

CURRICULUM DEVELOPMENT BASED UPON A STUDY  
OF THE SPEECH NEEDS AND ABILITIES OF  
PRETTY PRAIRIE HIGH SCHOOL STUDENTS

by

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## INTRODUCTION

Two important problems confronting high schools today are the diagnosis and treatment of various kinds of speech disorders found among students with subnormal speech patterns. Many of the smaller high schools, such as Pretty Prairie (Kansas) High School considered in this study, have failed to attempt the solution of these problems even though they are of great importance and should be disposed of in the secondary school. Travis (1935) has observed that

of the three tools, speaking, reading, and writing; speech stands apart as the master instrument with which man controls his social environment. Socially it is at once the most important source of human stimulation and the most significant human response.

In the Pretty Prairie High School, this problem was further complicated by the presence of students from bilingual home environments with provincial or local dialects. Since the school was making no effort to equip the pupils to meet effectively the normal demands of speech in everyday life, a plan of study was proposed to develop a speech curriculum based on the speech needs and abilities of the pupils. A survey of the literature reveals that previous studies have dealt with the speech problems of the larger schools. The problems of the small high school with an enrollment of 100 or less have not been studied. This study will attempt to show how the small secondary school can effect methods of

diagnosis and treatment of subnormal speech students.

The purpose of this study was to determine (a) a plan of diagnosis for discovering students with subnormal speech, and (b) curriculum development to include speech education for both the normal and the subnormal speech student.

### SURVEY OF THE LITERATURE

Morris (1939), in a survey of speech needs and abilities of tenth grade students in Central High School in Kansas City, Missouri, gave both a voice rating and an articulation rating. The latter rating was obtained with the one to seven scale devised by Dr. Harry G. Barnes and described by Evans (1938). In the Kansas City survey, a trained examiner heard all the students after which all border-line cases were re-examined both by the trained examiner and a classroom teacher. Cases considered not defective by the teacher were ruled out; i.e., not defective. Morris found that

Of the random sample of 178 high school sophomores examined 14% were found to have defects in voice and/or speech. Of these students 7.9% were classed as mildly defective, 5.6% as having defects of medium severity, and .5% as severely defective.

Morris further found that there was no sex difference in the number of articulatory defects nor any difference of statistical significance between the normal and defective groups in intelligence or scholarship achievement. About three-fifths of the group were unaware of the fact that their speech or voices were not perfectly normal.

Evans (1938) used the 1 to 7 articulation scale in a survey of 9-A grade students in the Cleveland Heights (Ohio) High School. She suggested that five divisions on the articulation scale might be better.

Kalp (1938) examined 1372 10-B pupils in Des Moines (Iowa) High School and found these four types of disorders:

a. Stuttering	34
b. Organic defects affecting articulation	225
c. Voice defects	476
d. Emotional inadequacy	406
Total	<u>1,141</u>

Reary (1940) made a study of speech needs of high school students in Bogertown, Pennsylvania. She found that 86 percent of them came from bilingual homes and that their speech was marked by slovenliness and incorrect and indistinct articulation. She also studied the background of the pupils.

The review of the studies by Kalp and others indicate the desirability of using an articulation rating with some method of quantification. Results of other surveys show that at least five percent of the school population possess speech defects that need remedial attention.

### Curriculum Development in Speech

The aims and objectives of speech education as viewed by Travis (1935) included the following items:

1. To establish correct attitudes on the part of the student toward the speaking situation,

2. To make the student conscious of his own speech patterns and the speech patterns of others, to the extent that he is aware of how he and his fellows speak,
3. To discover the student's speech handicaps and inadequacies, and by efficient reeducation to redirect the use of his speech mechanism,
4. To allow students with special abilities in speech to achieve creatively and artistically,
5. To contribute to the development and stabilization of the personality of the student through the application of the principles of mental hygiene as they relate to performances in verbal communication,
6. To develop the speech of a child in such a way as to contribute to the growth of the whole child in school and society.

In a very general sense these outcomes are obtained by the skillful application of sound remedial and educational measures, by holding up to the student correct standards of speech (acceptable speech examples), and by leading him through a series of progressing speech experiences.

Garrison (1942) has built a speech curriculum based on student needs. Her speech classes were made up of the presidents and officers of various clubs and others who wished to improve their personality. The students worked out oral reports, learned to tell stories, and gave book reports. Her speech class was a "laboratory of learning".

This type of class work might well take care of normal student needs, but it will do little if anything for the speech defective.

Kopp (1942) spoke of speech correction in the public schools when he said, "Oral use of language can be taught as

effectively and as easily as can reading and writing." He says that the public school teachers can assume the responsibility of speech correction if they are trained. But before they can do so, the speech corrective programs must be reorganized by reclassification of the speech defectives. They must be reclassified on the two-fold basis of etiology and educability. Only about 15 percent of the speech defectives are organically handicapped; the other 85 percent are non-pathological cases.

Methods of diagnosis and classroom correction have been proposed by Stinchfield (1928), Manser (1935), and Raubicheck (1935). All three authors use the personal interview and the case history in their diagnoses. According to their plans, diagnosis and correction can be accomplished by the speech teacher working cooperatively with the English instructor and other qualified faculty members.

#### DEFINITION OF TERMS

A speech or voice defect has been defined by Travis (1935)

as

an unusually conspicuous deviation in the speech pattern of an individual that fails to bring about an adequate social response and thus constitutes a maladjustment to the speaker's environment. Articulatory disorders are characterized mainly by the inability to produce or to produce accurately speech sounds whether by themselves or in connected discourse. Stuttering is characterized by the repetition of sounds, words or phrases, and by partial or complete blocks on any given sound. It consists essentially of a disturbance in the rhythm of verbal expression.



To this list should be added speech deficiencies due to organic defects such as cleft palate, harelip and tongue-tie.

Morris (1939) defined defective speech as

speech sufficiently different from normal speech to call undesirable attention to itself in ordinary conversation. Defective voice is a voice unpleasant or inadequate to a degree sufficient to give a negative reaction toward the individual.

In this study speech disorders will be referred to as (a) articulatory disorders or defects, and (b) speech disorders or deficiencies due to organic defects. The terms "subnormal speech" or "undesirable speech patterns" may be used to refer to either articulatory defects or defects due to organic causes.

#### METHODS AND PROCEDURE

Three different methods of approach were used to find the student with a speech difficulty. Each student was given a private interview at which time the Blanton-Stinchfield Articulation Test (Appendix, Form IIA) was given. This test was chosen because it was the only articulation test available, and because it contains all the sounds of English as listed in the International Phonetic Association Alphabet, with a few additional consonant combinations. It contains 100 possible points and is so arranged as to be administered easily. The reliability and validity indices are not available, but Blanton and Stinchfield have used it in a number of localities



and have had satisfactory results in the elementary school, as well as with college students (Stinchfield, 1928). Each of the authors has done extensive work in the fields of speech instruction and speech correction and may be accepted as speaking with authority.

Form IIA also contains a paragraph listing all the vowels, consonants, and diphthongs in the English language. This was also read during the course of the private interview. Uniform directions were given to all students. The test was given to them and they were asked to read it at their natural reading rate.

A second method of locating speech difficulties was the teacher's rating of the student with the Levels of Speech Attainment Form (Appendix, IIIA). The teachers were asked to rate the pupils according to the directions given in the rating scale (Appendix, IIIB). This scale has five divisions as recommended by Evans (1938) and was constructed by describing different levels of speech behavior through the use of the same terms. It was necessary to have a rating scale so that the students could be rated on the basis of qualitative factors that are comparable.

Four teachers - two men and two women - participated and each rated every one of the students. Each teacher has a college minor in English or its equivalent, and each has taught English or speech in the public schools of Kansas. The relia-

bility of this test was determined by correlating the ratings of two teachers against the other two teachers' ratings. They were paired in as many ways as possible - two men against two women; man A and woman A against the other two; and man A and woman B against the other two. The three possible ratings obtained were .71, .64, and .49 (average 161).

The ratings of all four teachers were added to give the score known as the rating sheet score. This is essentially the same method as averaging the scores, with the advantage of having no decimal fractions to use in computation. The correlation of the articulation test scores with the rating sheet scores was found to be .593 with a probable standard error of .065.

The third method of approach was through the general questionnaire (Appendix, Form IA) which provided information dealing with the student's mental and physical background and his home environment. This questionnaire was made up by selecting items from case history forms used in clinical speech diagnosis (Raubiocheck, 1935), in homeroom surveys (Morris, 1939) and from health and physical records used in guidance (Crawford, 1928). This study does not concern itself with all the items listed in the questionnaire, except that they aid in diagnosis and treatment of the student with a speech disorder.

Each student was given the Terman-McNemar Test of Mental Ability (Form C, reliability .96; validity .53) and the Emporia

Every-Pupil Vocabulary Test. The Terman-McKemar test was chosen because it is a thorough revision of the Terman Group Test of Mental Ability, and it has been standardized on a national basis. I. Q.'s are derived through the deviation method and the process of scoring has been simplified. In bringing this test up to date the authors of the test have used material that is more homogeneous and is, therefore, more nearly comparable qualitatively.

The Emporia Every-Pupil Vocabulary Test was used because this test is a measure of vocabulary achievement, and since the testing program of the school includes this test in the spring of each year, these test scores were available. The test has 120 multiple choice items and state-wide norms are sent out each year which afford a means of comparison with other schools.

The results of these tests were used to show the relationship between mental ability and speech behavior. In examining the relationship between I. Q.'s and speech behavior, and between vocabulary achievement and speech behavior, several scatter diagrams were prepared. One diagram was prepared for the data showing the relationship between the I. Q.'s and the articulation test scores, and another for the I. Q.'s and the rating sheet scores. In showing the relationship between vocabulary achievement and the articulation test scores, it was necessary to prepare a scatter diagram for each grade represented in the study. This was also done for the corre-

lation between vocabulary and the rating sheet scores. It was necessary to make these diagrams to avoid the influence of age upon the vocabulary test scores. Students naturally tend to increase their vocabularies with age and the same tendency is noted as they progress from the ninth to the twelfth grades.

The scatter diagrams showed that the scores tended to lie in a straight line and were therefore rectilinearly related. From these diagrams were determined the "product-moment" coefficients of correlation and the correlation ratios.

Although the enrollment of the school was listed as 106, complete records were obtained for only 100 students. Six students withdrew before the close of the school year.

#### PRESENTATION AND INTERPRETATION OF DATA

Results obtained from the Terman-McNemar Test of Mental Ability indicate that the mean I. Q. of the 100 students surveyed was found to be 99.41 with a standard deviation of 12.60. The median of the group is 100.50. This indicates that the level of the general intelligence of the group surveyed is such that it is a normal group and not a select group. Table 1 gives the frequency distribution of the I. Q. scores of both the boys and the girls in the group. The girls rank higher in general intelligence than do the boys. It would therefore be expected that better speech patterns would be found among the girls than among boys. Tables 8 and 9

clearly indicate that the girls in the group do have better speech patterns than do the boys.

Table 1. Distribution of I. Q.'s.

Scores	:	Boys	:	Girls	:	Total
135 - 39				2		2
130 - 34						0
125 - 29						0
120 - 24				2		2
115 - 19		3		2		5
110 - 14		5		8		13
105 - 09		5		8		13
100 - 04		12		4		16
95 - 99		7		8		15
90 - 94		6		2		8
85 - 89		11		3		14
80 - 84		5		2		7
75 - 79		2		1		3
70 - 74		2				2

Mean of total group      99.41  
S. D. of total group    12.60

The correlation between mental ability and the articulation test scores was found to be .461 for the entire group with a standard error of .079. This coefficient is more than three times its standard error and is therefore significant. Table 2 shows the frequency distribution of the articulation test scores. The scores in this table represent the number of errors, so that three is the best score and 17 is the poorest score. The influence of the bilingual home environment upon the articulation test scores tended to lower this relationship. For instance, two students with I. Q.'s above

average, but with poor speech patterns, came from bilingual homes. The presence of three abnormalities due to organic defects also tended to lower this correlation, because two of these cases had average I. Q.'s and yet their speech patterns were definitely subnormal.

Table 2. Articulation test scores.

Scores	:	Boys	:	Girls	:	Total
3				3		3
4		5		8		13
5		9		11		20
6		13		11		24
7		5		3		8
8		9		1		10
9		10		1		11
10		3		1		4
11		1		2		3
12						0
13						0
14		1				1
15		1		1		2
16						0
17		1				1

Mean of total group 6.74

S. D. of total group 2.60

Table 3 shows the distribution of the rating sheet scores. The scores represent the sums of the teacher's rating for each of the students as obtained from rating sheet Form IIIA. A score of four was the highest rating obtainable, and the lowest rating was 18.

Table 3. Rating sheet scores.

Scores	:	Boys	:	Girls	:	Total
4				1		1
5						0
6						0
7				1		1
8				6		6
9		3		8		11
10		9		7		16
11		18		11		29
12		11		5		16
13		6		2		8
14		4				4
15		2				2
16		3				3
17		1		1		2
18		1				1

Mean of total group      11.19  
 S. D. of total group    2.21

The correlation between mental ability and the averaged rating sheet scores was .620 with a standard error of .062. This coefficient as well as the coefficient between mental ability and the articulation test scores are both significant at the one percent level of confidence, which means that in any normal distribution 99 percent of the cases lie within 2.58 standard deviations of the mean, or that one percent deviate from the mean by that amount (Lindquist, 1942).

The results of the correlation between vocabulary and the articulation test scores are indicated in Table 4. The coefficients obtained are sufficiently large to be significant



at the one percent level of confidence. The correlation between vocabulary scores and the averaged rating sheet scores is higher for grades nine and ten (.576 and .652, respectively) than those obtained for grades 11 and 12 (.376 and .389 respectively). These coefficients are such that they would be considered valid at the five percent level of confidence, or such as to indicate that 95 percent of the cases lie within 1.96 standard deviations of the mean. The variation of the correlations between vocabulary achievement and the articulation test scores and between vocabulary achievement and the rating sheet scores is due to certain factors that could not be kept constant. Age is one such factor that would affect correlation of vocabulary by grades.

Table 4. Mental ability and vocabulary achievement correlations.

Test	: Rating sheet		: Articulation test	
	: $r^*$ :	$\sigma_r$	: $r$ :	$\sigma_r$
Terman-McNemar test of mental ability (I. Q.)	.620	.062	.461	.079
Emporia Every-Pupil vocabulary test				
Ninth grade	.576	.129	.465	.151
Tenth grade	.652	.105	.408	.152
Eleventh grade	.376	.199	.491	.166
Twelfth grade	.389	.181	.678	.115

\* $r$  = coefficient of correlation

Table 5 shows the distribution of the vocabulary test scores of the entire group. The range of the scores is due to the fact that all grades and all age levels are represented. Other factors that would affect the correlation are the variation in class enrollments and organic speech defects. In grades 11 and 12 the class enrollments were small (21 and 22), so that one or two organic speech defects would tend to upset the correlation.

Table 5. Vocabulary achievement scores.

Scores	:	Boys	:	Girls	:	Total
110 - 14				1		1
105 - 09						0
100 - 04		2		5		7
95 - 99		6		3		9
90 - 94		3		4		7
85 - 89		8		7		15
80 - 84		8		8		16
75 - 79		4		2		6
70 - 74		3		5		8
65 - 69		2		2		4
60 - 64		2		1		3
55 - 59		7		2		9
50 - 54		4		1		5
45 - 49		2				2
40 - 44		1				1
35 - 39		1		1		2
30 - 34		2				2

Mean of total group	77.25
S. D. of total group	18.60

These data indicate that both the student with a poor speech pattern and the student with subnormal speech are below average in mental ability and in vocabulary achievement.

The student with the best speech pattern generally ranks high in mental ability and in vocabulary achievement. An exception to the above statements may occur in the case of the student whose speech is subnormal due to organic defects. In such cases the nature and severity of the defect must be taken into consideration.

### Monolingual and Bilingual Home Environments

The nature of the home environment of each student was obtained from the general questionnaire (Appendix, Form IA). In the group surveyed 53 or 53 percent came from homes in which they were under the influence of more than one language or dialect. The second language employed was found to be German or one of the many Germanic dialects.

Table 6 shows the difference in the means of the scores for students from monolingual homes and those for students from bilingual homes. It should be remembered that the lower mean in each case represents the better score.

The difference between the means of the rating sheet scores is 1.29 with a possible standard error of .488. The critical ratio in this case is 2.48, which is significant at the two percent level of confidence. This difference is in favor of the students from monolingual homes. The difference of the means of the articulation test scores is .99 with a standard error of .480. This critical ratio is 2.06 and is

significant at the five percent level of confidence.

Table 6. Comparison of monolingual and bilingual home environments.

	: : Mean	: : Difference between means	: : Standard error of difference	: : Critical ratio
Rating sheet				
Monolingual	10.50			
Bilingual	11.79	1.29	.498	2.48
Articulation test				
Monolingual	6.17			
Bilingual	7.16	.99	.480	2.06

### Speech Needs and Abilities

The speech patterns of the students were all carefully checked. As indicated in Table 7, seven percent of the students were found to have definitely subnormal speech patterns. Another 11 percent had mild or medium deviations from normal speech, but which were such that they warranted remedial treatment. These students were placed into these two groups by two instructors who were qualified to teach speech on the secondary level. A student was placed in the mild to medium group if in the opinion of both teachers his speech behavior was a negative factor in his personality and such that it would tend to handicap him in ordinary life speech

situations. If the student's speech was even more subnormal - if his teachers found it difficult to understand him, or if he could not control his voice, he was classified in the definitely subnormal group.

Fifteen of the abnormal cases listed were articulatory defects and three were found to be subnormal due to organic defects.

Table 7. Nature and number of speech abnormalities.

Subnormal speech patterns	:	Boys	:	Girls	:	Total
Speech definitely subnormal	:	6	:	1	:	7
Mild to medium deviation	:	9	:	2	:	11
Articulatory deviations	:	14	:	1	:	15
Organic deviations	:	1	:	2	:	3

Table 8 gives detailed information regarding the seven definitely subnormal cases. Four of the seven students having subnormal speech patterns were in grade nine; two cases were from grade ten. Only one case came from grade 11 and there were no cases from grade 12. This agrees with the findings of previous studies in that all workers agree that the percentage of children with articulatory speech defects decreases gradually from the lower to the higher grades (Travis, 1935).

Table 8. Students with definitely subnormal speech patterns.

Case	: :Speech :difficulty	: :Sex	: :I. Q.	: :Grade	: :Vocabulary :percentile rank :within grade	: :Home en- vironment	: :Speech training
V. F.	Organic (hearing)	F	82	11	7	Bilingual	None
W. B.	Articulatory	M	99	9	49	Bilingual	None
W. G.	Articulatory	M	77	9	9	Bilingual	None
L. R.	Articulatory	M	82	10	2	Bilingual	None
R. R.	Articulatory	M	70	10	12	Bilingual	None
V. S.	Organic (lingual lisp)	M	99	9	30	Bilingual	None
V. Z.	Articulatory	M	70	9	6	Bilingual	None

This does not mean, however, that the problem has been solved. It does mean that in many cases the speech defective has dropped out of school before he reached the twelfth grade. This would uphold the idea that speech instruction should be given in the ninth or tenth grade. Another factor which would cause the disappearance of the articulatory defect is that 16 out of the 22 students in grade 12 have had some kind of speech training.

The percentile ranks of the vocabulary scores of these defective students in their respective grades show that five of these students are in the first quartile and the other two are in the second quartile. The mental abilities of these students were found to be below average. The two boys with the lowest I. Q.'s (both 70's) were found in this group. The nature of this group of students would make it necessary to offer speech instruction on such a level that it could be understood by a student whose I. Q. is below average. These students have had no speech instruction and they are all from bilingual homes. The speech program of the high school did not seem to provide any instruction for these students in the field of speech. Since it did not, the influence of the bilingual home environment tended to hinder the development of desirable speech patterns. This is evidenced by the nature of the student's speech.



## RESULTING CURRICULUM DEVELOPMENT

The above data indicate that speech instruction and remedial treatment to fit the needs of high school students should be given them early in their high school work. Such instruction would have to contain the basic fundamentals of good speech. Vocabulary studies, as well as articulation and enunciation drills, should be included. Such instruction would conform to the aims and objectives listed earlier in this study. If such a course were offered in the ninth grade, it would allow ample time for a follow-up course later in the student's high school training.

It should also be noted that speech correction in the secondary school must be the problem of the entire teaching staff. The speech teacher cannot do it alone. Speech, like English, is a tool subject and can be improved only through persistent application and practice. In cases due to organic abnormalities, or malformations, the services of a physician or of a speech therapist are required. On the other hand, the speech therapist cannot effectively bring about the desired results without the help of the classroom teacher. Provision should be made by the school so that the therapist and the speech teacher can work cooperatively.

Of the 18 cases in the present study that demand remedial treatment, it is evident that 15 cases, or all the articulatory disorders, can be corrected in the classroom if placed under

the direction of a competent speech teacher. Of the three disorders due to organic causes, two are due to defective hearing and one is a student with a lingual lisp. The fact that they need the services of a physician does not preclude the possibility of helping them in the classroom. If individual attention is given to each of these cases, much can be done for them.

Table 9 gives information regarding the students with the best speech patterns. Six of these students are girls and one is a boy. A comparison of Table 8 with Table 9 indicates that girls have better speech patterns than do the boys. This fits in with the general findings of previous studies that girls excel boys in language abilities.

The I. Q.'s of these seven students are all above normal, and the percentile ranks of their vocabulary scores are, with one exception, in the upper quartile. Only one student in this group comes from the ninth grade. Both of the students having the highest I. Q.'s in school are in this group.

These data indicate that the students with the best speech patterns rank high in mental ability, and in vocabulary achievement. They also point to the fact that students coming from bilingual homes tend to have poorer speech patterns than those from monolingual homes.

A curriculum which is based upon the needs and abilities of this group of students must offer a wide range of speech activities and speech experiences. It should offer something

Table 9. Students with the best speech patterns.

Case	Speech :difficulty	Sex	I. Q.	Grade	Vocabulary :percentile rank	Home en- :vironment	Speech :training
V. D.	None	F	135	12	98	Monolingual	Yes
B. H.	None	F	109	11	55	Bilingual	Yes
E. K.	None	F	112	12	87	Monolingual	Yes
D. S.	None	F	135	9	98	Bilingual	Yes
H. S.	None	F	124	10	98	Bilingual	None
E. B.	None	M	119	10	85	Monolingual	None
F. G.	None	F	105	10	95	Monolingual	Yes

for the student whose mental ability is below normal, as well as for the student with better than average mental ability. Such experiences must be based upon the fundamentals of good speech. Vocabulary studies would by no means be neglected in such a program. Individualized instruction will have to supplement classroom work for those with specific needs.

During the course of this investigation, it was observed that once the student was made aware of his difficulty, he was eager to learn just how he could improve his speech pattern. While a remedial program was not set up in the school, it was noticed that there was a decided change in the attitude of the teachers and pupils toward speech improvement. The fact that the speech deficiencies were identified caused a noticeable improvement in the speech patterns of some students.

An adequate speech curriculum should provide a means by which the student can be made aware of his difficulty, so that he can consciously work toward the improvement of his speech pattern. The use of the individualized speech test, such as the articulation test used in this study, will do much to make the student aware of the nature of his speech difficulty. It will also provide a point of departure from which he and his teacher can work cooperatively to improve his speech pattern.

## SUMMARY AND CONCLUSIONS

1. The purpose of this study was to determine a plan of diagnosis to discover students with subnormal speech patterns and subsequent curriculum development to include speech education for both the normal and the subnormal speech student.

2. A survey of the literature revealed that previous studies had been conducted in schools having enrollments of several hundred or more, but that the problems of the small school had not been considered.

3. Results of the Terman-McNemar Test of Mental Ability indicated the group surveyed was a normal group and not a select group. The I. Q.'s of the girls were a little higher than those of the boys.

4. The articulation test (Form IIA) and the rating sheets (Forms IIIA and IIIB) proved to be effective aids in finding both the student with a superior speech pattern and the student with subnormal speech.

5. A study of subnormal speech patterns indicated that there were two causes for subnormal speech; articulatory disorders and disorders due to organic defects. Fifteen (83 percent) of the students with subnormal speech patterns were found to have articulatory abnormalities and three cases (17 percent) were due to organic defects.

6. Seven percent of the entire group had speech patterns that were definitely subnormal and an additional 11 percent had speech patterns that were classed as mild to medium abnormalities.

7. Girls were found to have better speech patterns than the boys. Of the seven cases that were definitely subnormal, six were boys. Of the seven students that had the best speech patterns, six were girls.

8. Speech instruction and remedial treatment to meet the above needs should be given these students early in their high school work. Such a course should contain the basic fundamentals of good speech. Vocabulary studies, articulation and enunciation drills should be included in the course of study.

9. Such a speech curriculum should begin in the ninth grade. This would allow ample time for follow-up courses to take care of individual needs.

10. Speech correction in the secondary school must be a problem of the entire teaching staff.

11. Fewer cases with subnormal speech were found among students that had had speech training.

12. The percentage of cases of subnormal speech was lower in the twelfth grade than in any other grade in the high school.

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## REFERENCES

- Crawford, C. C.  
The technique of research in education. Los Angeles,  
Univ. of So. Calif. 320 p. 1928.
- Evans, Dina Reese.  
Report of speech survey in 9-A grade. Quart. Jour.  
Speech, 24: 83-89. Jan. 1938.
- Garrison, Geraldine.  
High school speech based on student needs. Quart.  
Jour. Speech, 23: 219-221. April, 1942.
- Kalp, Earl S.  
A summary of the Des Moines High School speech course  
of study. Quart. Jour. Speech, 24: 90-95. Feb. 1938.
- Kopp, George A.  
Speech correction in public schools. Teachers College  
Record, 43: 277-286. Jan. 1942.
- Lindquist, E. F.  
A first course in statistics. New York. Houghton  
Mifflin. 242 p. 1942.
- Manser, Ruth B.  
A manual of speech correction on the contract plan.  
New York. Prentice-Hall. 333 p. 1935.
- Morris, D. W.  
Survey of speech defects in Central High School,  
Kansas City, Missouri. Quart. Jour. Speech, 25:  
262-269. April, 1939.
- Raubisheck, Letitia.  
Teaching speech in secondary schools. New York,  
Prentice-Hall. 291 p. 1935.
- Reary, Hilda S.  
A study of the speech needs of high school students in  
a Pennsylvania German community. Unpublished thesis.  
Univ. of Maine. 254 p. 1940.
- Stinchfield, Sara M.  
Speech pathology with methods in speech correction.  
Boston. Expression Company. 266 p. 1928.

Travis, L. E.

Diagnosis in Speech. In Whipple, G. M. The 34th  
Yearbook, Nat. Soc. Study Educ. Bloomington, Ill.,  
Public School Pub. Co., 563 p. 1935.

## APPENDIX

Name \_\_\_\_\_ Date \_\_\_\_\_  
 Home Address \_\_\_\_\_ Grade \_\_\_\_\_ Sex \_\_\_\_\_

## School Record:

Have you ever failed or repeated a grade? \_\_\_\_\_ Which one? \_\_\_\_\_  
 Have you ever skipped a grade? \_\_\_\_\_ Which one? \_\_\_\_\_  
 Are you taking any studies outside of regular school work, such as music,  
 voice, expression?  
 What courses have you taken in speech, public speaking, expression, or  
 dramatics?  
 In which extra-curricular speech activities have you participated while in  
 grade school? \_\_\_\_\_ in high school? \_\_\_\_\_

## Home and Family:

What is your father's occupation?  
 What was your mother's maiden name?  
 What nationality is your father? \_\_\_\_\_ mother? \_\_\_\_\_  
 In what state or country was your father born? \_\_\_\_\_ mother? \_\_\_\_\_  
 Where were you born?  
 How many years have you lived in the Rocky Prairie community?  
 What language or dialect besides English is spoken in your home?  
 By whom--father? mother? sisters & brothers? grandparents?  
 Do you understand it? \_\_\_\_\_ speak it? \_\_\_\_\_ With whom? \_\_\_\_\_  
 Is your father living? \_\_\_\_\_ mother? \_\_\_\_\_

## Health and Physical Record:

Height \_\_\_\_\_ Weight \_\_\_\_\_ Age \_\_\_\_\_  
 Handedness \_\_\_\_\_ Hearing \_\_\_\_\_ Sight \_\_\_\_\_  
 What childhood diseases have you had?  
 Have your tonsils been removed? \_\_\_\_\_ adenoids?  
 What operations or injuries have you had?  
 What difficulty have you had with your speech?  
 What is your speech difficulty now?

## Activities:

What is your hobby?  
 Do you like to read?  
 What is your favorite magazine? \_\_\_\_\_ newspaper?  
 Do you listen to the radio every day?  
 What is your favorite radio program?  
 How often do you attend the movies? \_\_\_\_\_ parties?  
 Of what church are you a member?  
 How often do you attend church or Sunday school?  
 Do you work after school hours? \_\_\_\_\_ during the summer?  
 What school subject do you like best? \_\_\_\_\_ least?  
 What is your favorite recreation?  
 What are your ambitions for the future?

I. \_\_\_\_\_

C. A. \_\_\_\_\_

Speech Record

Here are given 34 sentences, each containing three sounds to be checked and credited, with the exception of the last sentence which contains only one sound to be checked. The score is 100: or 33 times 3 plus 1. Total of 100 points.

	Test Sounds		
1. He could not adhere to the whig plan.	h	h	wh
2. He fell, baffled off the cliff.	f	f	f
3. You have a good view of the river, from the cove.	v	v	v
4. Can you bring the basket at eight o'clock?	k	k	k
5. The girl was dragging a heavy bag of potatoes.	g	g	g
6. The monk was ringing the gong.	ng	ng	ng
7. Pick the apples when they are ripe.	p	p	p
8. He brought the rubber ball for Rob.	b	b	b
9. The mob heard the rumbling of the drum	m	m	m
10. Try to bail the water out of the boat.	t	t	t
11. I did not wonder at the deed	d	d	d
12. He brought us some nuts and a candy cane.	n	n	n
13. The child was scratching a match on the chair.	ch	ch	ch
14. Jack put the toy engine on the bridge.	j	j	j
15. She was washing that dish.	sh	sh	sh
16. The tape measure is brown and gilt.	br	zh	lt
17. I saw the basket of lace	s	s	s
18. Zero is called the freezing point.	z	z	z
19. Walter was away last Christmas	w	w	kr
20. Have you read the news about the flight?	y	ew	fl
21. This is the leather with the smooth finish.	th	th	th
22. I think the author's name is Smith.	th	th	th
23. The ladder was taken from building to the wall.	l	l	l
24. Right near the tree it stands.	r	(t)r	-ear
25. Over there is a flower	ov	-ere	ow
26. He could see that the apple was bitten.	ee	a	i
27. He came and brought the wire for our radio.	a	-ire	our
28. The bird hovered over the water.	a:(ir)	(hover)	aw
29. The poor child was looking for a star in the book.-oor	a:	oo	oo
30. The boy did not come soon enough.	oi	o	oo
31. I can see the squirrel, scrambling and scolding.	skw	skr	sk
32. The fly alighted near the cup.	i	-ear	u
33. Hugo met with a troublesome fate.	hy	e	tr
34. Give me the glasses, please.	gl		

Here is a paragraph from Pirate's Treasure used in schools and colleges because it contains all the vowels, consonants and diphthongs in the English language.

"The lodge keeper had found an old chart written in a peculiar cipher. He was able to make it out, however, and learned from it, that a choice and rare old treasure chest was buried four or five feet under the ground, on the very spot where the new school house stood. He was sure he could find it, if he obeyed directions, and after several trials, at last he did unearth it. But as he was lifting it out, the box fell all to pieces and its various contents tumbled back into the pit."

## Rating Sheet IIIA1





## Five Levels of Speech Attainment

1.
  - a. No speech defects.
  - b. Pronunciation, articulation, and enunciation excellent.
  - c. Excellent voice control.
  - d. Student has attained a noticeable proficiency in oral English and has a desirable speech pattern.
2.
  - a. No speech defects.
  - b. Pronunciation, articulation, and enunciation good.
  - c. Good voice control.
  - d. Oral English and speech pattern above average.
3. (Average rating when all traits are considered.)
  - a. A speech defect may be evidenced only part of the time; at other times none is present.
  - b. Pronunciation, articulation, and enunciation fair; student resorts to provincial or slangy usage at times.
  - c. Voice control is good under normal conditions.
  - d. Oral English and speech pattern may be only fair at times.
4.
  - a. Speech defects are present in a mild to medium form.
  - b. Pronunciation, articulation, and enunciation below average.
  - c. Voice control not good.
  - d. Oral English and speech pattern below average.
5.
  - a. Severe speech defects are present.
  - b. Pronunciation, articulation, and enunciation are very slovenly.
  - c. Voice control is poor.
  - d. Oral English and speech pattern definitely undesirable.

An effort should be made to classify a student on the basis of his speech profile - the average of the items mentioned above. If a speech defect is present, the student must be rated in level 3, 4, or 5.

Voice control refers chiefly to volume and pitch of the speaker's voice.

Oral English refers to the student's vocabulary and to his grammar usage.

A speech pattern may be thought of as the sum total of all the characteristics of a student's speech.

A speech defect may be defined as any speech "sufficiently different from normal speech to call undesirable attention to itself in ordinary conversation."

## Date Due

[illegible]