

THE RECOGNITION, DIAGNOSIS, AND TREATMENT OF  
SPEECH DEFECTS OF ELEMENTARY SCHOOL CHILDREN  
WITH EMPHASIS UPON  
THE PART OF THE ELEMENTARY SCHOOL TEACHER

by

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B. S., 1949  
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A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Education

KANSAS STATE COLLEGE  
OF AGRICULTURE AND APPLIED SCIENCE

1954

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## PREFACE

"Suffer the little children," the Master said, "...for of such is the Kingdom of Heaven."

What further proof is needed of the importance of the child? Since the child is of major importance in our public schools, the writer believes that the goal of the school teacher should be to see that every child in her care is given the best training and service possible, and that the ultimate goal of each child is to become a useful, contributing citizen taking his place in society.

According to Dr. Palmer, Director of the Institute of Logopedics, Wichita, Kansas, one out of every twenty persons, one family in five, has a speech defect--the largest group of handicapped people in the country. Since this is a speaking world, the speech-handicapped person is cut off from many normal opportunities. He is not free in his vocational choice regardless of his talents. If his defects are not corrected, he may be doomed to a life of ridicule and misery.

Economically, an uncorrected speech defect is expensive to the community. Many of these cases are kept in institutions for a life time. Again to quote Dr. Palmer, "According to statistics a stutterer's earning capacity is reduced to thirty-five per cent--that is below relief level. Most of these children fail at least one grade in school! It is good business that these speech defects be corrected."



Every teacher will agree that adequate speech is the prerequisite to satisfactory progress in learning all school subjects. It has been observed that phonetic activities in sound discrimination is effective preparation for phonics, spelling, and individual progress in word construction. Phonics are extremely helpful in eliminating many speech faults and establishing problems ever present to all teachers invariably involve some degree of retarded or deficient speech.

It appears that no matter what she is hired to teach, the elementary school teacher is, in effect, a speech teacher. How wonderful it would be if every elementary school teacher were aware of this fact!

With years of teaching in the elementary grades and as an elementary school principal should one be able to see the need for the classroom teacher to be more concerned in the speech defects of her pupils, and for her to take a more active part to help them to overcome those defects. Too often a teacher shrugs her shoulders when asked about Johnny's progress and says, "What can you expect of him with his background--his family! He's just plain dumb." Other teachers are willing, but they say they feel so unprepared to cope with the problem.

The Ginn Basic Reading Plan tells the elementary teacher to "take the child where you find him and begin from there." This, too, is the writer's plea to the elementary teacher when she finds a child with a speech defect: take him as an individual "as he is", and help him to correct his defect. She must not

expect miracles. Perhaps the speech defect cannot be corrected, but the elementary school teacher can help the child and his schoolmates to make satisfactory adjustments so that the child is happy in his school. It means extra work for the teacher and sometimes much disappointment, but if she has a love for children and is sincere, the results will be very much worthwhile.

The foregoing statements have explained the purpose for preparing this report.

#### PLAN OF PROCEDURE

To secure material as a basis for this report, three speech clinics were visited to observe the speech correctionists at work with their patients, and later to confer with the speech correctionists. The speech centers at Manhattan, Salina, and Hays were chosen. The three speech centers were visited and a brief description of the work done in these centers will be presented in this report with a few case histories.

The speech defects have eight classifications, and an attempt has been made to show how the elementary teacher can recognize and diagnose such speech defects. Some plans for corrective treatment also are offered. In some cases correction should not be attempted by the elementary school teacher. But in others the competent teacher can accomplish much. The teaching load of the elementary school teacher is recognized as are

the problems involved in correcting speech defects. Because they are in her classroom and in her charge, the teacher will accept these speech defective children and do the best she can to help such children solve their problems.

#### MANHATTAN SPEECH CORRECTION CENTER Speech Defects and Causes

After the lessons were over and the patients had gone, Miss Jeraldine Moeller, correctionist, discussed some of the work that has been done in the Manhattan Speech Correction Center for children with speech defects. She spoke of the progress made by Margery and Jim, two children receiving treatment.

Manhattan Clinic is one of seven speech clinics in Kansas that are state supported and non-profit. The other six are at Lawrence, Kansas City, Emporia, Pittsburg, Hays and Wichita.

Speech defects have been classified as follows: aphasia, articulation, cerebral palsy, cleft palate, deaf and hard of hearing, endocrine (glandular disorder), retarded speech or otherwise (mentally), stuttering, and miscellaneous (sometimes classed).

Some of the causes of speech defects are organic, functional, emotional, environmental, and some are caused by weak muscles. Miss Moeller stressed the home program of "C.S.S."--Chewing, Sucking, and Swallowing--for strengthening the muscles involved, as they are also used in speech correction. The psychological as well as the physiological must be stressed in



speech correction. Aphasia is often found in cerebral palsy cases. A child with cerebral palsy must not be pampered or pitied. Miss Noeller insists that a teacher should expect as much from a "C.P." (cerebral palsy) as from a normal child. She quoted Dr. Steer of Indiana as saying the majority of speech cases are articulatory or functional--brain injured.

In the Manhattan clinic they have used 14 sounds: y, w, wh, th(voiced), th(voicelless), sh, ch, j, sc, l, b, k, d, and f in the last four months. "n" has not been used. It is the next and the last. First these sounds are used in isolation, then in games as a carry-over.

#### Case Histories

Margery was six. She had completed first grade. Her articulation was poor. Enrolled for correction February 4, 1954. Takes three lessons a week. Individual work is necessary as she does not respond well in a group. It is more difficult for her to give the big sounds first. Correctionist and child were playing store; the child was clerk. As correctionist called for an item, the child repeated the name, as: "Do you have any bananas?" "Yes, we have some nice bananas." Thus the child was drilled on the initial, medial, and the final sound of g. The same plan was used for th(voiced and voiceless) and sh sounds. So they conversed with the teacher asking questions that called for answers with words that contained the sounds to be practiced. Much enthusiasm was

shown by the teacher, and she wanted a cheerful, enthusiastic reply. "Make your words skip," she said, using a rising accent. Home work: words and sounds to be worked on at home as a carry-over were placed in child's scrap book.

Katherine was eleven and in grade five. This was her first day at the clinic. Her mother wonders if the child is hard of hearing or just negligent about answering when spoken to. Adenoids removed, but had grown back. The first lesson began with conversation: "Now that school is out, what will you do this summer?" "Swimmin'." "Where will you go swimming?" and she stressed the "ing". "I go swimming in Junction City." "Good! What else do you do?" "I like to go to shows." "What kind of shows do you like?" "Western." "Fine. You say you like west-ern'. Do it with a skip. Say west first, then tern, west-ern'. Make west sing." The child responded very well in imitation of the teacher's pronunciation of west-ern, mustard, custard, making them all sing.

Then they played a sitting game: the teacher saying (inaudibly) a word or sentence. Katherine watched the teacher's lips, tongue, and throat movement, then repeated aloud what she read. The teacher named parts of the body, and said short sentences as, "How are you?" "What is your name?" The child missed only two words: elbow, and knee. Her missing "knee" is understandable as n and d are formed alike with the tongue; the n voiced and the d voiceless.

Next she was tested on the vowels: ba ba; me me; ma ma;



go go; ki ki; loo loo. Diagnosis: There is not much of a problem in articulation except the s sound, as: es, is, as, os, oos; school, skate, scare. Her enunciation is good enough so one can use words and sentences instead of syllables for drill. For home work have her "take words apart"; bro-ther, mo-ther, sis-ter. Have her read stories and see if she can tell the story-- a test for comprehension and for articulation, noticing the sounds practiced today. Lessons were scheduled for twice a week.

Jim was seven, had completed kindergarten and first grade, and was promoted to second grade. His teachers say Jim is good to run errands at school. His comprehension is fairly good. Diagnosis: Jim is spastic, mentally retarded with an I.Q. of 70 as reported by the Institute of Logopedics at Wichita, Kansas. He was tested and diagnosed as aphasic, perhaps due to a birth injury. He should be in a logopedic school where they are equipped to care for such cases, but financial status of parents apparently prohibits this. Jim has learned fourteen sounds since February 4. The r sound has not been used; it is next and the last. The sounds are used in isolation then in games as a carry-over. Usually a sound is taught, then it is used in a game. Miss Hooller worked with Jim in a dark room to hold his attention. The test was for comprehension. A flashlight was used. To get a response the teacher had to give a cue each time. Treatment: After entering the dark room, the teacher reached for the light to turn out the light (giving the t cue for Jim to answer). Now it is

dark--Jim answers "dark". What do we do next? Open the drawer. Get the flashlight. Shut the drawer. Turn it on. (Each time she waited for Jim to repeat the sentence with her after she gave the cue.) It was difficult to curb Jim's eagerness for him to answer each one. "Make the light jump on the wall; dance on the floor; put the light on the red roof; the blue sky in the picture." When it was time to put the flashlight away, there was a clash of wills, but with patience and firmness Miss Hoeller had Jim open the drawer, put the flashlight in, shut the drawer, turn on the light with no one's getting hurt or throwing a tantrum.

The next step was a repetition of cues and answers, but this time picture books and nursery rhymes were used. Some Jim remembered and filled in the missing words: Little Boy \_\_\_\_, Come blow your \_\_\_\_; but Jim's attention was of short duration. He kept turning the pages and making babbling (to the writer) sounds, much as a child of two years of age might do. A game was played: eye, nose, mouth, ear, and Jim would point to each as named. He seemed very flighty. "How many nose?" "One." "How many eyes?" "Two," and Jim held up two fingers. "Where is your chin? eyes? nose?" and so on. When the lesson was over (thirty minutes), the teacher took Jim's scrap book and put in words, sounds, and other tasks to be done at home. He is to practice on verbs and nouns; the words in series he has learned: shoes and socks, hat and coat; and the colors in series: red-yellow; black-white. After used in series, then try them separately.

Apparently Jim's mother knows that he is not ready (mentally) for the second grade. She asked, "What will he (Jim) do when he is passed into the fifth and sixth grades?" One can only echo, "What?"

THE SCHOOL OF LOGOPEDICS, HAYS, KANSAS

Nearly two days, June 7 and 8, 1954, were spent in the Hays Clinic observing the two correctionists at work with the patients visiting with the mothers as they waited for the children, examining the books used, reading some case histories of children treated there, and conferring with both Mrs. Velma Wooster, correctionist, and her assistant, Miss Janeal ("Jan") Zieber. They were most cooperative in helping secure material and information first hand and other authoritative sources.

The clinic is visited each month by a supervisor from the institute at Wichita. He stays in the clinic one or two days.

Mrs. Wooster says she has been so happy with the letters she received from classroom teachers telling of the improvement made in the reading and spelling of pupils who had taken a course in speech correction in the clinic.

Hays Correction Clinic, Opened September 1, 1947

This is one of seven speech clinics in Kansas that are state supported and non-profit. Mrs. Velma Wooster was the speech cor-



rectionist was head of the clinic when it was opened. She still heads the clinic. She studied logopedics under Dr. Palmer at Wichita, Kansas. Miss Janeal Zieber, a sonior at Fort Hays Kansas State College, studied speech correction under Mrs. Wooster and is now an assistant correctionist in the clinic and is paid by the state.

Statistical Summary of Hays Correction Clinic  
September, 1947, to July, 1948

Cases examined.....	148
Cases rechecked.....	93
Cases trained.....	42
Number on waiting list as of July, 1948.....	117
Number of individual lessons given.....	4016
Types of speech defectives taught in order of frequency:	
1. Articulatory	5. Deaf and Hard of Hearing
2. Stuttering	6. Cleft Palate
3. Cerebral Palsy	7. Speechless
4. Retarded Speech	8. Aphasia
9. Endocrine	
Number of towns represented.....	56
Number counties represented.....	64
Letters received.....	740
Letters sent.....	610
Speeches given.....	27
Number of visitors to the clinic.....	988
Number of hours volunteer work donated by women and high school girls of Hays.....	568
Greatest number of hours donated by one person, Mrs. Bertha Dill Barker.....	410
Mileage covered by parents bringing cases to and from classes.....	148,212
Greatest distance covered by one parent.....	15,250

Reports of Some of the Cases Observed Treated  
in the Hays Speech Clinic

Jim age seven; first time in classroom without his mother. She and the writer sat in the "observation room"--one sees and hears unseen by the corrective. Jim is an Artic(defective in articulation); his school mates made fun of him because he did not talk plainly. He said he will "show them", his mother reported. Jim substitutes d for g (doing for going) and makes substitutions for k, but he is not consistent with them. In his scrap book he is given a star if he remembers a sound and can give it right each time. Mrs. Wooster asked the mother not to discuss or practice the lesson with the child during the long drive (50 miles) to the clinic as they tire of the routine too quickly in the clinic. It would be permissible to discuss such on the way home away from the clinic.

Cynthia ages seven and nine are sisters and both are stutterers.  
Janet

Both were over sensitive. Mrs. Wooster gives their corrective exercises unobserved by others. Best responses are had as they walk together on the college campus. Here are many things to be seen whose names have in them the sounds being practiced. They walk and talk in rhythm. During the walks the children seem to have a greater sense of security and freedom.

Ralph was eleven. Mrs. Wooster introduced the writer to the boy as he looked at some comic books. He was asked about some

of the characters and which were his favorites. He replied very readily as might most boys his age--perhaps a little more reserved--but she never suspected that he, too, was a stutterer. Mrs. Wooster was quite pleased with the boy's performance.

Jean age five; enrolled in the clinic when three. She is hard of hearing; teachers are preparing her for a hearing aid. Miss Zieber used several methods to get Jean to respond: objects--scissors, crayon, spoon; the name was sounded by lip reading, by placing Jean's fingers on the teacher's throat or lips, and by the teacher blowing the letter sound on Jean's hand until she understood and repeated the sound or word satisfactorily. Commands were also given: "Put the comb (action of combing hair) on the green chair." Each time a task was completed, praise was given. When the teacher clapped her hands to attract Jean's attention, she must have felt the vibrations for she responded each time. Jean has older brothers and sisters, but she is the only one in the family with defective hearing. She has had no serious illness.

Bill was seven, and classified as a spastic. His speech handicap was due (Bill's mother said) to cerebral palsy. He held his head slightly to one side; his right leg turned, or seemed twisted very slightly, outward. The crooked little fingers showed signs of cretinism. Bill's mother said they began taking the child for treatments at the age of three months to a specialist in therapeutics. She credits the



massaging and heat treatments started at that early age for Bill's appearance being more like that of a normal child. He has taken speech correction from Mrs. Wooster in the clinic nearly three years. He was very enthusiastic as he entered the reception room, over a dog he owned and he wanted to share the good news with all there. "Ho's little," and he measured with his hands, "and his name is Lucky." When Bill was taking his speech lesson, it was observed that the correctionist used the consonants in combination or blends with all the vowel sounds: dr dra dre dri dro dru--the child repeating them after her as rapidly and clearly as he could do them. The gr and or sounds were used the same way. Evidently or was a cue to him for he interrupted with, "Chris is coming home today." Indeed he would interrupt quite frequently with some bit of information he wished to share. The correctionist listened; if he missed a sound or failed to sound his endings, she used that for review. T ta ta ti; tr tra ra; dr dra; pr p r; s is; right here; This is the way to make a car. This is the right way to make a door. Br bra bra bra; str stra (in both the long and short vowel sounds); spr spra spra and so on through all the vowels--long, short, broad, etc. With Bill the correctionist not only used the sounds in isolation but also in blends, in words and in sentences. It was then time to take their walk. The children show great eagerness for this walk on the campus with the correctionist and seem to consider it

some kind of merit award.

Ronnie age 9; grade 3. Artic: th(voiced and unvoiced) s z sh zh ch j r l. Can make part of these fairly well but he used them inconsistently in conversation. Extended tongue did deviate. No labial or lingual agnosia. Considerable alveolar agnosia. No lingual apraxia. Short a, m, s, v, r, ok. Rate very fast. Some symptoms of clonic stuttering. Right eyed. Quite high palatal arch.

Patty Jo age 6 years--(older sister always accompanies her). Artic. Th(voiced and unvoiced) and r; others missed in combination. AMS: short.(AMS means auditory memory span--be able to repeat three unlike syllables). Unable to get three unlike syllables in any combination. VR. is ok.(VR or V.R. refers to the Van Riper memory test-cover mouth, two unlike sounds used by speech correctionists in the clinic). Discrimination not so good as it should be. Hearing seems ok. Could not check agnosia or apraxia. Ronnie's lesson was observation room, but Patty Jo was observed in the classroom. Miss Zieber handed to the writer cards with the above history and diagnosis for these children. Permission was given by Miss Zieber to use these case histories in this report.

## SALINA SCHOOL OF ORTHOPEDICS

This school was visited because it was thought to be a school of logopedics instead of one of orthopedics--for exceptional children. The visit was made June 14, 1954. During the summer the school opens only by appointment of patients scheduled for treatment. Mrs. J. S. Hardesty, a speech correctionist in the school was contacted. She very graciously consented to tell what she could about the work done by the school personnel. Her statements follow.

The School of Orthopedics in Salina was opened in September, 1953. It is a part of the Salina Public School System. The school is financed by the city of Salina, and the Kansas State Department. Mrs. Szymoniak, a graduate of Wisconsin, headed the school, but had resigned because she was moving to Kansas City, Missouri. Mr. Bob Brooks who received his master's degree from Kansas University now heads the school.

Eleven patients were enrolled in the school. All but one of these were "C.P.'s"(cerebral palsy victims). One patient had a heart defect, a congenital condition. None of the eleven was able to attend the public school. Regular school work was provided for those able to carry the work. Three of them were reading; a seventeen year old was ready for the third grade. Speech is highly involved in the school. One sixteen year old is mute. The ages of the patients range from three years to seventeen. Two were pre-school children.



The school provided two teachers, Mr. Bob Brooks and Mrs. J. S. Hardesty. Mothers of the children in the school and four other ladies of the city of Salina donate part time to help in the treatments when needed.

The Orthopedic School emphasizes four points:

1. Usual academic work
2. Physical reconstruction
3. Emotional adjustment
4. Medical and surgical care

#### THE SPEECH CORRECTIONISTS TALKS WITH THE CLASSROOM TEACHER

The speech correctionist ordinarily deals with less than ten per cent of the school population. In most schools her work deals entirely with the re-education of speech which is inadequate. This means that the classroom teacher is really a teacher of speech.

Since children imitate, the teacher should be sure her voice is pleasant, clear, well-modulated, and flexible. Children whose voices are pleasant, well-controlled, and flexible have usually been addressed in such voices.

Among the most common undesirable speech habits to which teachers object and for which they seek the correctionist's help are these: (1) poor volume; (2) sentences that begin with normal intensity and trail off into nothingness; (3) reluctance

to speak in 8r before a group; (4) indistinct, muffled speech; (5) whining, infantile voices; (6) inarticulateness; (7) unpleasant voices--nasal, thin, hoarse, denasal, harsh; (8) sound substitutions or distortions consistant in that community such as "d" for "th", "sh" for "ch", "s" for "z", the short "i" for short "e", etc. (9) rambling talk; (10) non-fluent reading; (11) the inability to listen; (12) impoverished vocabulary and usage errors; and (13) the tendency to monopolize.

The speech correctionist does not begin his program of correction until he has made a careful inventory of the speech needs and abilities of the child or group of children. The teacher should also recognize the child's problems and understand clearly the goal toward which her efforts should be directed.

One of the best ways a classroom teacher can help a child to correct his speech faults is through the use of a tape recorder. Through this medium, the teacher can make a recording of the child's voice and then point out the mistakes to him, thus putting him on the road to correction.

Teachers and future teachers should pay strict heed to the idea that they are really teachers of speech as well as classroom teachers.

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Eckelman, D. "The Speech Correctionist Talks with the Classroom Teacher." Elementary English Review, 1945, 22:157-162.

## THE "C.S.S." PROGRAM

"C.S.S." stands for chewing, sucking, and swallowing. These three vegetative processes are basic element for speech. A child must be able to chew, suck and swallow and valve the larynx before he is able to talk. Most children do this naturally, but some, and the cerebral palsies, (CP's) are unable to do this because of poor muscular coordination. Some children are unable to chew properly because of poor teeth.

When a child comes on schedule, one of the first things a special correctionist must do is to check the child's C.S.S. This is done by giving the child something to chew, preferably a raw vegetable such as carrot or potato, checking to see if the child automatically shifts the bolus from side to side with his tongue. If he is chewing only on one side, it may be poor teeth. If he is not shifting bolus, the tongue may not be selective in movement. Next let the child drink water through a drinking straw. If a child can suck properly, without biting straw, and without choking, his sucking reflex is probably all right. If a child's C.S.S. is faulty, he should be put on a hard food orientation program.



## CLASSIFICATIONS OF SPEECH DEFECTS

### Aphasia

One of the most uncommon causes of delayed speech is aphasia, which is usually the result of a severe birth injury or an injury to the head. It is always necessary to rule out the other causes, especially those of high-frequency, such as deafness and feeble-mindedness, before aphasia is considered.

The child may appear to be congenitally deaf, but if there is a history of occasional response to air-borne sounds (rather than to sounds which might be carried through the floor or other vibrating bodies), the child should be carefully examined by a specialist in this field. Highly emotional situations often produce such responses when they are not apparent in ordinary activity. Other signs of aphasia are evident in what seems to be a "forgetting" of the purposes of well-known objects such as pencil or spoon. The treatment of these cases are difficult and must be carried out through the development of a serviceable gesture language, to which vocalization may later be added. The teacher should find other ways of speech teaching than those normally used and should study carefully the more recent works on the subject. A specialist in speech correction is probably best fitted to handle the situation, but excellent results have been obtained by interested primary teachers.<sup>1</sup>

The writer observed the correctionist of the speech center in Manhattan work with an aphasic child, Jim, whose case history has been given elsewhere in this report. The best thing that the classroom teacher can do for an aphasic child is to suggest to the parents that they take the child to the speech clinic in the district where he will receive the help of specialists in that field. The regular classrooms in our schools are not suitable for an aphasic. Miss Noeller used a dark room to hold Jim's attention. Jim's teachers reported that "Jim was good to run errands". Miss Noeller told Jim's mother that the child would be

errands". Miss Koeller told Jim's mother that the child would be much better trained in the Institute of Logopedics at Wichita, Kansas, where they are much better equipped to handle such cases. However, if a child like Jim were forced upon the teacher, she should use her best judgment in handling the situation. He might be taught to obey orders and to play with other children and perhaps, through association, to do simple tasks. As with other speech handicapped children, the child is treated as an individual and never teased or ridiculed by the other children.

### Articulatory Disorders

There are more articulatory disorders than any other speech defect. Five to ten per cent of the population of the United States have speech defects. Two to three per cent respond to training--special training. Fifty to seventy-five per cent of these are artics.<sup>1</sup>

The White House Study found high artic proportion in a study of forty-eight cities to be very high (seventy per cent in vicinity).

Madison, Wisconsin, made a thorough study and found seven per cent of its population had speech defects: seventy-three

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<sup>1</sup>Common term for articulatory disorders used in speech clinics.

per cent artics, twenty-two per cent stutterers, and four per cent voice quality (barephonia).

Dr. Palmer's study of nearly two thousand persons showed fifty per cent artics. There were two men artics to one woman artic.

The Mount Holyoke Study of two thousand well-educated girls found that ten per cent had speech defects.

### Causes of Articulatory Disorders

#### Organic:

Tongue tied

Abnormally high palate

Mis-spaced teeth

Hare lip and cleft palate  
(test lips to see that  
jaws are asymmetric)

Gross abnormality of tongue

Gross abnormality of velum

Gross abnormality of pharynx

Motor non-coordination

#### Structural:

Hard of hearing

Cerebral Palsy

#### Functional:

Cerebral Palsy

Motor non-coordination

### Treatment of Articulatory Disorders

Frequently in our public schools we find children who "do not talk plain". These children have some disorders which is called defective articulation--they do not produce accurately the consonant sounds which are largely responsible for the intelligibility of speech. This inaccur-



acy of speech sound production may result from a number of conditions, some of which are: loss of hearing, an injury to the brain, a severe illness when speech would ordinarily have developed, or some irregularity of the lips, jaws, tongue, or the hard or soft palate. Mental or physical retardation may also interfere with the development of correct speech sounds. However, most articulatory disorders are functional in nature and are related to use, not the construction, of speech organs.<sup>I</sup>

The correction of functional articulatory disorders is usually done by a speech constructionist, but parents and classroom teachers have important roles to play.

When a teacher finds a child in her class who has a speech defect, she should talk privately with him about his difficulty and see if he would like to try certain words again during oral reading periods. She explains to the other children in her room so there will be no occasion for ridicule either in or out of the school room. After children have learned to make the sounds correctly, they sometimes slip back to their old habits of speaking. The alert teacher then should occasionally remind and encourage the child until he is able to speak without error.

One must not exaggerate the importance of organic factors, neither must one ignore them. Be careful not to miss significant functional factors when looking for something organic that might cause the speech defect. A badly overshot jaw or an excessively long tongue or any other of the organic abnormalities which one looks for in examining for speech defectives must certainly be a handicap in achieving normal pronunciation. However, bright children from of high speech standards with any of the above abnormalities are able to learn other ways of making their sounds, but less intelligent children whose parents show little interest in their speech development will con-

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<sup>I</sup> Speech Problems of Children, p. 76

tinue to speak carelessly. The teacher must not make a hasty diagnosis. Other causal factors may be of far greater importance than the organic defect.

Tongue depressors, probes, and tooth props are tools easily procured. Examiner (teacher) should develop a systematic routine involving quick, sure movements and requests. Examine each structure when at rest or motionless and also in its relation to the appropriate speech sound. Record all evidence of handicapping abnormalities, together with a notation of any evidence of compensatory movements in the production of speech. In so far as is possible it is always wise to examine the articulatory organs (tongue, lips, teeth, jaws, and soft palate) as the incorrect sounds are attempted. Helping the child to locate the normal starting position on the teeth or gum ridge, etc., will help him clear up his difficulty. That is the child will adopt the new correct method of sound production when he can identify the old one as incorrect. The most difficult articulatory defects to correct are those caused by emotional conflicts. The importance of personal and social adjustment cannot be over-emphasized.<sup>1</sup>

Functional disorders usually result from a combination of factors. Although it may not be possible to determine the exact cause of the disorder in any one case, it is always best to make a careful examination of all of the relationships in a child's home, play and school environment.<sup>2</sup>

Parents and teachers often grow impatient with children who are not able to say any words correctly after they have been continually told that a pronunciation is wrong and after the correct pronunciation has been given for them many times. The child may have a short auditory memory span; he may be unable to distinguish differences between the sound as he says it and the correct form. Van Riper calls this a lack of directed attention.

<sup>1</sup> Charles Van Riper, Speech Correction Principles and Methods. p. 120.

<sup>2</sup> Speech Problems of Children. p. 82.



The method of examination should depend largely upon the age as well as the school environment of the child.

Any test of articulation, whether it is used to determine the types of defects which are present or to get an estimate of progress during retraining, should provide opportunities for the spontaneous expression of single words containing the sounds to be tested. It should also allow the examiner to discover how the child expresses himself in conversational speech.

The following sounds should always be included in a test of articulation: p, b, m, wh, w, t, d, n, k, g, ng, f, v, th(voiced, as in this), th(voiceless, as in thumb), s, z, sh, ch, j, r, l, and the blends: st(as in stop), sk(as in sky), sl(as in slide), dr(as in drink), and fy(as in fly).

The sounds should be tested in as many positions as they may appear in a word--at the beginning, in the middle, or at the end. Only one sound in one word at one time should be listened for by the examiner.

The different types of articulatory errors, whether they are of an organic or functional origin, are essentially the same, and are grouped according to whether they involve substitution, omissions, insertions, or distortion of the speech sounds. These types are often found in combination in a particular child.

Substitution is involved when the correct consonant sound is replaced by an incorrect one. Substitution may occur at the beginning, in the middle, or at the end of a word. Examples: "f" for "th" as fumb for thumb, birf-day for birthday and mouf for mouth. The "s" and "t" are sometimes substituted for the "th". The sound of "w" is a common substitution for "r" and "l". There are some sound substitutions which seem comparatively unimportant to parents and teachers and often to the children them-



selves, but which prevents distinctness and precision in descriptive or explanatory speech or in conversation.

Omission is when a sound is omitted or dropped entirely from a word. They may occur in any part of the word. In the speech of some children "like" may be "iko", "ball" may be "baw", and "water" may be "waher". When consonant blends are attempted, there may be any of the consonants of which the blend is made up: "stop" is often "top", "school" is often "cool", and "play" is "pay". Omissions and substitutions are particularly noticeable in children who have learned a foreign language before learning English.

Insertions is when a sound is inserted or added to the word at almost any place in the word. Words such as "push", "wash", "gocd", and "pull" become "pursh", "warsh", "gord", and "purl" when the "r" sound is inserted. In careless speech "drowned" may be pronounced "drownded", "athletic" may be "athaletic" and "chimney" may be "chidley" or "chimaley", or even "chimbley".

Distortion. Distorted, approximated, or indistinct sounds may be defined as those sounds for which no definite substitution is made, but which are not correct because of a mutilation, a blurring, or a slighting which results in a weak or an incomplete sound. The lateral lisp which usually affects sh and ch, is a distortion. The air stream escapes from one or both sides of the mouth and the result is one which is described by some as "rushy", or "talking as though the mouth were full of hot potato".<sup>1</sup>

"I Dot a Wed Twuck" "I dot a wed twuck", says seven and one half year old Tony. What can the classroom teacher do about it?

Speech correction has been knocking at the door of public schools for many years. In some areas it has not received too hearty a welcome because it could not satisfactorily answer Mr. Curriculum's question, "Are you ready to become a well integrated member of our group."

Public school administrators and teachers, to some degree influenced by short-sighted speech pathologists, have in the past relegated all speech corrective work to isolated classes or clinics.

Speech therapist have attempted to correct speech defects by taking the children out of the regular classrooms at infrequent intervals for short periods, in some districts only once a week for from 20 to 30 minutes, treating them within the artificial limitations of unrelated speech clinic programs. Results have been slow and discouraging, in many cases entirely futile.

Tony is a typical example. He is seven and one half years old and is in the second grade. His teacher's report in June showed that Tony would be held over another year because he had failed to learn to read up to the standards required for promotion.

Tony has a speech defect classified as articulatory substitution. For the past two years, Tony has sent from his room once a week to a speech correction clinic. Progress has been made, because in the clinic Tony can produce every sound of English correctly. Yet, in the share-and-tell period in his classroom, Tony's report continues with, "I dot a wed twuck for my birfday." Tony's I.Q. is 115.

A conference with Tony's classroom teacher gives us cause for reflection. What Tony does in the speech clinic is entirely unknown to the classroom teacher, except for Tony's own report, "We play talking games."

The classroom teacher has no training in speech or its problems in obtaining her primary-elementary teaching credentials. She believes that helping Tony's speech should accelerate his reading, but she frankly states that she does not know what to do.

Tony is regarded as a defensive child, for he frequently makes false excuses for his inability to cope with regular school routines.

In this second grade there are five other children with similar speech deficiencies, none so detracting as Tony's, but who cannot be included in the speech therapist's over-crowded clinic schedule. Two of the children will also fail with Tony.

Classroom Carry-over Necessary. The problem is obvious. A follow-up, carry-over, habit forming speech improvement program in the classroom is just as indispensable to Tony's progress as is the special speech-correction clinic. This has been proved without question in those districts where the totally integrated, clinic-classroom is functioning effectively.



Speech correction must be applied in Tony's daily talking experiences. His teacher, by understanding his problem, by working in close cooperation with the speech therapist, must know what he is trying to accomplish. Tony must feel that his teacher and his classmates expect him to use his clinical corrections in all of his speaking activities.

First the classroom teacher must become conscious of the importance of speech in the learning process. Speech is a basic skill, acquired long before reading, writing, or spelling. Adequate speech is the prerequisite to satisfactory progress in learning all school subjects.

The ability to speak intelligibly is specifically fundamental to the reading-readiness program. Phonetic activities in sound discrimination, including accurate listening and reproduction of high and low frequency speech sounds is the most effective preparation for phonics, spelling, and individual progress in word construction.

Such activities are extremely helpful in eliminating many speech faults and establishing early patterns of speech and reading accuracies. Remedial reading problems invariably involve some degree of retarded or deficient speech. Is not every classroom teacher, then, at all times a teacher of speech?

Second, the classroom teacher should know that no miracles are performed by speech therapists. There is no magic involved in teaching a child to say "thumb" instead of "fumb" or "kitty" instead of "titty".

The cause of these common substitutions, in most cases a retarded development of auditory acuity for spoken sounds of high frequency, has been eliminated by normal maturation and experience. The functional habit remains, now vulnerable to the most simple methods of auditory and visual training.

At least 75 per cent of all speech defects in school children involve these functional habits. In most cases, it is far better to treat them casually, indirectly in a classroom speech-improvement program, than to barge in on the sensitive child with a frontal attack which makes him feel conspicuous and more self conscious about his plight. This is particularly advisable in the primary grades.

Recently a third grade teacher reported a child who writes "Krudy" for her name, "krain" for "train", and "kruck" for "truck". Investigation by the speech therapist revealed that Trudy speaks the sound "k" for "t" consistently, an unusual substitution for the reverse of "t" for



"k" is more common.

With the aid of a mirror, the speech therapist showed the child and her teacher that the "t" sound is produced by raising the tongue tip to the upper ridge for the plosive release of breath instead of keeping the tongue tip down behind the lower front teeth as for "k". Trudy caught on with one trial.

This by no means implies a complete and permanent correction. But should Trudy be sent to a special speech - correction class, periodically, for further corrective procedures? No, for many reasons.

The speech therapist's task was completed in this case when she showed Trudy how she could make the desired sound correctly and had given the classroom teacher instructions and materials for helping Trudy use the sound repeatedly.

The Classroom Program. In a speech-improvement program in the classroom, Trudy must be given frequent opportunities to make this correction immediately successful, in spoken and written activities of the group.

Some teachers, particularly specialists who are flattered by a child's progress in the clinic, wonder why the child so often fails to carry over immediately or effectively those corrections he makes satisfactorily in the special-class situation.

Is it not true that in the primary grades our emphasis is upon group consciousness and group participation? Is it not natural then for the child who returns to his classroom from the speech clinic to turn his undivided interest immediately upon what the group is doing, instead of concentrating upon some meticulous adjustment of the speech mechanism about which he alone is supposed to be concerned?

If, however, the entire group participates in stimulating and creative speech activities as an integral part of the curriculum, what a wonderful setting for the child in question to demonstrate, to share, and to enjoy success and approval for his special efforts.

It must also be remembered that what a child may be able to do in the haven of comfortable relaxation and understanding-conditions become an impossible performance in the excitement and tension of classroom pressure.

A stutterer, for example, may learn to speak with of-

fortless, forward-flowing fluency when he is relaxed and when confidence replaces insecurity. But if he is failing in arithmetic, or if he is forced to recite and read aloud when memories of severe stuttering precipitate feelings of fear and embarrassment, the emotional tension aroused will completely obviate any conscious attempt to relax or to feel securely self confident in speech.

The clinic-classroom integration which has been indicated here for a dynamic program of speech correction requires considerable flexibility in the speech therapist's schedule. Special classes must be so arranged that the therapist be permitted to take immediate advantage of a child's moment of victory in the clinic.

When insight and readiness and Tony have all collaborated to conquer a stubbornly resistant speech defect, the duty must be passed on to interest, enthusiasm, and opportunity. The stage must be set, with the help of the classroom teacher, for repeated and continuous performance of corrected speech. It must not wait for the clinic later.

A workshop demonstration by the speech therapist, with all of the group in the classroom, is a most effective technique at all grade levels.

The speech therapist also should reserve ample time for parent consultations when stuttering and other speech problems obviously require parent understanding and cooperation.

At least once a month a speech correction clinic for pre-school children. Much can be done in preventive and instructive education for parents who seek and who need professional advice about defective or retarded pre-school children.

In many school districts across the nation special education has been accepted by administrators and teachers as a member of good standing in the public school curriculum. We, in the field of speech correction, want full membership.

If one of our goals of modern education is to prepare its candidates for life with an adequate ability to communicate effectively, socially, and professionally, then all special services must be pooled with the facilities for their expression in the regular education curriculum.<sup>1</sup>

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<sup>1</sup> Conrad F. Wedberg, "I Dot a Wed Twuck", The National Educational Association Journal Year Book, February, 1940, 30:131-132.



## Cerebral Palsy (Spastic Paralysis)

Cerebral palsy is a general term which covers a variety of conditions caused by damage to certain areas of the brain. The number of children affected by cerebral palsy has not been determined exactly, Speech is influenced in about seventy per cent of the cases in cerebral palsy. In general, the speech of children with this disorder is labored, slow, and jerky, the voice tends to be monotonous and relatively uncontrolled, and the articulation suffers because of the impaired muscular coordination.<sup>1</sup>

Van Riper says that the diagnosis of cerebral palsy is the work of a physician, and to undertake a program of speech rehabilitation without medical examination is not only haphazardous but directly violates one of the ethics of the American Speech Correction Association.

Cerebral palsied speech is a problem for the professional speech correctionist, but the classroom teacher plays a vital role in determining the opportunities of the cerebral palsied children who are able to attend school. She can carry out the same corrective treatments used for articulation defects. She will want to talk with the child's parents to see if there are any special suggestions made by the child's doctors that she could use in school.<sup>2</sup>

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<sup>1</sup> Wendell Johnson, Speech Handicapped School Children. p. 9

<sup>2</sup> Charles Van Riper, Speech Correction Principles and Methods, p. 404.



The cerebral palsied child should be permitted to do what he can without fatigue. Relaxation is one of his main problems. At least some of his muscles are nearly always too tense. If need be, a special seat should be provided to help him be more comfortable and relaxed at his school desk.

Intelligent cerebral palsied individuals meet so many frustrations during their daily lives that they tend to build emotional handicaps as great as their physical disability. For this reason the greatest contribution the elementary school teacher can make to the improvement of the cerebral palsied child is the creation of an atmosphere in which he can work at his best and be happy and content. If the teacher creates a friendly and understanding feeling in her classroom, much of the tension of the afflicted child may be relieved. His problem remains, but the teacher and her pupils can share in helping him to adjust himself to the situation and to concentrate his efforts on developing the talents he has.<sup>I</sup>

Many teachers have taught for years without having a child with cerebral palsy in the classroom. Although it is unwise to expect the public school teacher, who is already overworked with a large group of ordinary children, to accept a child with cerebral palsy and to give him special attention and training, there are times when arrangements can be made so that the child will receive some benefit from the public school system.

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<sup>I</sup>Wendell Johnson, Speech Handicapped School Children, p. 298-301.

Because of the association with other children, the public school system situation is much better for the child with cerebral palsy than any kind or degree of isolation, especially at the pre-school and early primary levels. Where contacts with other children are possible, there will be better personality development and better social adjustment, particularly if the teacher and parents understand the problem. The normalcy of the situation is good from the point of view of mental hygiene and acts as a stimulation to the desire to progress. However, for this kind of solution to work, both the teacher and the parents must understand the difficulties inherent in such arrangements.<sup>1</sup>

Teachers and others who deal with children in groups in which there are cerebral palsy victims should at least learn enough about the causes and general symptoms related to this condition to enable them to be sympathetic and helpful instead of scorning and pitying. They can do much, no matter how little special help it is possible for them to give, by adopting an attitude of firmness rather than one of indulgence, by providing rest and relaxation, and by providing what little speech training they have time for. They can help the normal children in the group to understand why the cerebral palsied children are different, and thus prevent cruelty and unfair competition on the part of the more normal youngsters. Theirs is a hard lot, but unless they are toughened to attack their problems, they are sure to lose out in the struggle.<sup>2</sup>

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<sup>1</sup> Speech Problems of Children, p. 187.

<sup>2</sup> Ibid., p. 150.

No one wants pity, but the sympathetic and wise teacher sees more than just a cripple, a spastic. This child is an individual and must be treated as one. Despite all his difficulties he can do many things and, if given understanding treatment and encouragement, will be able to do many more. A teacher must keep in mind that her manner of acceptance is reflected in the attitude of her other pupils. The genuine teacher seeks and finds the person behind the handicap.

Some children with cerebral palsy have no speech problem, for the muscles used in speech are not always affected. It has been found that about thirty per cent have normal speech.

About one-third of all cerebral palsy children are not educable. The School of Orthopedics at Salina provides for such victims who are not able to attend the public schools. The work of this school is told elsewhere in this report.

When conferring with parents of a cerebral palsy child, the teacher can inform them of the clinics for exceptional and handicapped children in Kansas. She can help them locate the one in their district.

### Cleft Palate

In cases of cleft palate the structures which normally form the roof of the mouth have failed to form properly. As a result, air passes freely between the oral and nasal chambers and the speech tends to be nasalized. There is a difficulty in building up breath pressure for the stop-explosive sounds (p, b, t, d, k, and g); the effort to produce these sounds may result in what may be called a



"nasal snort". Other sounds, too, may be affected.

The cleft may affect only the hard palate; it may be slight or extensive. It sometimes extends through the gum ridge at the front of the mouth; it may involve the lip (harelip). In some cases it extends back to the soft palate and velum. Surgery is commonly used to repair these clefts. However, except in rare cases, does the repair eliminate the speech defect; speech correction is necessary in practically every case. Roughly, one in every eighteen hundred children is born with a cleft palate.<sup>1</sup>

What can the classroom teacher do? She should first discuss the child's problems with his parents. If he has had no treatment, advise and encourage them to seek the advice of a surgeon. No cleft palate child, however poor his family may be, need to go without the benefit of skilled surgery if only teachers will tell the right people about the case. In Kansas the CRIPPLED CHILDREN'S SERVICES have arrangements for taking of surgery for those who cannot otherwise afford it, and they also offer speech correction training after the operations are done.

It is necessary for both the teacher and the cleft palate child to understand just why the exercises are being used. Since parents are going to supervise the child's work at home, they, too, must know exactly what is expected. The basis for blowing exercises is quite simple. If the child is to blow a full and steady stream of air through his mouth, he must shut off the passage into his nose to prevent part of the air from escaping that way. The child needs to learn to control his reconstructed soft palate so that he can raise it to keep the air from going through his nose when he wants to.

Blowing is an activity which involves the action of the soft palate. By having the child practice blowing small objects (a piece of paper or of cotton) it is often possible to help him develop control of his soft palate. He can learn to blow the objects farther, and to blow larger objects than at first.

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<sup>1</sup>Wendell Johnson, Speech Handicapped School Children, p. 3.

Other sorts of blowing exercises add variety and keep up the child's interest. Whistles, a harmonica, or toy flute, and toy windmills interest small children. Balloons are recommended. Use a drinking straw as a blowing tube. It is good exercise to blow a candle flame, blowing on it steadily but not hard enough to extinguish it. Drinking liquids through a straw should also be practiced. Five minutes at a time (never more than ten) for these exercises is best, and should be done four or five times a day. The teacher should see the child once a week for a few minutes to check his progress and suggest a new drill if he is tiring of the old one. The problem of carrying over control of the palate from blowing to speaking is sometimes a complex one, but if the above ground work has been faithfully done, a speech teacher will later on be able to help the child eliminate the nasality from his speech.<sup>1</sup>

How much of this sort of help the teacher can do depends largely upon how overworked she is otherwise. If she is able to take a few minutes each week to teach the child the blowing drills and games, she can help him make a big improvement, particularly if the parents understand the aims of the exercises and do their part. After the goal of controlling the breath stream is accomplished, the articulatory defects can be dealt with along the same lines as suggested under the heading of articulatory disorders.

#### Deaf and Hard of Hearing

Van Riper states that at least one study has reported that "the deaf blame their difficulties more on the attitude of the hearing than on the sense defect itself." Many of them feel capable, but they feel there is a definite unwillingness on the

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<sup>1</sup>Ibid. p. 291, 293.



part of the hearing person to give him a chance. People will not trouble to include the deaf person in what is going on, and usually will give only perfunctory answers to his questions. It is in this area that the classroom teacher can be of most valuable service for these people: Give them opportunities to recite. Even giving them a chance to answer a question that requires but a single word or two will help to offset the feeling that being deaf means being ignored. Reading is one of the most valued compensations for the handicap of deafness. Special reading assignments may mean the difference between the pupil's keeping up with the class or his falling behind. He may fall behind because of a limited vocabulary, but the teacher can have the pupil write down the words he does not understand and then help him with the meanings later. It is said the deaf often lose interest in the regular dictionary because of the abstractness of many of the definitions or the necessity of looking up several of the words used in the definition; or they become confused by the multiple definitions.<sup>I</sup>

The deaf need help with their social adjustment and this help can best be given in the school under the guidance of the teacher. Each classroom has certain pupils who are willing to help in a situation of this kind. The teacher can arrange for two or three of her pupils to invite the deaf child to spend an evening in their homes sometime during the year. In other words the

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<sup>I</sup>Charles Van Riper, Speech Correction Principles and Methods.  
p. 414.



the teacher must react to deafness in an objective, constructive manner and at least try to understand such children.

The Hard of Hearing: If the teacher suspects a child in her room is hard of hearing, she should confer with the child's parents to make arrangements to have the child's hearing tested. In the meantime there are characteristic symptoms of hearing loss that may help the teacher to identify a child so afflicted. These characteristics are: (1) voice becoming very loud or very soft; (2) verbal direction ignored consistently; (3) apparent and repeated confusions in understanding teacher and other pupils; (4) frequent requests for repetition of questions; (5) close observation of the face of teacher; (6) consistently turning the head to one side when paying attention to the speaker. There are other symptoms which may possibly indicate hearing loss. If a child shows the following behavior, check hearing: spells of dizziness; head noises; inattentiveness or misunderstanding of instructions; good performance on tests of book material and poor performance on lecture material; frequent colds with ear discharge; sudden changes in attitude such as aggressive, shouting behavior or pronounced withdrawal, which occur after severe illness; excessive fatigue during class recitation.<sup>1</sup>

The teacher can help to prevent the tendency toward segregation and social maladjustment. When a child asks for a repetition of what was said, it might be stated another way. Too the teacher must speak directly to the children and not with head down or averted, or with book or hands in front of the face.

Wendell Johnson says, actually the problem is not with the child himself, but with his parents. It is a wise and thoughtful teacher who will take the time to help them understand how they can best educate their deaf child. If the teacher allows a child just to sit in her classroom, she is doing him irreparable harm.<sup>2</sup>

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<sup>1</sup>Charles Van Riper, Speech Correction Principles and Methods, Wendell Johnson, Speech Handicapped Children, p.326.

## Delayed or Retarded Speech Development

Sometimes the classroom teacher finds a child in her room who does little or no talking. Such a child may become a serious problem, and the teacher is often perplexed as to the best way of handling him. Such cases are usually confined to the kindergarten and the first two grades. The child who has an almost complete lack of speech is so severely handicapped in school work that he does not often progress past the second grade until he has made marked improvement, and few gets past the first grade.

The greatest thing a teacher can do for a child with delayed speech or for all the children in the room, is to create a friendly, sympathetic, calm atmosphere in her classroom. So the wise teacher will try to understand the child and will do everything possible to make him feel "at home" or as one of the group. She will praise all his successes and avoid criticizing his failures. She will avoid putting him into situations in which his inability to talk as well as other children is embarrassingly conspicuous. Instead the efforts she makes will be tactful and designed to make success likely and failure inconspicuous. And all the time the child is given the feeling that he is being accepted just as the other children are.

The teacher should make arrangements to visit the homes of her pupils to understand their home environment, and in the case of the child with retarded speech, to see if the child is talking more at home, to check his progress, or to try to determine why no progress has been made.

The teacher should never accuse the parents of mishandling the child or indicate in any way that she feels that the parents' mistakes in bringing up the child have contributed to his problem. She may be right and again she may be wrong. Even if true, it is cruel to make a person feel like a criminal for a mistake made with the best of intentions.

In working to develop the child's speech, the teacher should start with the simplest words, and should not attempt more complicated words until the child is using them fairly well. The first words should be one-syllable words and should be objects with which the child is familiar. Boy, dog, girl, car, man, etc., are good ones to start with. The teacher must not be disturbed if his first try is indistinct, or if he leaves out some of the sounds in the words.



If he says bah for ball, that is a fine start.<sup>I</sup>

Pictures may be used to increase the number of words as the child makes progress, and demonstrating some action words, such as come, sit, walk, etc. However, the first words should be represented by actual objects that the child can handle as well as see. The names of his best friends are usually good words to teach him. In general, the greater the need a child has to use a particular word, the easier it is for him to learn it.

Perhaps the child is from a home where English is not spoken. It will then be necessary for the teacher to increase the amount of English speech the child hears. The writer recalls a child in one of her first grade classes. Mat was from a home in which German was the only language spoken. The child was retarded. The teacher in his home(rural) district refused to accept the child. The parents asked the board of education if they could send Mat and his brother, thirteen months younger, into town to school. The parents were advised to consult in whose grade the boys would be. The parents promised to speak only the English language in the home and to cooperate with the school in every way possible. The mother said the child's condition was due to delayed birth and a brain injury. Mat was in that school two years. His speech became understandable and he learned to play with other children. However, the child advanced very little in academic work.

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<sup>I</sup>Wendell Johnson, Speech Handicapped School Children, p.273-277.



His memory span was poor. He adjusted himself very and talked to anyone who would make the effort to understand him. If the speech clinic at Hays had been in operation then the child might have enrolled there and have been greatly benefited.

The teacher's general good judgment and her good will are extremely important in the attempts she makes to serve the special needs of the child with delayed or retarded speech. Too, she can ask for suggestions at the speech center in the district nearest her home.

### Endocrine (Glandular)

Those defects which are classified as endocrine are congenital and the result of glandular disturbance--either inactive or over-active. Cretinism and Mongoloidism (the latter are often imbeciles) are types of glandular disturbance.

Since it is doubtful that the elementary school teacher will ever have such children in her classroom, no further study was made of this type of speech handicap.

### Stuttering--What the Classroom Teacher Can Do For Stutterers

Of the eight different types or classifications of speech defects, there seems to be more difference of opinions among authorities on defective speech as to the cause of stuttering. There seems to be more or less an agreement on the treatment

for stuttering. Some authorities still cling to the opinion that an organic condition causes stuttering. Wendell Johnson,<sup>I</sup> however says that many physiological, neurological, biochemical, and anatomical studies have been made comparing stutterers and non-stutterers, and the net result of these studies has been that no organic or physical cause of stuttering has been demonstrated.

He states that stuttering is learned and developed by the child through frustrations, anxiety-tensions, and emotional upsets through parent-child relation.<sup>2</sup>

What shall the elementary teacher do for the stutterer? The stuttering child should be treated as has been suggested for the other types of speech defects: (1) Make him feel he is one of the group-school family, and that he is welcomed; (2) help him to face his problem frankly. Encourage the child to talk about himself--to get it out of his system what may be bothering him. Respect the child's confidence. (3) Establish friendly relationships with him and other children; build the child's confidence in his good physical ability to speak normally; explain that at times everyone gets bothered about speech when they are called upon unexpectedly, but it is done and no one gets hurt; (4) help the child to accept the fact that he does stutter, but if he does his best, he cannot be expected to do better until conditions are made more favorable for him; (5) train the child

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Wendell Johnson, Speech Handicapped School Children, p.184  
2Ibid.



to eliminate unnecessary and undesirable speech mannerisms--puckering of lips, sticking out tongue, etc., suggest he try speaking to himself before a mirror; (6) train the child to slow down his stuttering reactions--to take it easy; to develop a calm, unhurried, leisurely manner; (7) encourage him to talk as much as possible--the more he speaks, the more he will enjoy it, and the more likely he will be to reduce his fear of stuttering and to improve his speech; (8) encourage the child to cultivate his abilities and personality assets--banjo playing, tap dancing, tennis playing, or scholastic ability; (9) encourage the child in good physical hygiene practice.<sup>I</sup>

The teacher can help the classroom situation if she accepts the child's stuttering by refusing to be bothered by it; thus she determines the attitudes of the children. Perhaps she can tactfully explain to the other children in her room that the stutterer just has a different way of talking, that it is just temporary, and that he will get over it sooner if they give him plenty of time to talk and pay no attention to the different kind of speech. She should encourage, not force, the child to recite and never call attention to any evidence of speech abnormality in the recitation. All problems should be settled in an unemotional way. If the stutterer is teased, the teacher discuss the problem with the other children, attempting to solve it, not by threats or punishment, but by explanation that solve it,

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<sup>I</sup>Wendell Johnson, Speech Handicapped School Children. p. 215-249.



all have their differences and that actually they harm the stutterer if they taunt him because of his speech. The attitudes in the school is of vital importance, because children can be ruthless in their attitude toward a handicap. But a wise teacher can create an understanding attitude of acceptance and unemotionality, even though she may be unable to recognize the actual technique with which it is accomplished.

Mrs. Wooster of the speech clinic at Hays says the stutterer is very self-conscious and that never should children that stutter be put on exhibition. She worked with these children alone and much of each lesson was done while they (the teacher and the pupil) walked on the college campus. There they seemed to forget their fears and some talked with her quite freely. Sitting in the reception room at the clinic, the writer was introduced to a twelve year old boy. He was looking at some comic books. Greetings were exchanged and he was asked about his favorite comic. He said he had several. Mrs. Wooster seemed so pleased about something. Later she said the boy was a stutterer. The writer had never suspected it.

The majority of classroom teachers are inadequately trained to handle stutterers in the oral recitation situation; they lack adequate knowledge of the nature, causes, and treatment of stuttering, as well as the method of dealing with adjustment problems occasioned by this disorder.

The number of stutterers among children in our public schools present a problem for the school staff, and particular-

ly for the classroom teacher, since she is the one who is most directly responsible for the experience that the stutterer undergoes in oral recitation.

The following suggestions for classroom teachers in handling stutterers in oral recitations are based upon factors that seem to have a telling effect upon them.

1. It is desirable to call upon the stutterer to recite only when he volunteers to do so.
2. It is especially desirable to prepare the stutterer emotionally and intellectually to meet as many speech situations as possible, as repeated practice in speaking tends to eliminate the fear of speaking.
3. The teacher should endeavor to control the attitude of the class toward the stutterer so that he can feel that he is adequate.
4. The teacher must become adjusted to the child's stuttering and learn to react unemotionally.
5. It is usually desirable to demand extra written work of the stutterer to the extent that he is excused from oral recitation since it is conducive to a more thorough preparation and to a greater interest in school work.
6. She should not tell the child to stop and start over, to talk faster in a low tone, in a high voice, to swallow, to take a deep breath, to swing his arms while speaking, etc., in order to eliminate stuttering.
7. The stutterer should not be required to take part in recitations that will place too much pressure on him.
8. The teacher should not attempt to change the natural handedness of the child.
9. The teacher should not criticize the child for stuttering.
10. The teacher should not assume that the stutterer is inferior mentally because he cannot express himself fluently.



The task of the classroom teacher, since she cannot be expected to treat stuttering clinically, is to aid the stutterer in developing an objective, matter-of-fact attitude toward himself and his disorder such as will facilitate his scholastic progress and his general personality development.-

#### SUMMARY

To summarize the part of the classroom teacher in respect to treatment of the speech defects found in her classroom, it cannot be over-emphasized that the fundamental aim of the teacher is to help the child with a speech problem to develop a normal personality. Whatever the possibility of improving his condition, the teacher must start with the child as he is and help him to develop into the best that is possible. She must show by her attitude that she is neither critical nor sentimental although the child must feel that the teacher is interested in and understands his difficulty. She encourages the child to face his own problem but helps him to realize that he is not facing it alone. The child must be accepted objectively, free from prejudice against or favor toward him, with intelligent understanding and sympathetic consideration, but not over-emotional treatment.

Any program for children with speech disorders should be constructive. The teacher should stress the development of good speech habits, the improvement of speech, and the willingness to meet speech situations. If the speech difficulty is known to be

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<sup>1</sup>T. A. Knutson, "What the Classroom Teacher Can Do for Stutterers", Quarterly Journal of Speech, 1949, Vol. 26, p. 207-212.



permanent with little or no choice for improvement, the teacher must help the child to make the best use of his speech and to encourage him to meet speaking situations as well as he can. Emphasis should be placed upon his facing his difficulties and to develop a wholesome personality.

The teacher must know one or both parents and work in co-operation with them. She must not pamper the child, nor excuse him from doing his work, nor lower the academic standards of the group for his individual benefit. If oral recitations seem embarrassing, written lessons may be necessary. The child must not be failed nor given a low grade because he lacks effective vocal expression.

Thus does the classroom teacher fulfill her duty to the school and to society when she shows sincere interest in helping a child with a speech problem to make a better adjustment by her acceptance of him as a person, by showing no impatience toward him because of his speech defect, and by her encouraging a genuine acceptance of the child by the other children in his class and on the playground. Teasing and unkind remarks about a handicapped child are not tolerated. The teacher contributes to the personality growth of the children with speech defects and encourages each to accept his share of the responsibilities he has in building his future--a future filled with the best efforts of every individual.

## ACKNOWLEDGMENT

The writer is genuinely grateful to Dr. H. Leigh Baker, her major adviser, for his understanding assistance; to Miss Jeraldine Noeller, Mrs. Velma Wooster, Miss Janeal Ziebor, and Mrs. J. L. Hardesty, the speech correctionists at the three speech centers visited by the writer, for their splendid cooperation; to the mothers who discussed with the writer their children's speech problems and their probable causes; and to Dr. Herndon, an instructor on the speech problems of school children in the Fort Hays Kansas State Colloge, Hays, Kansas, for the suggested topical readings on speech defects. The assistance they so freely gave in gathering data, the intense interest they showed in the problem, and the many words of encouragement were invaluable in preparing this report.

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## Aids Used by the Speech Correctionist



## TERMS AND ABBREVIATIONS

AB. S.S.	Auditory bombardment of speech stimuli
Agnosia	no sense feeling
Alveo	alveolar ridge
A.M.S.	auditory memory span--be able to repeat three unlike syllables
Apraxia	a motor disturbance; not able to follow your movements with tongue
Artic	person with articulatory disorder
Atten Span	attention span(long or short)
Aud. dis.	auditory discrimination
Bloc. Stutt	block (hesitating) stuttering
Cleft pal (cl pal)	cleft palate
Comb	combination
Cons	consonant
Conver. Sp.	conversational speech
C.P.	cerebral palsy
Cret	cretinism
Cretinism	a congenital morbid condition, characterized by deformity--goiter, crooked fingers
C.S.S.	chewing, sucking, swallowing
Dev	developmental order of speech sounds
Distalia	articulation defect without any apparent cause
Ear Tr.	ear training
Fin	final
Foc	focus of attention (pay attention to you)
Func. artic.	functional articulatory disorders
H.F.O.	hard food orientation program
H.H.deaf and h.h.	hard hearing; deaf and hard hearing
Init.	initial
Isol	isolation
Lab	labial
Ling	lingual
Med	medial
Men. ret.	mental retardation
Mong.	Mongoloid
Mongolism	a congenital malformation in which the child has broad, short skull, slanting eyes, a large tongue
Motor kines	motor kinaesthetic techniques developed by two women for children--no speech--push muscle in place      ent
Prop. Sp	propositional speech--you present a conversation which implies an answer--give cue or prop
Ras. sp.	rasping speech
M.R.A.	melody, rhythm, accent



# SPEECH READING--JENA METHOD

By  
Anna M. Bunker

"Speech reading is the understanding of spoken language while attentively watching the speaker, with or without the help of a hearing aid." Or still another definition by Brauckmann, "Speech reading means to use well-practiced, accustomed series of speech movements to unroll smoothly by means of optical stimuli."

Brauckmann tells us to think of speech in these forms:

1. The movement form--the total of all movements made by speech organs, or the complete physiological process.
2. The audible form--the sound effect which corresponds in every detail to the complete movement form.
3. The visible form--the movement of the speech organs which are visible to the watchers.
4. The kinetic form--facial expression, the glance of the eye, the smile, the frown, the nod or shake of the head, and posture.
5. Gesture--primarily arm and hand movements used for emphasis; a visible accompaniment of speech closely bound up with meaning and rhythm.

Procedure for the Jena Way of Practice centers around three essentials for learning to be speech readers:

1. Imitation (of visible speech movements of bodily movements);
2. Kinestheses (feeling of all the speech movements)
3. Rhythm (of speech in its composite effect as spoken language).

Stated as practice aims for the student, we might express these principles as simple rules to follow:

1. Imitate the movements you see as you watch and speak to the leader (classroom teacher).
2. Notice how all of the movements feel whenever you talk.
3. Let the rhythm groups and accents help you to relax and enjoy speaking and watching.



The first of the three basic aims just stated is imitation. Several methods of imitation can be practiced and enjoyed by the teacher and students alike. One of these methods is "word building from a given syllable" which works something like this: the teacher writes a single syllable on the board (al). Immediately she asks, "What does it say?" She may call on individuals to answer. Pointing to "l", she may remind them of kinesthesia by asking, "What do you feel?" Then, "feel it and see it (in the mirror) as we say it together three times: al, al, al. Imitate what I put before the third syllable: AL AL BAL

Speak with me BAL BAA FAL  
FAL FAL SAAL  
SHAL SHAL WAL  
WAL WAL KAL

Now see if you can imitate one word at a time until we have spoken them all:

ALL  
ALL BALL  
ALL BALL WALL  
ALL BALL WALL SHAWL  
ALL BALL WALL SHAWL CALL  
ALL BALL WALL SHAWL CALL FALL

Try three at a time, just to be quick in shifting from one closure to another:

FALL WALL CALL  
CALL FALL SHAWL  
SHAWL FALL BALL

Another method of imitation is syllables leading to sentences. Start with WE.

WE HA  
WE HA GO  
WE HA GO SHA  
WE HA GO SHOPPING!

Then the teacher may say two or three things about a store and the students write down the name of the store. In other words the teacher and students play "Going Shopping".

These are just two of the many imitation exercises, but I believe from these two examples, you will be able to grasp the idea of imitation.

Second of the three basic aims is kinesthetic of feeling of the speech movements. Our speech movements are a combination of two kinds of speech sounds--vowels and consonants. In terms of speech movements, vowels open the mouth

We use lip, tongue, and jaw to shape the opening so that our voices produce one vowel or another. Two words become quick reminders for becoming aware of vowel movements as we feel ourselves make them. These words are "open" and "shape". We might review the vowel chart together noticing the movements we feel in shaping the openings:

name---a	not---e	ice---i	fur---ur
we-----o	soon--oo	oil---oi	
go-----o	at-----a	look--oo	
far-----a	cube--u	this--i	
ball---a	town--ow	up-----u	

The consonants perform two functions in the syllables: (1) they close the vocal canal (completely or partially) at the beginning of the syllable; (2) they close the vocal (completely or partially) at the end of the syllable and thus arrest the pulse of the syllable. The closures will be made by the (a) lips, (b) tongue, hard palate, and teeth, (c) back of the tongue and soft palate. Thinking of the consonant movements, it becomes an interesting game to classify all of the consonants sounds according to these three closure areas. The teacher may make a chart such as I have made but without the consonants under it. Then she will speak the consonant and have the children classify it as one made with lips, tongue, tongue-soft palate.

Lips	Tongue	Tongue-soft palate
B	D	G
P	T	K
V	Z Zh J	N Y
F	S Sh Ch	Ng Ng
M	H	
W	R	
Wh	Th(thin)	
	Fh(father)	

Last but by far the least of these basic principles is rhythm. Many of us when we are dancing to a good band, listening to the rise and fall of the wind, or the pitter patter of the rain on the roof do not realize that our own speech has rhythm, too. If rhythm is absent, we cannot understand a speaker. First there is equal accent of all sixteen of the vowels:  $\underline{1} \ 2 / \underline{1} 2 / \underline{1} 2 / \underline{1} 2 /$ ; then every fourth vowel:  $\underline{1} \ 2 \ 3 / \underline{1} \ 2 \ 3 / \underline{1} \ 2 \ 3 / \underline{1} \ 2 \ 3$ ; or every fifth vowel as:  $\underline{1} \ 2 \ 3 \ 4 / \underline{1} \ 2 \ 3 \ 4 / \underline{1} \ 2 \ 3 \ 4$ ; lastly the teacher can mix all of the rhythms as:  $\underline{1} \ 2 \ 3 / \underline{1} \ 2 \ 3 \ 4 / \underline{1} \ 2 / \underline{1} \ 2 \ 3$ . When all these rhythms are learned, five minutes practice, using



vowels instead of numbers in the rhythm is very beneficial. Having children march to different rhythms is a very definite help in penetrating rhythm.

Perhaps you are wondering why this method of teaching speech reading is called the "Jona Method". The name comes from the German city, Jena. In the city of Jena, Germany, Carl Bauchmann had a small private school for the deaf. Bauchmann's method of teaching speech reading was translated into English by Professor Reighard, Head of the Zoology Department at the University of Michigan. Thus the Jona Method was introduced into the United States.

The writer is particularly interested in the foregoing article because she observed that rhythm played a prominent part in the speech corrective exercises given in the speech centers visited. Mrs. Wooster and her stutterers walked in rhythm as they talked in rhythm in their walks on the campus. Mrs. Wooster explained that the rhythm apparently caused the patients to be less tense and the stuttering block was forgotten. Miss Noeller tells her speech patients to "make the words skip". (Skip with an upward inflection.)

#### CARRY-OVER WORK

1. Mispronounced words printed in various bright colors placed, for example, on the kitchen wall.
2. Play word games where or stickers or stars are given for correct pronunciation; "I see something you don't see", is enjoyed by all.
3. Play a game where the pupils close their eyes and tell the picture they can see. They are given many turns--one picture at a time.
4. Cut out pictures containing the sound which is being concentrated on.



## TESTS BY WHICH TO DETERMINE THE KIND AND EXTENT OF ERRORS<sup>I</sup>

- (1) Tests for Preschool, Primary, and Older Children Who Are Unable to Read.

OBJECT TESTS: th thimble; teeth; toothbrush.

PICTURE TESTS: wise to choose pictures of things familiar to child.

QUESTION AND ANSWER TESTS: "What are you sitting on?" "chair"; "In what room does mother cook?" "kitchen"; "With what do we light a fire?" "match".

- (2) Tests for Children Who Are Able to Read:

SENTENCES to contain words with the specific sounds to be tested. (It is not wise to call attention to the fact that a speech test is being given because any unusual effort made by the child in speaking might well prevent the examiner's getting a true picture of the child's speech.

PARAGRAPH TESTS: made up of words containing sounds to be tested, or, perhaps, to be a general test over consonants and vowels.

- (3) Observation-Conversational Ability.

Notice whether responses are made in single words, phrases, or in sentences, whether words are spoken with distinctness, and whether the child speaks without tenseness. Observing the child's speech during conversation and during paragraph reading are additional aids in determining how much the sound errors affect the intelligibility of a child's speech.

## TECHNIQUES FOR THE CORRECTION OF DEFECTIVE ARTICULATION<sup>2</sup>

In all instances the best results are obtained if the parents, the child, and the child's teacher have an understanding of the difficulty and of the problems related to it.

Parents should realize the possibility that when a child enters school with defective speech his speech may handicap him in his general self-expression, and especially in reading and spelling, to such an extent that he may be subjected to more or less severe emotional disturbances. The risk is

<sup>1</sup>Speech Problems of Children, ed. by Wendell Johnson, p. 57-59.

<sup>2</sup>Ibid. p. 93-98.

too great to take when it is possible to correct the speech errors. Parents should realize, too, that a child will usually not be sensitive about speech correction if the adults in his environment help him to look at his problem realistically. Be matter-of-fact about it. Most children are cooperative and they welcome the opportunity to do something which they can understand in order to talk more plainly.

Teachers must realize that the correction of errors in sound is a slow process and that perfection is not gained with each new stimulation. Unlimited patience is needed. At all times one must show as little concern as possible over the child's failures. Remember, too, that the incorrect patterns are more fixed in an older child and that the elimination of errors does not come as quickly as it does with many younger children. Encouragement should be given for effort, and commendation should be given for success.

#### ARTICULATORY TEST MATERIAL

This is known as the Van Riper Test, used by Clinicians at Hays, Kansas.<sup>1</sup>

Lip sounds: P-pie, apple, cup; B-boy, rabbit, bib; M-mouse, hammer, drum; Wh-wheel, whistle; W-window, sidewalk, sandwich; F-fork, telephone, knife; V-valentine, river, stove.

Tongue-tip sounds: Th(unvoiced)-thumb, bathtub, teeth; Th(voiced)-the, feather, smooth; T-top, potato, cat; D-dog Indian, bird; N-nose, banana, man.

Back of Tongue: K-cup, basket, clock; G-girl, wagon, flag; Ng-monkey, swing; H-hen, schoolhouse.

Complicated Tongue-Tip sounds: L-leaves, balloon, ball; R-rug, orange, chair; S-Santa Claus, bicycle, glass; Z-zebra, scissors, eyes; Sh-shoe, dishes, fish; Zh-pleasure, treasure; Ch-chicken, pitcher, peach; J-jelly, soldier, bridge; Y-yellow, onion.

Blends: Tw-twenty, between; Dw-dwarf; Bl-black, bubble; Cl-clown, declare; Fl-flag, snowflake; Gl-glass; Pl-please, airplane; Sl-slim, asleep; Spl-split, splashed; Dl-cradle; Tl-turtle; Zl-puzzle; Br-bring, umbrella; cry, across; Dr-drop, children; fr-friend, afraid; Gr-grand, angry; Pr-prize, surprise; Scr-screw, describe; Shr-shrub; spr-spring; str-string; tr-trip, country; Thr-thread, three; sk-school, asking, desk; sm-smell, smoke; Sn-snow, sneak; sp-spool, whisper, clasp; st-stop, upstairs, nest;



Sw-swing, swim; fs-laughs; ls-else; ns- once, bounce; ps-cups;  
 Ts-cats, puts; sts-vests, tents; ths-months; Bz-tubs, bibs;  
 Dz-birds, roads; Lz-girls, balls; Mz-drums, homes; Nz-pans, runs,  
 rains; thz-clothes, breathes; vz-lives, moves; lk-milk, silk;  
 kw-queen, require; skw-squirrel; ks-packs, except; gz-eggs, rugs;  
 ng-sing, hang, wrong.

Vowels: e-eat, neat, tree; i-it, pig; o-egg, bread; a-bear,  
 pear; a-at cat; u-up, cup; or-turkey, nother; a-away, banana;  
 u-(oo)-noon, shoe; oo-book, cook; a-all; a-arm, star; a-age,  
 cake, day; i-ice, kite, pie; o-old, boat, snow; ou-owl, house,  
 cow; oi-oil, noise, boy.

### READING SENTENCES<sup>1</sup>

Lip sound: 1. P-The pig ate his supper with the sheep.  
 2. B-The baby robin is in the tub. 3. M-The man hammered his  
 thumb. 4. Wh-Why is the wheel off? 5. W-We found the wagon.  
 6. F-The farmer drank coffee with his wife. 7. V-His vest is  
 over by the stove.

Tongue-tip sounds: 1. Th(voiceless)-I think the baby needs  
 a birthday bath. 2. Th(voiced)-The bab's mother will bathe him.  
 3. T-Take a pretty coat to her. 4. D-Get the doll ready for bed.  
 5. N-At night through the window we see the moon.

Back-tongue sounds: 1. K-Come and get your broken kite.  
 2. G-Let's go again and find a frog. 3. R-He likes horses.  
 4. Ng-She sang as she was dancing.

Complicated tongue-tip sounds: 1. L-Let me bring a tulip and  
 an apple. 2. R-The rabbit likes four carrots. 3. S-We saw a  
 see-saw on the grass. 4. Z-The zoo is the home for bears. 5. Sh-  
 She washes every dish. 6. Zh-It is a pleasure to have a treasure  
 hunt. 7. Ch-The child went to the kitchen for a peach. 8. J-Jack  
 saw a pigeon under the bridge. 9. Y-Your dog ran into the barn-  
 yard.

Blends: 1. Tw-The twin stood between the others. 2. Dw-The  
 dwarf is a little man. 3. Bl-He blew a bubble from a black pipe.  
 4. Cl-The clown climbed a tree to declare he was king. 5. Fl-The  
 flag flew in the snowflakes. 6. Gl-He broke his big glass. 7. Pl-

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<sup>1</sup>Charles Van Riper, Speech Correction Principles and Methods  
 p. 145-147.

<sup>11</sup>Ibid. p. 146



7. Pl-Please let me have an airplane ride. 8. Sl-The slim little boy fell asleep. 9. Spl-I will splash some water on you. 10. Dl-Put the baby in the cradle. 11. Tl-Tec the little turtle. 12. Zl-I like a puzzle. 13. Br-Bring me a brown umbrella. 14. Cr-You could hear him cry. 15. Dr-The children dropped their balls. 16. Pr-Don't the prize surprise her? 17. Scr-The screw is described in the book. 18. Shr-There is a shrub by our barn. 19. Spr-Spring is coming. 20. Str-The string has been destroyed. 21. Tr-A trip to the country will be nice. 22. Thr-She has three spools of thread. 23. I am asking for a new desk at school. 24. Sn-Do you smell smoke? 25. Sn-Let's sneak out and play in the snow. 26. Sp-They whisper about the lost spool. 27. St-Stop upstairs and see the robin's nest. 28. Sw-We will swim over to the dock. 29. Fs-She laughs at all the jokes. 30. Ls-Give me something else. 31. Ns-You can bounce my ball once. 32. Ps-The little pups can drink out of cups. 33. Ts-She puts the cats to bed in the barn. 34. Sts-He slipped the tests in one of his father's vests. 35. Ths-It took him two months to read the book. 36. Bz-Mother washed the bibs in the tubs. 37. Dz-He reads about birds every day. 38. LZ-The girls took our balls away. 39. Nz-They have drums in all the children's homes. 40. Nz-The water runs over the pans when it rains. 41. Thz-I have some new clothes. 42. Ngz-Teacher rings the bell for us to sing some songs. 43. Vz-The fish lives and moves in water. 44. Don't wear a silk dress when you are milking a cow. 45. Kw-The queen requires that we obey her. 46. Skw-That squirrel has a bushy tail. 47. Ks-Bring all the packs except one. 48. Gz-Mary dropped the eggs on the rugs. 49. Ng-We all sang the wrong song.

Vowels: e-The dog can eat his meat under the tree. 2.i-Give the rest of it to the pig. 3.e-Let's eat an egg with the bread. 4. a-That bear went right up our pear tree. 5. a-Don't throw a tin can at the cat. 6. u-Take the cup up from the table. 7.ur-Mother put the turkey on the platter. 8. a-Throw away that banana skin. 9. u(oo)-Can you look in the moon and see a shoe? 10.oo-I like to eat a cookie when I read a book. 11. c(k)-All of us like corn. 12. a-Point your arm up at the biggest star. 13. or-At the age of ten I will have a cake on my birthday. 14. i-If the ice doesn't freeze overnight, I will make you a pie. 15.o-The old boat was lost in the snow. 16. ow-The owl hooted from the house and the cow was afraid. 17. oi-The oil lamp made so much noise that the boy couldn't sleep.

