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A COMPARATIVE STUDY OF THE DEFECTIVE
SPEECH OF CHILDREN FOUND IN THE
RURAL AREA OF VAN BUREN COUNTY
AND THE URBAN AREA
OF THE CITY OF MUSKEGON

Thesis for the Degree of M. A.
MICHIGAN STATE COLLEGE
Mary Jane McClintock Wilson
1952

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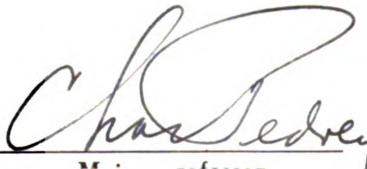
A comparative study of the defective speech of
children ^{found} in the rural area of Van Buren county
and the urban area of the city of Muskegon.

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Mary Jane McClintock Wilson

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of the requirements for

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A COMPARATIVE STUDY OF THE DEFECTIVE SPEECH OF CHILDREN
FOUND IN THE RURAL AREA OF VAN BUREN COUNTY AND THE
URBAN AREA OF THE CITY OF MUSKEGON

By

Mary Jane McClintock Wilson

A THESIS

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CHAPTER I

CHAPTER I

INTRODUCTION

I. BACKGROUND

The White House Conference of 1930¹ reports that the recognition of the speech defective child by educational systems, and the development of public school facilities to aid them, is a recent departure from educational traditions. "There are in America, 1,000,000 school children between the ages of five and eighteen so defective in speech as to require remedial treatment...."² One of the recommendations made by this committee³ was to extend the work of speech correction to include every school system of the country. In 1927, the State of Michigan passed Public Act 319⁴ which provided for special classes of instruction for the deaf, blind and crippled. In 1941 this Act was amended as follows:

The Board of Education of any school district may establish and maintain one or more day schools or classes for the instruction of five or more resident or non-resident children between the ages of four and twenty years who by reason of having...defective speech, cannot profitably or safely be educated by the usual methods of instruction in the public schools...⁵

1 "The Handicapped and the Gifted," White House Conference on Child Health and Protection, Section III, Education and Training, Special Education (New York: The Appleton-Century Company, 1931), p. xix.

2 Ibid., p. 353.

3 Ibid., p. 378.

4 "Act 319," Public and Local Acts Michigan, Part II, Chapter XIX, (Lansing: Franklin-DeKleine Company, 1927) pp. 728-730.

5 "Act 354," Public and Local Acts Michigan, Section I, (Lansing: Franklin-DeKleine Company, 1941) p. 616.

In the last decade Speech Correction Programs have been organized under this law and have become a part of many school systems in the State of Michigan. In the year 1950-51 there were 80 school systems in the state which had this type of program as shown by the records of the Michigan Department of Public Instruction, Division of Special Education. Of this total, eight were placed under county systems reaching the rural schools of that county and the remaining programs were organized under city systems which serviced not only their urban schools, but also some rural schools in near by districts. In October, 1950, a report was made by the Michigan Youth Commission which recommended 1) "a study of the total needs of exceptional children in rural and urban areas"⁶ and 2) "a thorough survey of the total needs for exceptional children...in both rural and urban areas".⁷

II. THE PROBLEM

Statement of the Problem. The purpose of this study was two-fold: a) to compare the defective speech of children in the rural area of Van Buren County with the defective speech of those in the urban area of the city of Muskegon in order to determine if differences and similarities exist and b) to determine if a need existed for programs of speech therapy within the areas studied.

6 Summary Recommendations Submitted to Mid Century White House Conference on Children and Youth by the Michigan Youth Commission, (October, 1950) p. 14.

7 Ibid., p. E-9.

III. DEFINITION OF TERMS USED

Defective Speech. "Speech that deviates so far from the speech of other people that it calls attention to itself, interferes with communication, or causes its possessor to be maladjusted."⁸ Ainsworth suggested that the divisions of defective speech be placed into the following four categories:

I. Articulatory Disorders

An individual is said to have an articulatory defect when he substitutes one sound for another, omits sounds, adds sounds that do not belong to the words, or slurs the sounds--does not make them distinctly...

II. Stuttering

The basic elements which make a stutterer's speech different may be classified under two types of deviations: repetition of sounds, syllables, and words; and blocking of speech--inability to get started in speech...

III. Voice Defects

Voice problems may be... [abnormal deviations of the following] characteristics: loudness, rate, pitch, and quality.

IV. Special Deviations

Oral Inactivity or Inaccuracy. The habit of speaking inaccurately or indistinctly....

Foreign Dialect....This defect is a combination of sound substitutions (articulatory defect) and voice problems, such as incorrect inflection (pitch) patterns and rhythm patterns.

Cleft Palate Speech. ...This often involves both articulatory and voice problems. There are usually substitutions and omissions, and the typical nasal emission....

Speech of the Cerebral Palsied. ...This speech is often characterized by frequent omissions and severe distortions of sounds. Also there are apt to be voice quality and pitch variations.

Delayed Speech. [A child with] ...speech that is characteristic of a much younger child; "baby talk" that is so extreme that he cannot be understood. Also, ...children who talk so little that their communication is seriously handicapped....

⁸ Charles Van Riper, Speech Correction Principles and Methods (New York: Prentice-Hall, Inc., 1939), p. 15.

Speech of the Hard of Hearing. A hearing loss may result in omissions, substitutions, and slurring. In more severe cases, the voice lacks variety and accuracy of inflections and has poor quality.⁹

In this study speech of the hard of hearing, delayed speech, and oral inactivity were considered under articulatory disorders as the outward concomitants of these types of speech defects would fall under the definition given for articulatory disorders. Foreign dialect has been eliminated from the study since this type of speech does not receive certification in the State of Michigan.

Urban area. An urban area is defined in Population Characteristics of the Population Michigan¹⁰ as an incorporated center with a population of 2500 persons or more. Urban area, as used in this study, refers to a city school system composed of an urban school population of that city.

Rural area. A rural area is defined in Population Characteristics of the Population Michigan¹¹ as a center with a population of less than 2500 persons. Rural area as used in this study, refers to a county school system which is composed of the total rural school population of that county.

IV. REVIEW OF PREVIOUS RESEARCH

An investigation of material on the comparison of speech defects of children in rural and urban areas revealed no published studies devoted specifically to this subject.

⁹ Stanley Ainsworth, Speech Correction Methods (New York: Prentice-Hall, Inc., 1949), pp. 140-143.

¹⁰ Population Characteristics of the Population Michigan (Washington, D. C.: United States Government Printing Office, 1942), p. 2.

¹¹ Ibid., p. 2.

However, a study made by Louttit and Halls¹² of the speech defects of children in Indiana contained a section on the comparison of rural and urban speech defects. The authors recorded a gross incidence of all types of speech defects in the county systems as 4.3 per cent while in the urban area the incidence was 3.3 per cent. They stated "Owing to the large population involved this difference of only one per cent is statistically significant, being considerably greater than three times its own probable error...articulatory defects constitute a slightly greater proportion of all defects among rural children than they do among city children."¹³

In the State of Michigan there have been no published studies devoted specifically to the comparison of children with speech defects in rural and urban areas. However, Christopher Lane¹⁴ in a survey of speech defects in Ingham County, Michigan presented a picture of the speech defects in the rural area of that county. With further interpretation of the data recorded in his study, the speech problems of children in that rural area and those in an urban area of Michigan could form a basis for a future study.

¹² C. M. Louttit and Emily Clegg Halls, "Survey of Speech Defects Among Public School Children of Indiana," Journal of Speech Disorders, 1:80, September, 1936.

¹³ Ibid., p. 75.

¹⁴ Christopher Lane, "A Survey of Speech Defectives in the Public Schools of Ingham County, Michigan," (unpublished Master's thesis, Michigan State College, East Lansing, Michigan, 1943).

V. ORGANIZATION OF THE THESIS

Tables and Charts. The results gained in this study were recorded in tables and charts. A complete analysis of this data was presented in separate charts which dealt specifically with:

1. Total per cent of speech defects
2. Total per cent of each type of defect
3. Total per cent of each degree of defect
4. Total per cent of degree of each type of defect

A fifth chart indicated a comparison of the incidence of speech defects of the teacher referrals with the incident of speech defects of the author sampling of two groups in each area.

Table I recorded the diagnostic speech ratings of a sampling of subjects made by the author and two examiners.

Table II was a master table which showed the gross incidence of the types and degrees of the speech defects of children in Van Buren County and the city of Muskegon. Incorporated within this table was all of the information contained in Charts I, II, III, and IV. This table was placed with the summary.

Accompanying the presentation of each chart and table there was a discussion of the recorded data.

CHAPTER II

CHAPTER II

PROCEDURE

I. SELECTION OF AREA

The author selected the geographical regions of Van Buren County as the rural area and the city of Muskegon as the urban area for this study for the following reasons:

1. The overall population in each area met the definitions of the study.
2. The school populations in both areas were similar in number.
3. Both areas were without a speech correction program.

1. The overall population in each area met the definitions of the study. The definition for the urban area states that it is an incorporated center of over 2500 persons and represents a city school system. The city of Muskegon is an incorporated center with a population of 48,047¹⁵ and has a city school system composed of an urban school population of that city. The definition for the rural area states that it is a center of less than 2500 persons and represents a county school system which is composed of the total rural school population of that county. The population of Van Buren County, excluding the urban area of South Haven is 33,443.¹⁶ The county consists of a number of communities and villages each with a population of less than

¹⁵ "Series PC-2, Number 36," 1950 Census of Population, Preliminary Counts (Washington, D. C.: United States Government Printing Office, September 7, 1951) p. 5.

¹⁶ Ibid., p. 6.

2500 and the county school system is composed of the rural school population of those communities and villages.

2. The school populations in both areas were similar in number.

The total school population for the urban area was 8550 and for the rural area 7322. In the urban area there were 11 public schools with fifth and sixth grade enrollment and in the rural area there were 71 public schools with fifth and sixth grade enrollment. The population for the fifth and sixth grades, from which the subjects for the study were drawn, was 1279 in the urban area and 1067 in the rural area.

3. Both areas were without a speech correction program. Speech correction programs had not been organized in either area, although the school superintendents of both areas had expressed an interest in the program, a desire to learn the speech needs of their respective areas, and a willingness to cooperate with an initial survey to learn of those speech needs.

II. SELECTION OF SUBJECTS

The criteria followed for the selection of the subjects are listed below.

1. The subjects were students enrolled in the fifth and sixth grades.
2. The subjects were selected by one of two methods; a) they were referred by the classroom teacher as having a speech defect b) they were chosen by the author through a sampling of two classes in each area.
3. All the subjects were rechecked by the author and those found to have defective speech were retained for the study.
4. The subjects having an intelligence quotient (I. Q.) of 70 or above were included in the study.

1. The subjects were students enrolled in the fifth and sixth grades. Theoretically, children enrolled in the fifth and sixth grade should be past their ninth year and should have acquired sufficient skill of muscle movement for the acquisition of normal speech. According to the Poole Chart¹⁷ all sounds should be acquired by the age of seven and one-half years. This chart lists the following sounds and the ages at which they are acquired.

<u>Age</u>	<u>Sounds</u>
$3\frac{1}{2}$	[b] [p] [m] [w] [h]
$4\frac{1}{2}$	[d] [t] [n] [g] [k] [ng] [j] [y]
$5\frac{1}{2}$	[f]
$6\frac{1}{2}$	[v] [θ] [ʒ] [ʎ] [l]
$7\frac{1}{2}$	[s] [z] [r] [ʔ] [hw]

Berry and Eisenson¹⁸ agree with the Poole Chart stating "normal articulation efficiency...is arrived at by most children at seven and one-half years of age". West, Kennedy, and Carr state that "normally all sounds of speech are developed by the time a child is seven years old,"¹⁹ and Van Riper²⁰ reports that during the early part of the seventh year all speech sounds are acquired.

17 Mildred Berry and Jon Eisenson, The Defective in Speech (New York: F. S. Crofts and Company, 1942), p. 20.

18 Ibid., p. 60.

19 Robert West, Lou Kennedy, and Anna Carr, The Rehabilitation of Speech (New York: Harper Brothers, Publishers, 1947), p. 60.

20 Charles Van Riper, op. cit., p. 96.

2. The subjects were selected by one of two methods: a) they were referred by the classroom teacher as having a speech defect. The aid of the classroom teacher was enlisted in screening the children with speech defects. All children considered to have a speech defect were referred by this teacher. The method of "teacher-referral" has been employed in studies whose purposes were to gain preliminary information about the incident of speech defects. Stapp²¹ used this method in his study of speech disorders in the classroom in eighteen public schools and Lane²² also had the teachers refer students with speech defects; b) they were chosen by the author through a sampling of two classes in each area.*

A group of 119 children enrolled in two classes in the rural area and two classes in the urban area were screened through an author-survey. Those children found to have speech defects through this screening were retained in the study. The author-survey method of screening children with defective speech was employed to determine the validity of the teacher-referral method of screening children with defective speech.

3. The subjects were rechecked by the author and those found to have defective speech were retained for the study. A diagnostic speech test was administered to all subjects screened through teacher-referral and author-survey and those found to have normal speech were eliminated from the study.

²¹ Katherine L. Stapp, "A Study of Speech Disorders in the Danville (Illinois) Schools," (unpublished Master's thesis, The University of Illinois, Urbana, 1942).

²² Christopher Lane, op. cit.

* Rural area -- Paw Paw School, Hartford School; Urban area -- Nelson School.

4. The subjects having an intelligence quotient (I. Q.) of 70 or above were included in the study. Those subjects having an intelligence quotient below 70 were eliminated from the study. No definite level has been set for the limit of educability of a mentally defective child with a speech defect. Robbins and Robbins²³ have suggested that "... children with intelligence much under 75..." be omitted from the speech class. "Mental deficiency is often defined in terms of intelligence quotient level...and the intelligence quotient level of 70 has been widely accepted as the arbitrary dividing line between normal (or at least only borderline) ability and definite deficiency or feeble-mindedness."²⁴ In this study an arbitrary level of 70 intelligence quotient was set as the limit of educability and those subjects having intelligence quotients below this level were eliminated from the study.

III. SELECTION OF TESTING DEVICES

The selection of the testing devices for this study were:

1. Bryngleson and Glaspey Speech Improvement Cards²⁵
2. Diagnostic Blanks devised by the author
3. Otis Quick-Scoring Mental Ability Test, Form Beta²⁶

²³ Samuel D. Robbins and Rosa S. Robbins, "Correction of Speech Defects of Early Childhood (Boston: Expression Company, 1937), p. 5.

²⁴ Thelma Hunt, Measurement in Psychology (New York: Prentice-Hall, Inc., 1936), p. 70.

²⁵ Bryng Bryngleson and Esther Glaspey, Speech Improvement Cards (Chicago: Scott, Foresman and Company, 1941).

²⁶ Arthur Otis, Otis Quick-Scoring Mental Ability Tests (New York: World Book Company, 1939).

1. Bryngleson and Glaspey Speech Improvement Cards. These cards were used as the diagnostic speech test. The set consisted of sixteen cards with three pictures on each card. Each picture was designed to test one sound or a blend in a specific position: Initial, Medical, and/or Final. This test was composed by two authorities in the field of speech correction and has been used successfully as a diagnostic speech test in other theses. (For example of cards see Page 41)

2. Diagnostic Blanks devised by the author. The diagnostic blanks devised by the author were used as instruments to indicate and record the type and the degree of the defect. Space was provided for the name of the subject, age, grade, school, area, the type of defect and the degree of the defect. The terms Severe-I, Moderate-II and Slight-III were used to denote the degree of the defect and the terms, articulatory disorder, stuttering, voice defect and special deviation were used to denote the type of defect. (For example of blanks see Page 40)

3. Otis Quick-Scoring Mental Ability Test, Form Beta. This intelligence test purports to measure "the mental ability, thinking power, or the degree of maturity of the mind"²⁷ of children enrolled in grades four to nine. It is a 30 minute paper and pencil test designed for group administration. This intelligence test was selected because it was suitable for the grade level of the subjects studied, it could be used as an instrument to further define the subjects, and it could be administered to groups.

²⁷ Arthur Otis, Manual of Directions for Beta Test of the Otis Quick-Scoring Mental Ability Test, (New York: World Book Company, 1937), p. 1.

IV. ADMINISTRATION OF TESTS

An interview was arranged with the superintendent in each area at which time a testing schedule was set up. Through each superintendent, the fifth and sixth grade classroom teachers were requested to refer all students in their classrooms whom they felt were defective in speech. All children in two fifth and sixth grade classrooms in both areas were surveyed by the author.

An individual interview was then held with each of the referred subjects and with those screened through author-survey. The Bryngleson and Glaspey Speech Improvement Cards were administered and conversational speech²⁸ was checked. The diagnostic information gained from the interview was recorded on the diagnostic blanks. Those children found to have defective speech were retained for the study.

The Otis Intelligence Test was administered to all retained subjects. The test was given to groups of ten to fifteen children. The intelligence quotient of each subject was computed from the scores of the test with the aid of a clinical psychologist.

A re-test was made of a sampling of the subjects by two examiners who were certified speech correctionists (ones who had met the

²⁸ A spontaneous, unplanned speech situation in which the author asked leading questions to the subject to bring out answers which would include words having sounds not included in the diagnostic test. For example, the author questioned a child about the purse she was carrying: "what color is it, where did you get it, what is in it, count the pennies, etc..." Fluency was also checked at this time.

qualifications for the teaching of speech correction in the State of Michigan). The examiners checked each child individually and recorded their subjective ratings on separate diagnostic blanks. The results of the findings of the two examiners and those of the author were then compared to determine the validity of the subjective ratings of the author. (See Table I, pages 28 and 29).

CHAPTER III

CHAPTER III

RESULTS AND DISCUSSION

I. BASIC DATA DERIVED FROM STUDY

CHART I

Chart I shows the percentage of children with speech defects in the fifth and sixth grades of Van Buren County (rural) and the city of Muskegon (urban) in proportion to the total enrollment of the fifth and sixth grades of those two geographical areas. The gross incidence of children with speech defects in the rural area was 3.37 per cent while in the urban area it was 3.58 per cent. In the urban area there were .21 per cent more children with speech defects than in the rural area. (For complete breakdown of this data, see Table II, Page 34).

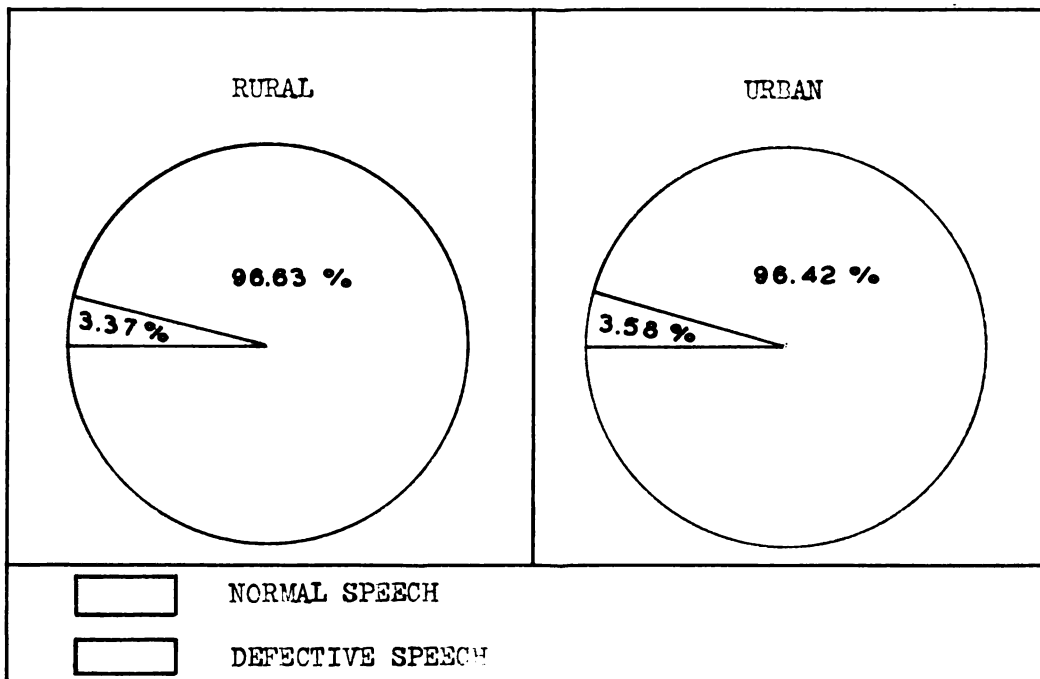


CHART I

RATIO OF SPEECH DEFECTS TO TOTAL ENROLLMENT IN
FIFTH AND SIXTH GRADE

The results of the total percentage of children with speech defects in each area as recorded on this chart can be compared to the results of other studies whose initial purposes have been to determine the percentage of children with speech defects in given areas. For example, The White House Conference of 1930²⁹ found that five per cent of all children enrolled in the 48 cities studied had speech defects. Lane³⁰ determined through questionnaire to the teacher that 6.1 per cent of the total school population of Ingham County, Michigan possessed a speech defect; Stapp³¹ noted that 4.49 per cent of the children in the elementary schools of Danville, Illinois had speech defects.

The difference of .21 per cent more speech defects found in the urban area than in the rural area as determined by this study can be compared to the difference between these two areas as recorded by Louttit and Halls.³² They noted that the greater incidence of speech defects was one per cent more in the rural area than in the urban area.

29 White House Conference, op. cit., p. 356.

30 Christopher Lane, op. cit., p. 23.

31 Katherine Stapp, op. cit.

32 L. M. Louttit and E. C. Halls, op. cit., p. 75.

CHART II

Chart II indicates the percentage of each type of speech defect found in Van Buren County (rural) and the city of Muskegon (urban). The percentage of defect for each type of defect were as follows:

Type of Defect	Rural Area	Urban Area	Differential
1. Articulatory disorder	63.9	76.0	12.1
2. Stuttering	22.2	19.6	2.6
3. Voice defect	13.9	2.2	11.7
4. Special deviation	0.0	2.2	2.2

1. Articulatory disorder. In the rural area articulatory disorders constituted 63.9 per cent of the total number of speech defects and in the urban area 76 per cent of that total, making a difference of 12.1 per cent more articulatory disorders in the urban area.

2. Stuttering. In this category there were 22.2 per cent of the total number of speech defects in the rural area and 19.6 per cent in the urban area. The rural area had 2.6 per cent more stuttering defects than the urban area.

3. Voice defects. The gross incidence of voice defects was 13.9 per cent in the rural area and 2.2 per cent in the urban area. There were 11.7 per cent more voice defects in the rural area than in the urban area.

4. Special deviations. Of the total number of speech defects in the rural area zero per cent had special deviations and 2.2 per cent

in the urban area had special deviations, making a difference of 2.2 per cent more special deviations in the urban area than in the rural area.

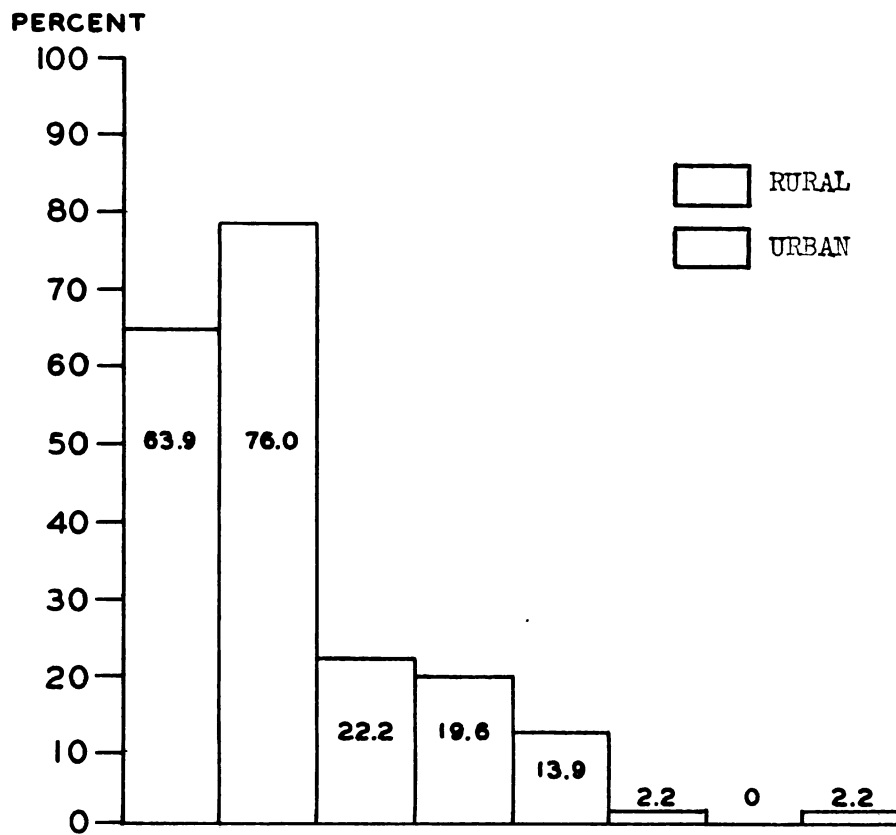


CHART II

COMPARISON OF EACH TYPE OF SPEECH DEFECT

In the overall picture the rural area had 2.6 per cent more stuttering defects and 11.7 per cent more voice defects and the urban area had 12.1 per cent more articulatory defects and 2.2 per cent more special deviations.

As quoted by Charles Van Riper³³ the White House Conference provides the incidences for the type of speech defects as follows:

<u>Type of Defect</u>	<u>Percentage</u>
Articulatory	72
Rhythm Disorders	22
Voice Disorders	4

Louttit and Halls³⁴ compared the percentage of types of defects found in rural and urban areas of Indiana and noted in a general conclusions that there were more articulatory defects proportionately in the rural area and more stuttering defects in the urban area.

³³ Van Riper, op. cit., p. 26.

³⁴ C. M. Louttit and E. C. Halls, op. cit., p. 75.

CHART III

Chart III shows the percentage of the varying degrees of the total number of speech defects in Van Buren County (rural) and the city of Muskegon (urban). The percentage for each degree of defect was as follows:

<u>Degree</u>	<u>Rural</u>	<u>Urban</u>	<u>Differential</u>
1. Severe-I	44.5	54.3	10.2
2. Moderate-II	33.3	28.3	5.0
3. Slight-III	22.2	17.4	4.8

1. Severe-I. Of the total number of speech defects in the rural area 44.5 per cent were Severe-I while in the urban area 54.3 per cent were in this degree. There were 10.2 per cent more Severe-I defects in the urban area than in the rural area.

2. Moderate-II. Of the total number of speech defects in the rural area 33.3 per cent were Moderate-II while in the urban area 28.3 per cent were in this degree. There was five per cent more Moderate-II defects in the rural area.

3. Slight-III. Of the total number of speech defects in the rural area 22.2 per cent were Slight-III while in the urban area 17.4 per cent were in this degree. The rural defects had 4.8 per cent more defects that were Slight-III than the urban area.

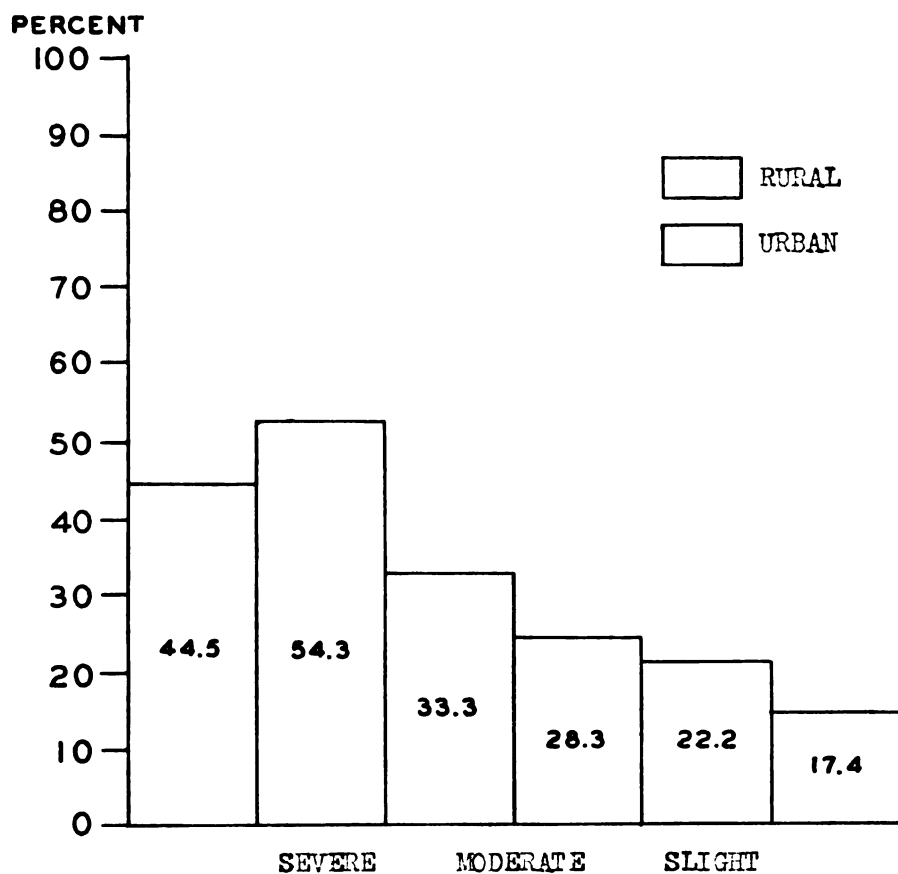


CHART III

COMPARISON OF VARYING DEGREES OF SPEECH DEFECTS

The total picture of the varying degrees show that the rural area had five per cent more defects that were Moderate-II and 4.8 per cent more defects that were Slight-III than the urban area and the urban area had 10.2 per cent more defects that were Severe-I than the rural area.

CHART IV

Chart IV shows the percentage of specific incidence of the varying degrees (~~Severe-I~~, ~~Moderate-II~~ and ~~Slight-III~~) for each type of speech defect. In each category listed below Column I is rural, Column II is urban and Column III is differential.

<u>Type of Defect</u>	<u>Severe-I</u>			<u>Moderate-II</u>			<u>Slight-III</u>		
	I	II	III	I	II	III	I	II	III
1. Articulatory	43.5	54.3	10.8	34.8	25.7	9.1	21.7	20.0	1.7
2. Stuttering	62.5	44.5	18.0	25.0	44.4	19.4	12.5	11.1	1.4
3. Voice	20.0	100.0	80.0	40.0	0.0	40.0	40.0	0.0	40.0
4. Special Deviations	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0

1. Articulatory disorder. Of the total number of articulatory disorders in the rural area 43.5 per cent were ~~Severe-I~~, 34.8 per cent were ~~Moderate-II~~, and 21.7 per cent were ~~Slight-III~~. In the urban area 54.3 per cent were ~~Severe-I~~, 25.7 per cent were ~~Moderate-II~~ and 20.0 per cent were ~~Slight-III~~. The urban area had 10.8 per cent more articulatory disorders that ~~Severe-I~~ and the rural area had 9.1 per cent more articulatory disorders that were ~~Moderate-II~~ and 1.7 per cent more that were ~~Slight-III~~.

2. Stuttering. In the rural area 62.5 per cent of the stuttering defects were ~~Severe-I~~, 25.0 per cent were ~~Moderate-II~~ and 12.5 per cent were ~~Slight-III~~. In the urban area 44.5 per cent were ~~Severe-I~~, 44.4 per cent were ~~Moderate-II~~ and 11.1 per cent were ~~Slight-III~~. The rural area had 18 per cent more stuttering defects that were ~~Severe-I~~ and 1.4

per cent more Slight-III while the urban area had 19.4 per cent more stuttering defects that were Moderate-II.

3. Voice defects. Of the total number of voice defects in the rural area 20 per cent were Severe-I, 40 per cent were Moderate-II and 40 per cent were Slight-III. In the urban area 100 per cent of the voice defects were Severe-I. There were 80 per cent more Severe-I voice defects in the urban area and 40 per cent more Moderate-II and 40 per cent more Slight-III in the rural area.

4. Special deviations. Of the total number of speech defects in the rural area zero per cent were Severe-I, Moderate-II, or Slight-III. In the urban area 100 per cent were Severe-I making a difference of 100 per cent more special deviations that were Severe-I in the urban area.

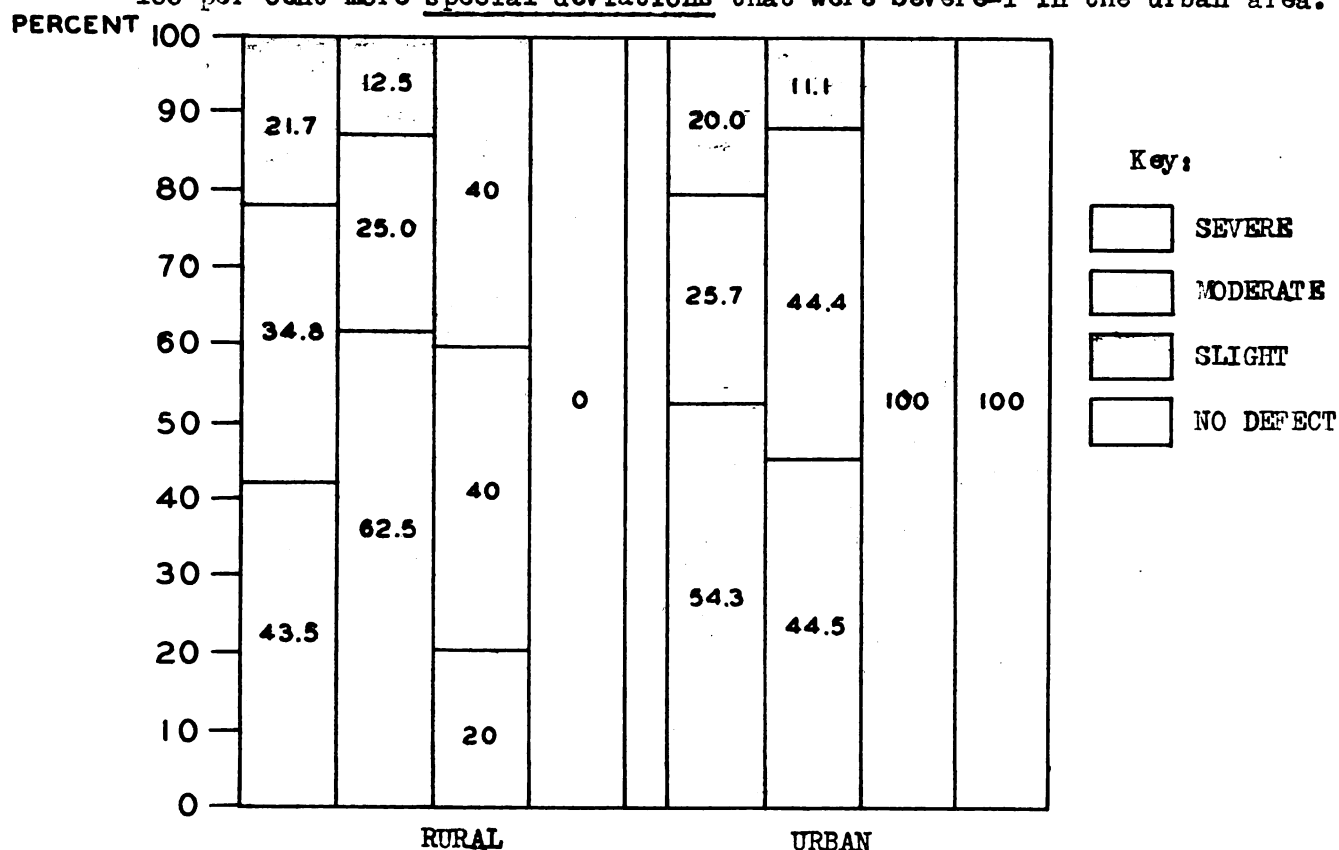


CHART IV

DEGREE OF DEFECT WITHIN EACH TYPE

The overall picture shows that the rural area had a) 18 per cent more stuttering Severe-I, b) 9.1 per cent more articulatory disorders and 40 per cent more voice defects that were Moderate-II and c) 1.7 per cent more articulatory disorders, 1.4 per cent more stuttering, and 40 per cent more voice defects that were Slight-I. The urban area had a) 10.8 per cent more articulatory disorders, 80 per cent more voice defects, and 100 per cent more special deviations that were Severe-I and b) 19.4 per cent more stuttering that were Moderate-II.

CHART V

Chart V shows the percentage of subjects screened through author-survey and the percentage of subjects screened through teacher-referral. A group of 56 children enrolled in two classes in the fifth and sixth grades of Van Buren County (rural) and 63 children enrolled in two classes in the fifth and sixth grades of the city of Muskegon (urban) were screened by the author.

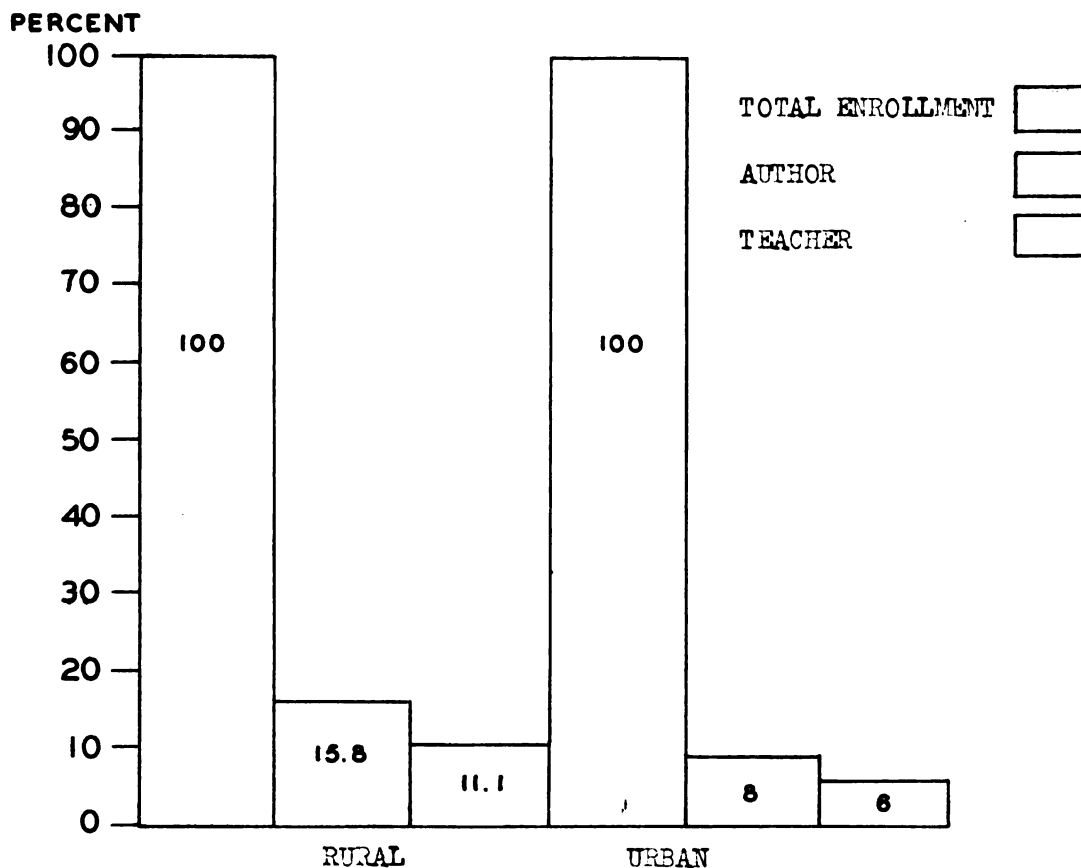


CHART V

A COMPARISON OF AUTHOR AND TEACHER FINDINGS OF THE
INCIDENCE OF SPEECH DEFECTS OF A GROUP OF
PUPILS IN FIFTH AND SIXTH GRADES

Of the group in the rural area 15.8 per cent of the children screened by the author-survey had defective speech, and 11.1 per cent of the same group screened by the teacher-referral had defective speech. There were 4.7 per cent of the children with speech defects that were not screened through the teacher-referral method in the rural area.

Of the group in the urban area 8.9 per cent of the children screened by the teacher-referral had defective speech. There were 2.9 per cent of the children with defective speech that were not screened through teacher-referral in the urban area.

TABLE I

Table I shows the ratings recorded by the author and two examiners of the speech of 74 subjects selected from the total group of subjects that were referred by the teacher and through author survey.

Type of Defect. The author and the two examiners agreed on the type of defect of all of the 74 subjects, or 100 per cent of this total group.

Degree of Defect. The author agreed with one or the other of the two examiners on the degree of defect of the speech of 100 per cent of the group. The two examiners agreed on the degree of defect of the speech of 57 of the subjects or 77.02 per cent of the total number. They disagreed on the degree of defect of the speech of 17 of the subjects or 22.78 per cent of the total.

TABLE I

DIAGNOSTIC SPEECH RATINGS OF A SAMPLE GROUP OF SEVENTY-SIX
SUBJECTS MADE BY THE AUTHOR AND EXAMINERS I AND II

SUBJECT	TYPE OF DEFECT			DEGREE OF DEFECT		
	EXAMINER I	EXAMINER II	AUTHOR	EXAMINER I	EXAMINER II	AUTHOR
1	N	N	N	4	4	4
2	S	S	S	1	1	1
3	S	S	S	4	2	2
4	S	S	S	4	2	2
5	A	A	A	2	2	2
6	N	N	N	4	4	4
7	A	A	A	1	1	2
8	N	N	N	4	4	4
9	N	N	N	4	4	4
10	N	N	N	4	4	4
11	N	N	N	4	4	4
12	S	S	S	1	1	1
13	A	A	A	1	1	1
14	A	A	A	3	2	2
15	A	A	A	1	1	1
16	A	A	A	1	1	1
17	A	A	A	3	2	2
18	S	S	S	1	1	1
19	A	A	A	1	1	1
20	A	A	A	1	1	1
21	A	A	A	2	2	1
22	S	S	S	4	2	2
23	A	A	A	1	1	1
24	A	A	A	1	1	1
25	N	N	N	4	4	4
26	A	A	A	1	1	1
27	A	A	A	2	3	3
28	A	A	A	3	3	3
29	A	A	A	3	3	3
30	S	S	S	1	1	2
31	A	A	A	1	1	1
32	N	N	N	4	4	4
33	N	N	N	4	4	4
34	A	A	A	2	2	2
35	N	N	N	4	4	4
36	A	A	A	3	3	3
37	A	A	A	1	1	2
38	A	A	A	1	1	2

Continued next page

TABLE I - Concluded

SUBJECT	TYPE OF DEFECT			DEGREE OF DEFECT		
	EXAMINER I	EXAMINER II	AUTHOR	EXAMINER I	EXAMINER II	AUTHOR
39	A	A	A	1	1	1
40	A	A	A	1	1	1
41	A	A	A	1	1	2
42	N	N	N	4	4	4
43	N	N	N	4	4	4
44	A	A	A	1	1	1
45	A	A	A	2	2	2
46	V	V	V	1	1	1
47	A	A	A	1	1	2
48	N	N	N	4	4	4
49	N	N	N	4	4	4
50	N	N	N	4	4	4
51	N	N	N	4	4	4
52	S	S	S	2	2	2
53	N	N	N	4	4	2
54	N	N	N	4	4	4
55	A	A	A	3	3	4
56	A	A	A	2	2	2
57	A	A	A	3	3	3
58	SD	SD	SD	1	1	1
59	S	S	S	3	3	3
60	N	N	N	4	4	4
61	A	A	A	3	3	2
62	N	N	N	4	4	4
63	A	A	A	1	1	1
64	A	A	A	1	1	1
65	N	N	N	4	4	4
66	A	A	A	1	1	1
67	N	N	N	4	4	4
68	N	N	N	4	4	4
69	N	N	N	4	4	4
70	N	N	N	4	4	4
71	N	N	N	4	4	4
72	A	A	A	1	1	1
73	A	A	A	2	2	3
74	A	A	A	2	2	2

KEY:

Type of Defect

A - Articulatory Defect

B - Stuttering

V - Voice Defect

SD - Special Deviations

N - Normal Speech

Degree of Defect

I - Severe-I

2 - Moderate-II

3 - Slight-III

4 - No speech defect and not
included in this study

TABLE II

II. SUMMARY

Rural area. In the rural area 3.37 per cent of the enrollment in the fifth and sixth grades had speech defects. The percentage for each type of defect was as follows:

Type of Defect	Percentage of Total
1. Articulatory defect	63.9
2. Stuttering	22.2
3. Voice defect	13.9
4. Special deviations	0.0

The percentage for each degree of defect was as follows:

Degree of Defect	Percentage of Total
1. Severe-I	44.5
2. Moderate-II	33.3
3. Slight-III	22.2

The gross incidence of the varying degrees as percentage of each type of defect was as follows:

Type of Defect	Severe-I	Moderate-II	Slight-III
1. Articulatory disorder	43.5	34.8	21.7
2. Stuttering	62.5	25.0	12.5
3. Voice defect	20.0	40.0	40.0
4. Special deviation	0.0	0.0	0.0

Urban area. In the urban area 3.58 per cent of the total enrollment of the fifth and sixth grades had speech defects. The percentage of defect for each type of defect was as follows;

Type of Defect	Percentage of Total
1. Articulatory defect	76.0
2. Stuttering	19.6
3. Voice defect	2.2
4. Special deviation	2.2

The percentage for each degree of defect was as follows;

Degree of Defect	Percentage of Total
1. Severe-I	54.3
2. Moderate-II	28.3
3. Slight-III	17.4

The gross incidence of the varying degrees as a percentage of each type of degree were as follows;

Type of Defect	Severe-I	Moderate-II	Slight-III
1. Articulatory disorder	54.3	25.7	20.0
2. Stuttering	44.5	44.4	11.1
3. Voice defect	100.0	0.0	0.0
4. Special deviation	100.0	0.0	0.0

There was a difference of .21 per cent more speech defects found in the urban area.

The greater incidence for each type of speech defect as found in each of the areas and recorded in percentage was as follows:

1. Articulatory disorders	12.1 more in the urban area
2. Stuttering	2.6 more in the rural area
3. Voice defects	11.7 more in the rural area
4. Special deviations	2.2 more in the urban area

The greater incidence for each degree of speech defect as found in each of the areas and recorded in percentage was as follows:

Degree of Defect

1. Degree I-Severe	9.8 more in the urban area
2. Degree II-Moderate	5.0 more in the rural area
3. Degree III- Slight	4.8 more in the rural area

The greater incidence for the varying degrees as percentage of each type of defect as found in each of the areas was as follows:

I. Articulatory Disorder

Degree I-Severe	10.8 more in the urban area
Degree II-Moderate	9.1 more in the rural area
Degree III-Slight	1.7 more in the rural area

II. Stuttering

Degree I-Severe	18.0 more in the rural area
Degree II-Moderate	19.4 more in the urban area
Degree III-Slight	1.4 more in the rural area

III. Voice Defects

Degree I-Severe	80.0 more in the urban area
Degree II-Moderate	40.0 more in the rural area

Degree III-Slight	40.0 more in the rural area
-------------------	-----------------------------

IV. Special Deviations

Degree I-Severe	100 more in the urban area
-----------------	----------------------------

The correlation of the ratings of 76 subjects made by two examiners and the author was 100 per cent for the type of defect. The agreement between the author and one or the other examiner was 100 per cent for the degree of defect, but the agreement between the two examiners for the degree of the defect was 76 per cent.

Of a group of 56 children enrolled in two classes in the rural area 15.8 per cent screened by the author-survey had defective speech and 11.1 per cent of the children screened by the teacher had speech defects, making a difference of 4.7 per cent of children with defective speech who were not screened by the teacher in the rural area.

Of a group of 63 children enrolled in two classes in the urban area 8.9 per cent screened by the author-survey had defective speech and 16 per cent of the children screened by the teacher had speech defects, making a difference of 2.9 per cent of children with defective speech who were not screened by the teacher in the urban area.

CHAPTER IV

CHAPTER IV

CONCLUSIONS

The conclusions drawn from the results of this study may be considered in two parts:

1. There are differences and similarities of speech defects of children existent in the rural area of Van Buren County and the urban area of the city of Muskegon.
2. There is a definite need for a program of speech therapy in the two areas studied.

1. There are differences and similarities of speech defects of children existent in the rural area of Van Buren County and the urban area of the city of Muskegon.

a. Although the total number of children with speech defects is approximately the same in both rural and urban areas specific differences were revealed as follows:

- 1) In the urban area there is a greater incidence of articulatory disorders than in the rural area.
- 2) In the urban area articulatory disorders are more severe than in the rural area.
- 3) In the rural area there is a greater incidence of voice defects than in the urban area.
- 4) In the urban area voice defects are more severe than in the rural area.
- 5) The rural and urban areas have approximately the same incidence of stuttering.
- 6) Stuttering is more severe in the rural area.

- 7) An inadequate number of subjects with special deviations makes it impossible to draw a valid conclusion of a greater incidence of special deviations in the rural or urban areas.³⁵
- 8) In the urban area there are more severe speech defects than in the rural area.
- 9) In the rural area there are more moderate and slight degrees of speech defects than in the urban area.

2. There is a definite need for a program of speech therapy in the two areas studied. Of a total enrollment in the fifth and sixth grades of the rural area of Van Buren County and the urban area of the city of Muskegon a little more than three per cent had speech defects. From this information, it may be deduced that one out of 30 children have speech defects in both areas or, in terms of total elementary enrollment approximately 250 of 7300 in the rural area and approximately 300 of 8500 enrollment in the urban area have defective speech. The Michigan Department of Public Instruction, Division of Special Education recognizes the need for programs of speech therapy in school systems when approximately three per cent of a total enrollment of 3000 of a system have defective speech.

³⁵ Refer to chart II, page 18.

CHAPTER V

CHAPTER V

RECOMMENDATIONS

As a result of the data presented in this study, the following recommendations are presented:

- I. A complete survey be made in each state to learn what rural and urban areas are without programs of speech therapy.
- II. Equal consideration should be given to the speech needs of children in rural and urban areas in the State of Michigan. Of the 30 programs of speech therapy existent in Michigan only eight are in the rural areas or county systems which indicates that the concentration of these programs have been in the urban areas.
- III. An investigation should be made to determine the underlying cause for the paucity of speech correction programs in the rural areas in the State of Michigan. The State Department of Special Education offers speech therapy programs to every school system in the state. However, there are a great many rural areas that have not taken advantage of this service. If the reason for this lack of programs in the rural areas were discovered it might be a contributing factor in the further development of programs of speech therapy in rural or county school systems.
- IV. Every area in the State of Michigan should incorporate programs of speech therapy within their school systems.
- V. Further study should be devoted to the types and causes of speech defects in the rural and urban areas.

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APPENDIX

DIAGNOSTIC BLANK

Name _____ Age _____ Grade _____

School _____ Area _____

[illegible]

Stuttering;

Special Deviations

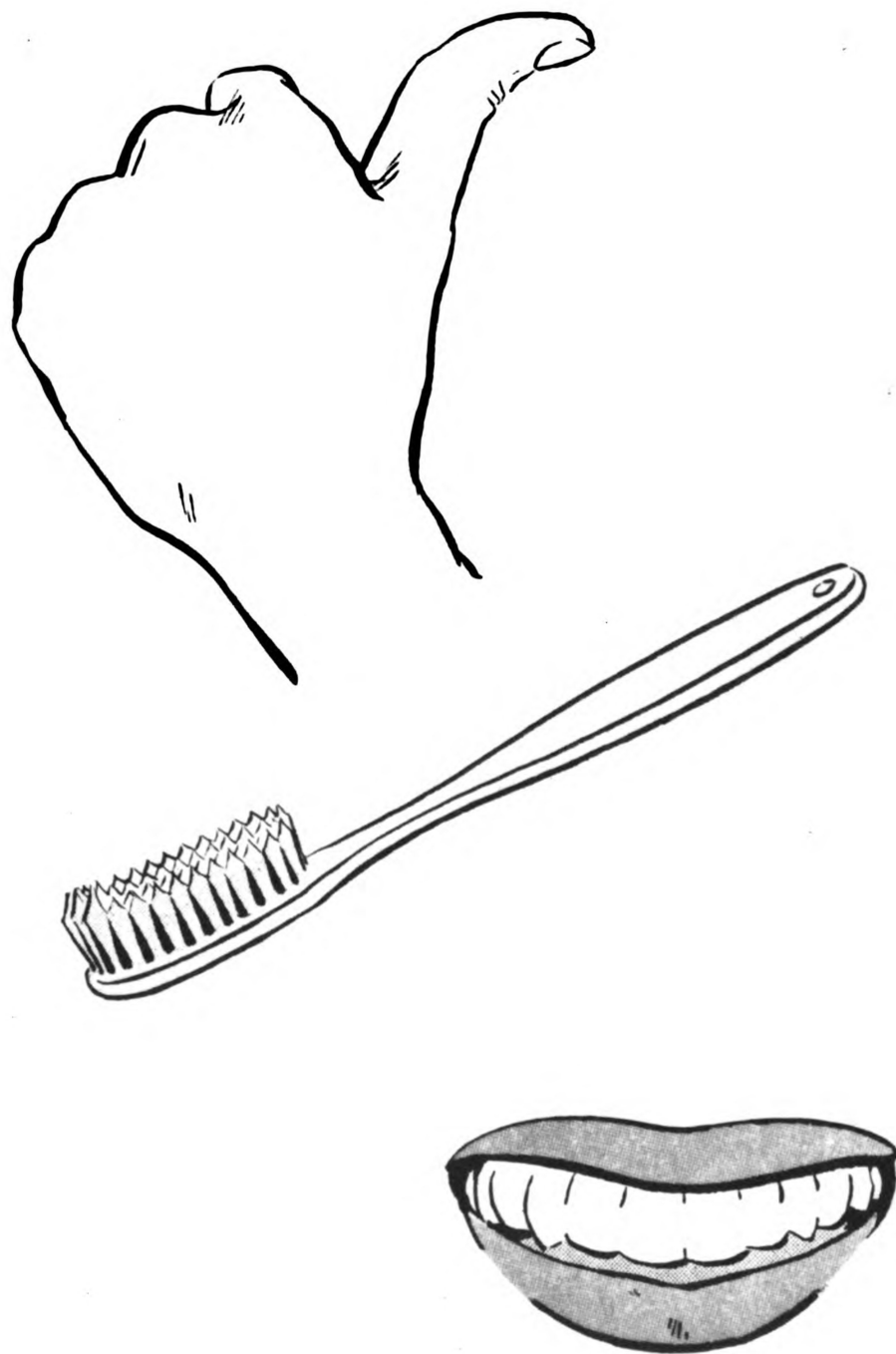
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DEGREE OF DEFECT

1. Severe _____
2. Moderate _____
3. Slight _____

EXAMINER _____

DATE _____



BRYNG BRYNGLESON AND ESTHER GLASPEY, SPEECH IMPROVEMENT CARDS
(CHICAGO: SCOTT, FORESMAN AND COMPANY, 1941).

BIOGRAPHY

Mary Jane McClintock Wilson was born in Farmington, Michigan on October 20, 1928. She graduated from Michigan State College in 1946 and entered the graduate school of Michigan State College where she did her speech correction work under the direction of Dr. Charles Pedrey. In 1949 she was employed as speech correctionist for the public schools of Mt. Clemens, Michigan. Early in the year 1951 she resigned her position in Mt. Clemens, to return to the graduate school to complete requirements for a degree of Master of Arts in Speech. She completed these requirements in May, 1952.

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AUG 19 '55
Jul 17 '54
Dec 7 '56

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~~OCT 31 1961~~ *pd*

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~~DEC 9 1963~~

~~JUL 30 1964~~

~~DEC 18 1964~~ 25
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