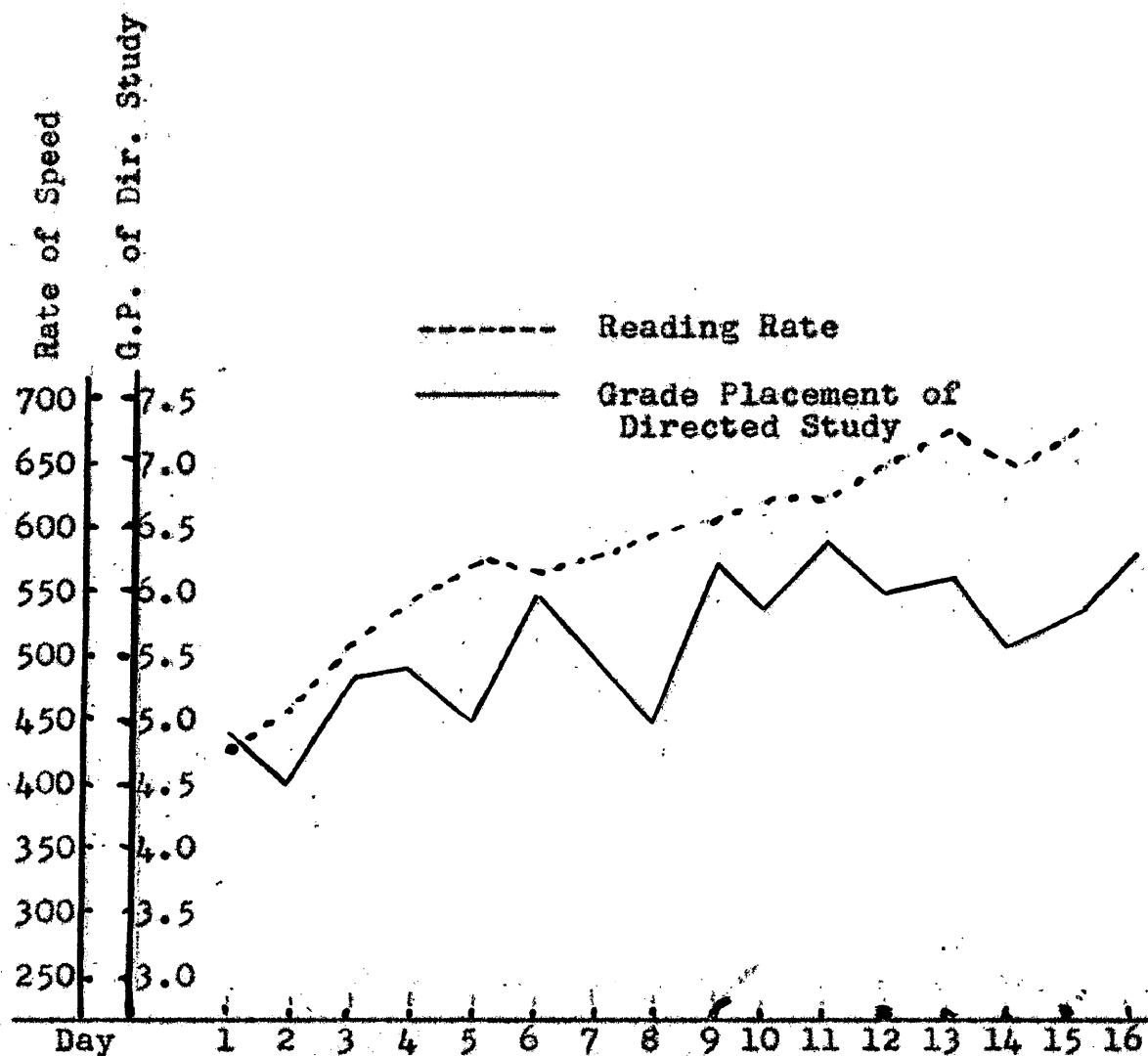


FIGURE 2

MEAN INCREASE IN RATE AND MEAN INCREASE OF  
GRADE LEVEL SCORE IN DIRECTED STUDY

NOTE: No relation in the values of speed and grade level scores was intended.

the cause of these fluctuations revealed the fact that the boys and girls were having trouble with stories in which their background was weak. The students obtained much higher scores, for example, with an Abraham Lincoln anecdote than they did with a story dealing with Chinese customs or the like.

The Iowa Tests given at the beginning and end of the remedial program showed the results found in Table V. Although reading rate was high to start with, additional improvement was made. The final scores in reading speed are nearly fantastic and far out of line with related skills. The mean increase in rate over the seven week program was 2.9 grade levels. The mean increase in the directed study portion of the test was 1.4. Of all the other skills measured by the Iowa Test only alphabetizing showed a similar gain. In alphabetizing the effect of practice would be a strong factor and would account for the increase. Word meaning showed a very slight loss, while comprehension remained constant. Use of Index and Sentence Meaning showed gains of approximately .5 of a grade level.

The net result of the remedial work appeared to be favorable. Due to the small number of cases involved, the findings must be accepted with reservation. The steady day to day improvement was encouraging and there is no reason to believe that other reading skills could not be attacked

TABLE V  
COMPARISON OF IOWA READING TEST SCORES BEFORE  
AND AFTER SEVEN WEEK REMEDIAL PROGRAM

Pupil	Rate Score		Gain	Directed Reading		Gain
	Form Am	Form Cm		Form Am	Form Cm	
A	7.0	11.1	4.1	5.7	5.0	-.7
B	12.9	13.3	.4	4.6	7.6	3.0
C	13.0	13.5	.5	7.4	9.1	1.7
D	11.1	13.3	2.2	5.5	7.9	2.4
E	13.0	13.8	.8	5.2	6.8	1.6
F	9.7	13.3	3.6	4.0	6.3	2.3
G	4.9	13.5	8.6	6.0	5.7	-.3
Mean	10.2	13.1	2.9	5.5	6.9	1.4

with the same degree of success. The least that can be said for a remedial program is that they vastly increase the pupil's interest in developing reading skills.

## II. OTHER FACTORS

The Nebraska School for the Deaf has long been cognizant of the reading retardation problem. Several techniques have been employed to increase reading achievement of deaf pupils. Some of the data presented in previous chapters make it possible to evaluate some of these techniques.

To overcome the deficiency in vocabulary skills the Nebraska School for the Deaf has added a vocabulary building period to the school program. Any program bearing negative results as shown in Chapter IV must needs be re-examined very closely. Perhaps the fault lies with the teaching skills and materials used in the vocabulary building classes. A more likely explanation, however, may be that it is an error to attempt to teach vocabulary unrelated to experience. Fitzgerald remarks that varied and stimulating experiences will not only create a need for wider word knowledge, but will also increase the child's interest in words.<sup>(2)</sup> The vocabulary building classes could perhaps be made more effective by relating them more closely to the student's

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<sup>4</sup>

<sup>2</sup>Margaret H. Fitzgerald, op. cit., p. 413.



experiences. Another alternative would be to return the time to the regular curriculum subjects and re-emphasize vocabulary development there.

A two-pronged attack at the problem of creating interest in reading among the students at the Nebraska School for the Deaf also seems to have failed in producing measureable results. This double attack consisted of a recreational reading period in the classroom once each week and an improvement in the quantity and quality of books on the library shelves. Popular books in modern typography have been checked out very infrequently. A typical example is an Illustrated Junior Library Edition of "Kidnapped" which has been checked out once since 1956.

To overcome this lack of interest in reading some of the upper school children at the Nebraska School for the Deaf were exposed to "high interest-low vocabulary" books from the Sullivan and Tolman list.<sup>(3)</sup> The deaf children seem to be more successful with this type of reading, although comprehension is still apparently low and factors other than enjoyment must be utilized to get the children to read them. The use of "high-interest-low vocabulary" books should be considered only as a temporary solution to the deaf child's

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<sup>3</sup>Helen B. Sullivan and Lorraine E. Tolman, "High Interest-Low Vocabulary Reading Materials," Journal of Education, 139;132, December, 1956.

reading problems, as some authorities seem to think that the use of these books is akin to shortening the mile to improve one's running performance. Cleary expresses this belief precisely by saying that these books "have a style and vocabulary that resemble Pabulum, tasteless but nourishing".<sup>(4)</sup>

A residential school, at best, is not an ideal environment for developing interest in reading. Reading, especially recreational reading, is generally associated with the introvert and loneliness. The daily program at the Nebraska School for the Deaf, operating on the premise that the devil will find something for idle hands to do, leaves little time for the student to develop a taste for books. Furthermore, when everybody is at leisure at the same time, the atmosphere of privacy so necessary for reading is destroyed. One might say, then, that dormitory conditions contribute toward reading retardation.

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<sup>4</sup>Florence Damon Cleary, Blueprints for Better Reading, (New York: The H. W. Wilson Company, 1957), p. 61.

## CHAPTER VII

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

The specific purposes of this survey were enumerated in Chapter I. A full or partial accomplishment of these objectives should result in a stronger, more dynamic and more effective reading program at the Nebraska School for the Deaf. Such a program is needed to accomplish the further objective of strengthening the total school curriculum and providing fuller intellectual development for the deaf child.

#### I. SUMMARY AND CONCLUSIONS

Reading retardation of the Nebraska School for the Deaf students is very severe. The typical deaf student can not hope to acquire more than fifty per cent of the reading development expected of normal children. This retardation in reading is a causative factor in the retardation of the entire academic program of the school.

The development of reading skills at the lower primary level seems to be superior to that at the intermediate and high school level. This may be due to better teaching techniques or to failure of the measuring devices, but a more likely explanation is that the reading skills required at the higher levels are those most difficult for the deaf to acquire. Another causative factor may be the failure of the school to

demand reading skill of a higher level. The deaf child has the learning capacity for better reading achievement.

The present reading program at the Nebraska School for the Deaf has been falling far short of minimum objectives. The reading gains shown in this survey are shamefully low. There was no evidence to indicate that better results are not possible.

Weakness in language, essentially thinking, is perhaps the foremost cause of retardation in reading. Weakness in vocabulary causes weakness in other skills. One would find it hard to disagree with one writer who claims that eighty per cent of comprehension difficulty in silent reading results from a lack of knowledge of word meanings.<sup>(1)</sup> In addition to an improved vocabulary the deaf child must obtain familiarity with the language as spoken in order to acquire the idiom which is so vital toward the understanding of the English language.

The deaf reader is severely deficient in all reading skills except those which are visual or mechanical. Most specific skills can be improved by remedial work and by individual attention.

Many factors are involved in the reading retardation of the deaf child. The development of reading skill is not an

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<sup>1</sup>Broom, Duncan, Emig and Steuber, Effective Reading Instruction, (New York: McGraw Hill Book Co., 1951), p. 225.

easy task, but when the deaf child's potential for learning is fully utilized reading achievement should increase considerably.

Reading retardation is a severe problem but not an insurmountable one. It appears that the deaf student is in a vicious circle where he doesn't read enough because he can't read well, and he can't read well because he doesn't read enough. Experiences need to be provided, concepts need to be developed, and the whole world of the deaf child needs to be broadened.

Who knows but what a little push here and a push there will give the reading program at the Nebraska School for the Deaf the effect of a snowball rolling down hill. Once the child finds the necessary skills to enjoy reading, his retardation problems are licked.

## II. RECOMMENDATIONS

Methodology of teaching reading was not within the scope of this survey, but the search for causes often uncovers the cure. The following suggestions are classified into three groups: (1) those that should be applied in the reading classroom, (2) those that should be applied to the total school program, (3) those dealing with testing and research:

### Recommendations for the Reading Classroom

1. There is a need to develop superior teaching techniques.

2. The reading program at each class level needs to be more highly individualized. This is particularly true in the upper grades where the range in specific skills is very great.
3. Use a basic reading series to assure a step by step development of vocabulary. Utilize fully every device or opportunity to teach vocabulary. Bear in mind that the normal growth in reading calls for approximately 800 new words each year.
4. Use words in a variety of contexts so that the deaf child, who knows what a funeral procession is, can determine the meaning of "a procession of rainy days".
5. Demand more reading skill.
6. Constantly bombard the student with reading stimuli.
7. Encourage use of library and teach student the arrangement so that he can find reading to suit his taste without help.
8. Have definite objectives. Have minimum skills to be developed at each grade level.
9. Encourage and broaden the child's interests. A child whose interests are intense will read above his level.
10. Emphasize to the student at all grade levels that reading is fun.

Reading in the Total School Program

1. It should be the job of everyone in school to teach reading. The deaf child must be bombarded with reading stimuli every hour of the day.
2. The teaching of reading skills should be accepted as a responsibility by teachers of content subjects.
3. All the child's communications stimuli should be in good English form.
4. Emotional reaction for stories should be developed at an early age. Some of the young child's recreation time could well be devoted to a "story hour".
5. Better reading atmosphere could be provided in the dormitories. Each of the pupils' residences should have a reading lounge which only "readers" would be privileged to use.
6. Classroom libraries with material constantly circulated of the main library.
7. Everyone should encourage children to talk about things they have read. The customary "how are you?" greeting should be replaced with something like, "How many hits did Mickey Mantle make yesterday?"
8. Literary appreciation is developed in a school literary organization. This type of extra-curricular activity should be given additional emphasis.

9. Television is an excellent means of broadening the child's experiences. An "interpreter" for some of the more worth while shows might give the deaf child a more realistic reading background.

### Testing and Research

1. This survey should be continued, at least in part, for as long as the present children are in school.
2. There is a strong need for testing and evaluating experimental techniques. For example, one writer claims that some children can not learn to read by the sight method.<sup>(2)</sup> What is the place of phonetics in teaching reading to the deaf? How effective are self-directed workbooks?
3. The testing program should be continuous. Conditions at all testing levels should be as nearly identical as possible.
4. The results of the testing program should be shared with the pupil. It might be advisable to let the student prepare his own graph of reading skills and chart his annual progress. With this technique the student might come to regard reading skills as something like money in the bank.
5. Determine the lasting value of the use of high interest-

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<sup>2</sup>Margaret McEathron, Your Child Can Learn to Read, (New York: Grosset and Dunlap, 1952), p. 13.



low vocabulary books. Do they contribute anything to reading skills besides increasing interest.

6. A longer school year seems to be an almost inevitable answer to the deafchild's retardation problem. For a beginning, school could be started two weeks early with the time being put into a workshop in language arts. This would improve academic achievement to a greater extent than would an increase of the same length of time in regular class work. Testing and remedial work would be stressed in this proposed workshop. Speech and language would share equal emphasis.

Not all these suggestions may have practical value, but no steps taken toward greater emphasis on reading could be seriously wrong.

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## A P P E N D I X

## APPENDIX

### READING SKILLS TO BE DEVELOPED FOR CHILDREN WHO ARE DEAF

#### Kindergarten Level

1. Ability to see likenesses and differences in printed form.
2. Ability to control eye movements.
3. Ability to recognize words.
4. Understanding of word meanings.
5. Comprehension of short sentences.
6. Understanding of sequence in stories.
7. Ability to answer questions in detail.
8. Ability to read and follow directions

#### Primary Level

1. Enlargement of vocabulary.
2. Increase comprehension of sentences.
3. Increase speed.
4. Increase ability to follow directions.
5. Ability to select central thought of a story.
6. Ability to summarize.
7. Ability to see relationships.
8. Ability to use picture dictionaries.
9. Ability to read problems with understanding.
10. Ability to visualize situations and form mental images from printed descriptions.

#### Intermediate Level

1. Enlarge vocabulary through wide reading and ability to secure word meanings from context.
2. Understanding of prefixes and suffixes.
3. Ability to get facts from the printed page.
4. Ability to select descriptive words.
5. Increased skill in reading problems.
6. Ability to predict outcomes.
7. Ability to select key words and sentences.
8. Increased skill in summarizing.
9. Ability to reproduce ideas or facts in proper sequence.
10. Ability to grasp the central thought of a paragraph.
11. Understanding the use of abbreviations, central headings, italics.

Junior High Level

1. Ability to gain information from maps, charts, pictures, tables, graphs while reading.
2. Ability to use reference books adequately.
3. Ability to see relationships.
4. Ability to associate previously acquired knowledge with facts and materials being used.
5. Ability to predict outcomes.
6. Ability to outline.
7. Ability to create mental images from printed descriptions.

High School Level

1. Ability to skim.
2. Ability to select parts of passages of special interest or related to certain topics.
3. Ability to select material that is worth reading.
4. Ability to distinguish between authors evidence and truth.
5. Ability to make accurate generalizations.
6. Ability to organize material to serve a particular purpose.
7. Ability to recognize excellency in literature.