

COMMUNICATION DISORDERS
AND
THE SEVERELY RETARDED CHILD

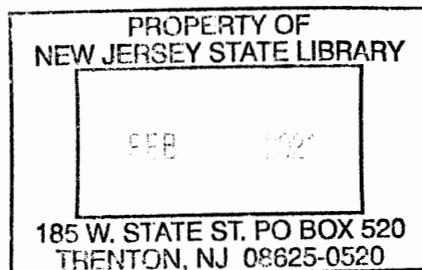
LOIS CAPUZZI
SPEECH AND HEARING THERAPIST

WOODBRIIDGE STATE SCHOOL

F. VINTON SMITH
DIRECTOR OF EDUCATION

DAVID ROSEN
SUPERINTENDENT

L. PIRONE
ASSISTANT SUPERINTENDENT



185
W 520
TRENTON
NJ 08625

"HE, GAVE MAN SPEECH, AND SPEECH CREATED THOUGHT, WHICH IS THE MEASURE OF THE UNIVERSE"

PERCY B. SHELLY

INTRODUCTION

This manual was designed to acquaint the layman, professional and supportive personnel with basic knowledge of speech and hearing disorders and their relation to the severely retarded child. It does not propose to be a complete authority on all communication problems of the retarded. Its' intent is merely to provide a foundation upon which the structure of speech and language may be built.

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SECTION: 1.

SPEECH DISORDERS

What is defective speech?

"Speech is defective when it deviates so far from the speech of other people that it calls attention to itself, interferes with communication, or causes its possessor to be maladjusted." 1

Defective speech falls into one or any combination of four categories: articulation, rhythm, voice and language.

A. ARTICULATION

1. Lisping - Disorder of any sibilant sound (S-Z-SH-ZUR in azure or treasure).

There are two primary forms of lisping. Lingual protrusion and lateral emission.

a. Lingual Protrusion - here the tongue is inserted between the teeth so that "soup" becomes "thoup." Correct placement is teeth together, tongue behind teeth (not showing) and lips slightly apart as in a smile.

b. Lateral Emission - air is emitted over the sides of the tongue. "Soup" becomes "shoup". A "slushy" sound is produced. Here sides of tongue should remain flat and mouth not open too wide.

2. General Articulation Disorders - Substitutions, omissions, distortions and additions of speech sounds constitute the bulk of articulation disorders.

a. Substitutions - one sound is substituted for another. L becomes W sound - Ex.: "I Love Lemons - I Wove Wemons."

b. Omissions - sound is "left out" of a word -

This may appear in the initial (first) position: ball - all, the medial (middle) position: ice cream - l eam, or final (end) position: Ball - ba.

c. Distortions - sound is incorrectly articulated and resultant sound is a mixture of two sounds. It is difficult at times to distinguish a distortion from a substitution, but the above definitions should help. Ex.: three - free

This might appear to be a substitution (t for th) but in actuality it is a distortion, for the tongue tip is in the wrong position for the "th" so that a sound similar to the "t" is produced. A good way to check is to have the child produce the sound you feel he is substituting and see if it is identical to the distorted sound.

d. Additions - certain sounds are "tacked on" to words or phrases. Ex.: athletics - ath a letics (medial)
cook - cookuh (final)

B. RHYTHM

This is a problem in timing - The primary areas being stuttering and cluttering. Too rapid and exceedingly slow speech also fall into this area.

1. Stuttering is characterized by breaks in the usual time sequence of speech; blocking or spasms; repetitions or prolongations of sounds, syllables, or words. Stuttering can be either incipient or confirmed.

a. Incipient - unforced repetition or prolongation of sound, syllable or word. Child is unaware of problem.

b. Confirmed - forced repetition or prolongation of sound, syllable or word. Child is aware of his difficulty.

2. Cluttering is a difficulty produced by excessive speed of speaking, disorganized sentence structure and slurred or omitted syllables and sounds. If, as often occurs, there is a family disposition and some evidence of brain damage, speech becomes almost incoherent. It is often an outcome of delayed speech.

C. VOICE

Voice disorders are of 3 types: pitch, intensity and quality.

1. Disorders of pitch - too high, low, monotone or stereotypical.

2. Disorders of intensity - too loud, weak, stentorian, tremulous, or inaudible.

3. Disorders of quality - husky, hoarse, harsh, breathy, throaty, flat, thin, nasal or denasal (lack of nasal resonance).

D. LANGUAGE

1. Inability to express ideas - monosyllabic response, halting speech because of groping for words.

2. Delayed speech - extremely limited speech. Child has not acquired speech at the expected time nor with the expected accuracy.

II. DIFFERENCES BETWEEN SPEECH AND LANGUAGE TRAINING

"Language is a reservoir of symbols or symbol combinations which represent experiences, thoughts or feelings of an individual."²

Speech is the verbal output of language.

Research suggests that language and speech may even have separate functional localizations in the brain - speech areas being primarily in the anterior or motor part of the brain and the language areas being in the posterior or sensory part alongside of the areas felt to be responsible for reception, storage and recall of experience.

Therapies in speech and language problems also differ in both content and execution of ideas.

III. INCIDENCE OF SPEECH DISORDERS AT THE WOODBRIDGE STATE SCHOOL

As all the residents have not been evaluated for speech at the present time, no true statistics can be given. It is fair to calculate, however, that out of a population of approximately 1000 residents, 900 residents have some form of speech disorder ranging from mild to severe.

IV. THERAPEUTIC APPROACHES

Before discussing specific techniques in the correction of speech disorders certain prerequisites must be stated.

A. Speech is an overlaid function. It is a secondary use of the body. The mouth, teeth, tongue, lungs, larynx and all physical properties needed for speech are essential for other functions first. Eating, and breathing are the primary purposes of most of the organs involved in speech production.

2. Mehan, Merlin and J. Lorin Jex. "Training Mentally Retarded Children in Oral Comm."

B. Speech is a learned habit. Discounting any physical anomaly speech can be produced by all. The degree of intelligibility and meaningfulness of speech is dependent upon other factors.

Being a learned habit, it is a difficult task to endeavor to "break" an incorrect habit one has incorporated into his speech.

C. Learning is best facilitated in a pleasant atmosphere.

Speech therapy should be a pleasant experience and one enjoyed and eagerly anticipated by the child.

D. Need creates motivation. Any child who has no need for speech will not have a desire to speak. The importance of speech must be stressed. Speech can command, reward, console. Too often a child's every need is fulfilled when a slight cry or gesture is made. The child has no need to speak. Many children associate speech with loud shouts and physical violence and fear speech so intensely they don't speak at all.

E. Speech must be meaningful. To try to have a child say his name, address and phone number may be an excellent lesson for a normal child, but a waste of time for a severely retarded child. Making his needs known, and being able to understand and articulate objects he sees daily will provide a more useful lesson plan for the severely retarded child.

F. Work in context. Isolated sounds mean little to the normal child, and less to the retarded. A better plan for establishing the correct sound would be to have the child identify an object (spoon), know its use, work on the correct (S) sound and then return to original word (spoon). Working on the (S) sound for days and practicing drill words with (S) sounds have no meaning to the retarded child.

Keeping the above statements in mind, the following are some suggestions for teacher, parent or supportive personnel to use in working with the retarded child.

G. Speech is an ongoing process.

We live in a highly verbal world. The severely retarded child can benefit by being constantly bombarded with speech. Talking to the child is very important. It takes little effort to name the parts of the body while bathing a child, pointing out and naming objects seen on the way to clinic, etc.. Too often one feels the child can't understand, so why bother. The importance of constant verbal stimulation is not to be underestimated.

There is an endless variety of substitutions, distortions, omissions and additions, and a discussion of all combinations would be lengthy and boring. The techniques listed below can be used for any speech problem and should be adapted to suit the situation.

TECHNIQUES IN WORKING WITH ARTICULATION DISORDERS

1. A mirror and tape recorder are essential to the establishment of the "new" sound in the child's mind. Show the child the correct way to make the sound and have him try to imitate it. Both of you look in the mirror while you do it again. If necessary, using hands or tongue depressor, manually put the child's lips, tongue, etc. in correct position. Have child say the sound or word the way he normally does. Show him the difference in the way the mouth is formed. The tape recorder is excellent for auditory discrimination. Many children can't "hear themselves" saying it correctly. Let the whole class participate - don't single a child out!

2. Center activities around meaningful words which contain the problem sound. The numbers 1 - 10 contain most of the problem sounds. Call on Johnny when you come to six (S) or Mary for four (F). Take time out and have the whole class say it. Colors also provide an endless variety of sounds, including blends (bl-blue). Don't drill on isolated sounds!

3. Use a multi-sensory approach in teaching sounds.

Sight - (object) auditory (tape recorder, live voice records), tactile (have child feel throat for vibration, lips for emission of air, nose for vibration.)

Kinesthetic - using a tongue depressor tickle the area involved. (soft palate, hard palate, teeth ridge, etc.) so child can "feel" the way the sound should feel.

Olfactory (smell) - objects used for reinforcement of word containing problem sound may emit a definite odor. This might be a good clue for child

to remember name of word.

Gustatory (taste) - words denoting food, drink, etc. might be tasted to establish image in child's mind. This might also be used in a negative approach where a child tastes something which does not appeal to the taste buds, for not only will he remember the object and word, but know that it's not edible.

4. See if child can recognize error when he hears it. Show him a picture of the sun, and ask him if it is the "thun" or "sun". (have him raise his hand when he hears the correct sound). A bit more progressive is when he hears incorrect sound, but it is not likely many retarded children are capable of this.

5. Guessing Games

Play games involving words with the problem sound. What do we wash our hands with? What do we write with? etc. The whole class should participate. Have children help each other. If one child makes a good (r) sound but cannot make the (L) sound correctly have a child who can make the (L) sound help him. He in turn can help someone who can't make an (r) sound.

Simon Says is an excellent game and many names can be substituted to incorporate the sound you are working on. (T - Tommy says, B - Bobby says, etc.) Finger plays are also good for both reinforcement of sound and carry-over.

With a little imagination, sounds can be introduced to the child and class without their knowledge. For example, "Today we're all going to be lions, fire engines or police cars. All line up. Now let's all make like a lion, etc. RRRRRR - Johnny, let's hear you roar, good Jimmy, etc." The children will love this, and meanwhile you've introduced the (r) sound, how it's made and found

out who in the class has a problem with it.

The (ch) sound is a very difficult one as it can't be seen visually by the child. Pretending to sneeze - A - Ch - oo or being a train - choo-choo can easily incorporate the correct placement of this sound.

6. Concentrate on one sound at a time.

7. Don't expect perfection at all times. The greatest achievement is carry-over. In the retarded child this problem is tripled. This is why contextual material is so important. A child who can make a good (s) in isolation has made no progress if every word with (s) in it is still distorted. Whether the mentally retarded child will know that the (s) in the word "sun" should be said as the (s) in the word "six" depends upon the individual's intelligence. The mentally retarded child who says the word "sun" correctly at all times, yet still "lisps" when he says the word "six", has made progress and should be praised and rewarded for it.

Phonetic Placement. (correct position of articulators in producing sounds) of
Consonants.

All consonants fall into two categories: Voiced and Breathed.

Voiced sounds are those in which the outgoing air has been set into vibration by the vocal cords so that a murmur is produced.

Breathed or voiceless sounds are those in which the air meets interference in its outward passage so that it makes a slight noise.

Nasal Consonants

M - N - NG are the only three sounds in the English language which are emitted through the nose.

M - Voiced - keep lips together - force voiced breath out nasal passages.

Hint: (M) can be "felt" by placing the fingers lightly on the throat. This is because it is voiced. A light touch on sides of the nose can help you feel vibrations also. This is because it is a nasal.

See if the child can hum.

Words which contain (M) in all positions:

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
Mouse	Snowman	Drum
Man	Hammer	Comb
Milk	Umbrella	Swim
Mother		
Music		

N - (Voiced) place tip of tongue against gum in back of upper teeth (teeth ridge) and send voice out through nose. Do not let tongue touch teeth. (n) can also be felt as it is a voiced sound and a nasal.

Hint: Touch the teeth ridge with a tongue depressor.

Words with (n) in all positions:

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
Nail	Fence	Sun
Net	Pony	Brown
Nest	Paint	One

NG - (voiced) Back of tongue is pressed against soft palate while voiced sound passes through nose.

It can be felt in the nose and throat as it is a voiced nasal.

Hint: Suggest ringing of bell - Ding Dong

The sound of "ng" occurs medially and finally.

Words with "NG" (No initial sound)

<u>Medial</u>	<u>Final</u>
Singing	Ring
Swinging	King
Hanger	Wing

Bi - labial (using two lips) Plosives ("explosion of air")

(Breathed)

Press lips together and open suddenly emitting air with a soft puffing sound.

Hint: Hold hand in front of lips to feel air.

Words with P

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
Pie	apple	rope
party	paper	ship
piano	pumpkin	lamp

b (voiced) same as (p) but with voice.

Hint: You can feel vibration at throat and air being emitted from lips.

Words with b

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
bunny	baby	tub
ball	cowboy	bib
bell	football	crib

Teeth - ridge plosives

T (breathed) press tip of tongue on teeth ridge and quickly pull it away by expelling the air. Don't place tongue against teeth.

Hint: Touch teeth ridge with tongue depressor.

Words with T

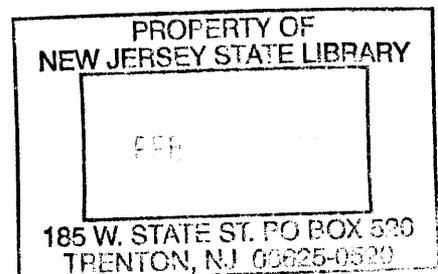
<u>Initial</u>	<u>Medial</u>	<u>Final</u>
Telephone	sweater	Kite
Ten	football	pot
turtle	kitten	white

d (voiced) same as (t) but with voice.

Hint: Feel throat.

Words with (d)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
doll	candy	bed
duck	window	head
door	Indian	bread



Soft - Palate Plosives

K (breathed) Back of tongue raised soft palate - breath sent out with a slight explosion.

Hint: have child cough

Words with K

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
kite	turkey	duck
cow	pumpkin	book
key	jacket	chock

G (voiced) same as (K) but with voice.

Hint: feel the throat

Words with (G)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
gun	tiger	dog
goose	sugar	frog
good	August	flag

Lateral (sides)

L (voiced) Roll tip of tongue to teeth ridge - make voiced sound over sides of tongue.

Hint: Touch teeth ridge - feel throat.

Words with (L)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
lollypop	color	bowl
leg	yellow	doll
land	eleven	school

Fricatives (outgoing air somewhat restricted and passes out with audible friction)

W*(voiced) pout lips to form a little round circle, blow through opening with voice.

Hint: feel throat and air being emitted.

Words with (W)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
window	flower	toe
wood	swing	snow
water	away	window

F (breathed) press upper teeth gently against lower lip and force air out with a slight hissing sound.

Words with (F)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
fence	goldfish	leaf
foot	elephant	cough
face	butterfly	giraffe

V (voiced) same as (F) but with voice.

Hint: feel throat

Words with (V)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
valentine	river	five
vacation	shovel	twelve
violin	seven	glove

th - (breathed) broaden tip of tongue and place it between teeth.

Blow softly. Do not protrude tongue.

*Note - the breathed (W) is rarely used - it is usually eliminated and its voiced partner used.

Hint: Feel breath

Words with TH

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
thank	toothbrush	tooth
thumbtack	birthday	teeth
thumb	bathtub	bath

TH (voiced) same as th (breathed) but with voice.

Place edge of tongue on edge of upper teeth and blow straight out.

Hint: feel throat

Words with TH

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
the	weather	breathe
there	mother	smooth
this	feather	clothe

R (voiced) lift tip of tongue a little, and curl it back toward your throat.

Words with R

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
rose	cereal	ear
run	bird	car
robin	cherries	star

S (breathed) press sides of tongue against upper teeth and gums. Force breath over tip and between nearly closed teeth making a soft hissing sound.

Words with S (c sounds like "s" when followed by ly, or e - ex: city, cycle, and celery)

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
sun	pencil	horse
soap	ice cream	yes
snake	December	face

Z (voiced) press tip of tongue against upper teeth and gums. Force the breath over the tip and through the front teeth with a buzzing sound.

Hint: feel throat

Words with Z

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
zero	scissors	rose
zoo	visit	cheese
zipper	daisy	Santa Claus

SH (breathed) push lips forward and lift tongue a little inside mouth.

Now blow.

Hint: "keep quiet" sound - finger to lips - sh, sh.

Words with SH

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
shoe	dishes	fish
shirt	washed	brush
shell	bushes	push

ZH (voiced) same as (sh) but expel breath with vibration of vocal cords.

Hint: feel throat

Words with ZH (no initial sound)

<u>Medial</u>	<u>Final</u>
television	garage
usual	range

Y (voiced - yuh) raise tongue in the middle and force breath through narrow space with vibration of vocal chords.

Words with Y (no final sound)

<u>Initial</u>	<u>Medial</u>
yellow	crayon
you	onion
year	William

H (breathed) shape mouth for the vowel that will follow and send the air out with a puff or sigh.

Words with H (no final)

<u>Initial</u>	<u>Medial</u>
house	grasshopper
horse	behave
hat	unhappy

CH (breathed) start to sound (T) and quickly turn to "SH"

Hint: Imitating a sneeze

Words with CH

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
chin	pitcher	witch
chain	kitchen	lunch
child	catcher	watch

J (voiced) start to make "d" and run it into "ja" (G sounds like "j" when followed by y or e - gin, gypsy and gem)

Hint: feel throat

Words with J

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
giraffe	angel	cage
Jack	pigeon	bridge
jump	Roger	badge

Phonetic Placement of VowelsE as in Eagle

Spread your lips in a smile with teeth slightly apart. Now add voice.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
eat	sheep	bee
easy	teach	free
eagle	please	see

I as in Inchworm

Tip of tongue behind lower teeth; vocal cords in vibration and air is emitted through the mouth.

<u>Initial</u>	<u>Medial</u>
it	pig
inside	sit
in	

E as in Elephant

Place tongue in position for above sound then lower it slightly. Keep tip of tongue pressed against back of lower front teeth.

<u>Initial</u>	<u>Medial</u>
Eskimo	bell
elf	seven
engine	penny

A as in Mare

Place tongue in position for elephant and lower slightly

<u>Initial</u>	<u>Medial</u>
air	hair
airplane	bear

A as in Cat

Open mouth and jaw a little more than for "mare" cut tongue a little farther back and spread your lips. Be careful not to nasalize it which is

a typical N.J. regionalism.

<u>Initial</u>	<u>Medial</u>
add	man
apple	bat
act	candy

OO as in Racoon

Round your lips into a small circle and bunch your tongue high in the mouth toward the back.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
ooze	June	zoo
	school	true
	spoon	blue

OO as in Cook

Round your lips into a small circle with your tongue in the same position as for making the "racoon" sound, only keep your tongue and lips relaxed.

<u>Medial</u>
book
bullet
full

O as in Toad

When it is an unstressed syllable or followed by an unstressed syllable it may be a pure vowel.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
oh	gold	bow
oak	bowl	snow
		sew

O as in Tortoise

Round your lips with your tongue bunched and lips opened wide.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
oar	horse	paw
all	ball	saw
autumn	corn	gnaw

O as in Dog

Round your lips as for tortoise but keep tongue low

<u>Initial</u>	<u>Medial</u>
office	lost
	song
	coffee

A as in Lark

Open lips wider than for any other vowel, jaws should be dripped and tongue almost flat. Now say - ah.

Hint: tongue depressor in mouth - say ah.

<u>Initial</u>	<u>Medial</u>
arm	star
	car
	barn

U as in Turtle

It is usually followed by the letter (r). Raise the middle of your tongue to the roof of your mouth and touch the tip of tongue to the back of your lower front teeth. Do not round lips.

<u>Initial</u>	<u>Medial</u>
urn	worm
urchin	bird
	Jersey

A as in Alone

Occurs only in unaccented syllables and diphthongs.* It is difficult to make this sound outside of a word. Open your mouth and make a sound similar to a gentle sigh.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
ago	canary	sofa
away	valise	zebra
alone	salute	soda

U as in Duck

Lower jaw, bunch tongue a little in the middle - keep lips relaxed.

<u>Initial</u>	<u>Medial</u>
up	cut
other	monkey
oven	love

A as in Ape

When final and stressed, this sound is pronounced as a diphthong* that starts with an 'a' and glides toward the sound of 'i' as in 'it'. To form the first element in this diphthong, open your jaws wide and keep your tongue up a little. Always stress the 1st sound more than the second.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
ape	erase	day
light	chain	pay
ace	paid	risque

* Diphthong is produced when 2 vowel sounds are pronounced in same syllable.

I as in Mice

Diphthong - combination of (a) as in "ask" and (i) as in "it". Keep back of tongue up a little.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
eye	diary	sigh
ice	mice	fly
aisle	kite	cry

O as in Pony

When final and stressed - it becomes a diphthong (if not it is the o as in toad).

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
obey	postal	slow
ocean	pony	pillow
omit	soul	shadow

OY as in Oyster

Diphthong that starts with (a) as in "all" plus (i) as in "it".

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
oyster	noise	toy
oil	voice	employ
	join	boy

OU as in Trout

Diphthong - (ah) plus (oo) making one sound "ah-oo". Be sure the sound comes through the mouth and not the nose.

<u>Initial</u>	<u>Medial</u>	<u>Final</u>
owl	trout	cow
out	flower	now
	loud	how

BLENDS

Certain consonants are often seen together, in twos or threes. Each letter may be sounded separately. These are called blends. They are a frequent source of articulation errors.

BL

Blue
Black

BR

Brown
Broom

CR

Crayon
Crown

CL

Clay
Clown

DW

Dwell
Dwarf

DR

Drum
Dress

GR

Grass
Green

GL

Glass
Glove

PR

Print
Pray

FR

Fruit
Fry

PL

Plane
Please

FL

Flag
Fly

SN

Snow
Snake

SC or SK

Scout
Skin

SL

Sleep
Slipper

ST

Stuck
Stamp

SW

Swim
Swing

SM

Smile
Smoke

SPR

Spray
Spring

SP

Spoon
Spill

STR

Street
String

SPL

Splash
Split

SKU or SQU

Squirrel
Square

SCR

Scrape
Scream

THR

Three
Throw

FINAL BLENDSLT

Salt
Melt

SK

Mask
Risk

NK

Bank
Pink

ST

Fast
Paste

ND

Wind
Find

LTH

Health
Wealth

NCH

Pinch
Brance

RHYTHM THERAPIES

Stuttering

Incipient - In the case of the child who is not aware that he is stuttering nondirective therapy is always advised. This is due to the fact that calling unnecessary attention to his disfluencies may result in his awareness and anxieties about his speech. Thus a confirmed stutterer is bred.

It is likely that any stuttering exhibited in the retarded child will be found in the incipient stage.

A certain degree of intelligence is required to cause the anxieties found in the confirmed stutterer. Following is a list of do's and don'ts which might help in dealing with the incipient stutterer.

- 1) Don't let the child know that you are worried about his speech.
- 2) Don't tell him to slow down.
- 3) Don't call the child a stutterer or stammerer.
- 4) Look at the child when he talks and show by your expression that you are interested in what he has to say and that you enjoy talking to him.
- 5) Don't try to persuade him to speak before visitors or strangers if he doesn't want to.

Confirmed - A confirmed stutterer is one who is aware that he stutters. He fears he will stutter when he speaks and anticipates words and situations where he will stutter. As mentioned before, a certain degree of intelligence is needed by the confirmed stutterer. He is not only aware of himself, but the reactions of others. (verbal and non-verbal)

The goal of therapy with a confirmed stutterer is desensitization. He is not different than anyone else. One way to decrease sensitivity about a problem is to learn more about it.

- 1) Stress the fact that everyone has disfluencies, (don't use word stutter) but others just don't care about them.

2) Avoid any negative facial expressions or gestures when the child does have a disfluent moment.

3) Don't tell him to slow down.

4) Don't place the child in a situation where there is undue pressure for good speech.

5) Don't leave him out of verbal activities. Call on him as usual.

6) Refrain from teaching him tricks or devices which you feel may help or reduce his difficulty. (ex: stamping his foot before a problem sound or word; clearing his throat, etc.)

7) If a child has frequent severe blocks (moment of stuttering; unit of non-fluency), he should be referred to the speech therapist.

.. Cluttering

Cluttering may be prevented to some degree by:

1) Decreasing the urgency of communication (Give the child lots of time to talk and his need for communication will be decreased.)

2) Removing the need for haste. (There is no need to hurry. The listener should never exhibit signs of impatience. Give everyone a chance to speak.)

3) Be a model of unhurried speech.

Voice Therapy

It is doubtful that voice therapy will be given to many of the children enrolled at the Woodbridge State School. Unless the problem is causing other organical disorders (pollups, etc.) or affecting the child's intelligibility (weak, barely audible voice) voice therapy will not be given.

Weak Voice

A hoarse breathy quality and distorted pitch may also be presented with a weak voice. A weak voice may be a sign of general systemic frailty. Psychoneuroti origins are common with the weak voice. Repression, insecurity, excessive tension fears and anxieties may be the main cause.

1) Medical Therapy and general physical habilitation must precede therapy.

2) Use a cardboard cone or megaphone as an additional resonator. Is the difference marked?

3) Vary words, numbers and rhymes and have the class as a whole and individually increase loudness with each step.

a) 1 (quiet) 2 (louder) 3 (louder) 4 (even louder) 5 (loudest). Reverse operation from loudest to quietest.

b) Fie Fi Fo Fum - I smell the blood of an Englishmen.

c) Laughing aloud in imitation of Santa Clause, or the Jolly Green Giant - Ho Ho Ho Ho Ho Ho.

4) Have child sit in back of room so that loudness is necessary for communication.

5) Speak in same volume as child and ask him if he can "hear" you.

Voice Problems - which are felt to be of organical origin or causing organical disturbances should be referred to the speech therapist.

Babbling

Babbling is the primary step in speech and language development. Few people realize the importance of a mother "cooing" and "babbling" to her child. Since a one to one ratio is normally impossible this motivation is usually lacking in institutional life. Nonsense syllables associated with pleasurable experiences (smile, pat on the head) are an invaluable aid in speech development. Supportive personnel play an important role in this area. It takes but a few minutes time to "babble" to a child. One should not feel foolish in uttering nonsense syllables to a child, regardless of his chronological age. It is but an imitation of what a mother would do with her own child. This is an activity from which the most profoundly retarded child can benefit. This stage of verbalization is not acquired immediately and results may take months.

LANGUAGE THERAPIES

Most of our residents are lacking language due to delayed speech and/or lack of atmosphere conducive to language development. It is our job to provide that atmosphere. Language represents experiences, thoughts, and feelings. Many of the residents are incapable of thinking or feeling (inner language) to the extent that they must verbalize these feelings. It is up to the people who are in contact with these children to provide experiences to motivate inner language before language as a verbal expression can be developed.

1) Reward any attempt at verbalization and occasionally ignore silent gestures. Several times each day, pretend you don't know what the child wants, then give him the object naming it. (Oh, ball, you want the ball)

2) Talk constantly, but appropriately. Accompany gestures with brief words, then progress to brief phrases and finally sentences.

3) Make speech fun. Don't demand that the child name objects repeating after you.

4) Teach imitation - by your imitating the child. If he claps his hands, you do the same; if he jumps up and down, you follow. Soon there is no distinction between who is following whom. Now you initiate the activity by laughing and he'll imitate. Soon this will lead to child's imitating your speech.

5) Use sounds and combine them with movement. Play records of animal sounds, wind clocks, ring bells, shoot a toy gun.

6) Develop an eagerness to learn new sounds and words, always in a meaningful context.

a) Get a shoe box. Each day add a small toy or object. Name the object, show how it works, what noises it makes, etc. The child's curiosity will soon be overcome and he'll go look at it. Eventually he'll try to name it.

b) Have a "Speech Store" or house. Add a new object or picture of food or furniture each day, again name the object or picture and describe it.

c) Children are in a circle, tossing a ball. Have each child say "ball" when he passes it. This is incentive for verbalization.

d) Don't worry about intelligibility. The main concern is language. Don't demand perfection.

e) Have patience. Language development is a long, tedious process.

APHASIA - Loss or impairment of the power to use words usually resulting from a brain lesion. There are four types:

a) Expressive

b) Receptive

c) Central

d) Mixed

Therapeutic Approaches

The aphasic child needs special help. It is very hard to get through to a child who cannot talk, who sometimes cannot understand. The first step is to determine which type of sensory stimulation he seems to respond to most easily.

1. If he's interested in noisy things start with sounds.

Meow - cat

Sound of water flushing - water.

2. If he prefers drawing; begin with that activity using one-word sentences to describe what is being drawn.

3. If the tactile sense seems especially interesting, have him feel objects without seeing them while you provide the appropriate word for the object and its use.

4. If visual stimulation interests him you might have him lip read the names of pictures or objects shown to him.

5. Be careful to decrease or to desensitize the child to outside stimulation. Remove distractions.
6. Work slowly, very slowly, give him extra time to understand, to start talking.
7. Use familiar materials and concrete objects whenever possible. (Use an egg first, then the picture of an egg)
8. Repeat activities and stimulation until they are no longer strange or confusing. Provide release from frustration.
9. These children can be taught to talk.

V. HEARING AND DEAFNESS

A. Deafness, hearing loss, and dysacusis

1. Deafness is a total or severe impairment of hearing.
2. Impairment of hearing of the sort that simply requires the other person to talk louder shall be called a hearing loss.
3. The zone of normal includes hearing levels for speech from 10 to 15 d.b. (deci bels) unit used in measuring hearing and hearing loss. The condition of hard of hearing begins at 16 d.b. and deaf begins at 82 d.b.
4. Dysacusis (faulty hearing) may be due to malfunction of the sense organ or it may be due to abnormal functioning of the brain.
 - a. Dysacusis is used to emphasize either:
 1. That the symptom is not merely a partial loss of sensitivity of hearing.
 2. That the trouble may lie in the central nervous system rather than in the ear.

B. Varieties of Dysacusis

1. There are 3 major types of impairment of hearing.
 - a. poor conduction of sound to the sound organ.
 - b. abnormality of the sense organ or its nerve.
 - c. impairments that result from some injury to, or failure of, function in the central nervous system.
2. Auditory agnosia (no hearing) phonemic (individual speech sounds) regression, and hysterical or psychogenic dysacusis are very clearly the result of some abnormal functioning of the central nervous system.
3. There are three types of hearing loss:
 - a) conductive
 - b) sensory-neural
 - c) mixed

C. Peripheral hearing loss

a. Outer or middle ear is affected so that sound vibrations are not carried through to the fluid of the inner ear. Conductive hearing loss - interference with function of mechanical conducting system of ear, may be caused by plugging the movement of the drum, or restricting the movements of the ossicles.

b. In conductive loss, the audiometer may show a hearing level for air-borne sound as high as 50 or possibly 60 d.b. (Hearing level is the number of decibels (d.b.) that a persons threshold of hearing lies above the standard zero of the audiometer for that particular frequency.)

c. If he can hear normally by bone conduction, it is inferred that his sense organ and auditory nerve must be normal and that his difficulty in hearing depends only on some obstacle to the conduction of air-borne sound.

d. If bone conduction is reduced, there must be a corresponding degree of sensory neural hearing loss.

e. Conductive hearing loss is not much of a handicap to hearing in a noisy place.

D. Sensori-neural loss (perception-nerve loss) Impulses are not transmitted to the brain.

a. Most often caused by degeneration of some of the sensory cells of inner ear or of their nerve fibers or both.

1) hearing for high tones likely to be lost.

2) recruitment of loudness: the effect of abnormally rapid increase of loudness.

b. Tinnitus is the technical term for head noises and ringing in the ears.

E. Recognition of hearing loss

1. Recognizing a hearing loss is a difficult task. Often what seems to a loss is but wax filled ears, inattentiveness, limited auditory stimulation and /or use of auditory sense.

2. Clues to recognition of a hearing loss.

a. Failure to respond to verbal commands (things you know he knows)

b. No response to gross environmental sounds (doors slamming, bells ringing, chimes, etc.) Be careful he's not responding to a vibration.

c. No response to loud speech and shouts. (Does he turn when he's called if he can't see your face.)

d. Loud speech, no speech or speech severely distorted. (Location of loss determines whether speech is affected and to what degree).

3. Inability to keep rhythm to music. (Is he imitating the person next to him?)

F. Chances of Improvement

1. Conductive loss, especially in early stages can often be arrested, improved, or avoided.
2. Sense organ loss may be helped medically or show spontaneous improvement but only if it has not been present for any considerable length of time.
3. Neural loss, which implies degeneration of delicate but essential elements of sense organ or nerve, can rarely if ever, be improved by medical treatment.

G. Causes of Hearing Loss and Dysacusis

1. Conductive hearing loss
 - a. Congenital malformations
 - b. Impacted wax
 - c. External Otitis - external canal with infection of skin and inflammatory changes involving other structures.
 - d. Otitis media - inflammation in the middle ear.
 - e. Infection of middle ear.
 - f. Non-suppurative Otitis media - uninfected watery effusion into the middle ear occurs during a plane flight if Eustachian tube is not open frequently during descent.
 - g. Serous and mucous Otitis - (1) Serous Otitis - inflammation of the ear with a thin watery fluid present. (2) Mucous Otitis - inflammation of the ear with thick fluid present.
 - h. Cholesteatoma - cyst lined internally with skin.
 - i. Otosclerosis - A hardening condition characterized by chronic progressive deafness especially for low tones due to the formation of spongy bone, especially around the oval window with resulting ankylosis of the stapes. In later stages atrophy of the Organ of Corti may occur, cause - unknown.

2. Sensory Neural Impairments

a. Presbycusis - abnormality or disease of inner ear due to advancing old age.

b. Drugs, allergens

c. Noise

3. Congenital dysacusis

a. German measles, mumps and influenza during pregnancy.

b. Meningitis

c. Infectious diseases

H. Incidence of hearing problems at the Woodbridge State School

Since only a small segment of the school's population has been tested for hearing, it is impossible to state any formal statistics. It is important to mention, however, that there are a number of children at the institution that fall into the range of deafness, severe hearing loss and mild to minimal losses.

I. Therapeutic Approaches

Therapy depends upon the severity of the loss, when the loss occurred (before or after acquisition of speech), the area the loss is in, and the mentality of the child.

Auditory training is one of the approaches to educating the deaf.

It is designed to train the child's sense of hearing. However deaf the child appears to be, the more training given through the auditory channel the better his lipreading, speech, and general response.

Use of a hearing aid is usually impossible as our residents would have difficulty in handling one plus the fact that it would not be feasible to send a child into the cottage wearing one. This limits the progress of children with severe losses. Lip reading is tedious and might require more intelligence than our residents are capable of. However, this media of communication for the deaf-

Retarded is being tried at the present time.

Suggestions to aid the hearing handicapped child

1. If the child does use a hearing aid (at times) it is your responsibility to become familiar with its mechanics; how it operates, the type of batteries used, how to turn it on and off, how it should be worn and how to adjust the volume and pitch.

2. Don't write on board and talk at same time. Face should be visible at all times, especially when speaking.

3. Allow child to sit where he can hear best. He will hear better if his better ear is turned toward the action. His vision should not be impaired by glares.

4. Face the light so the child can see easily. Use of lipstick helps to make the lips easier to see.

5. It is important to use a pleasant and natural speaking voice. The use of expression in voice and facial expression helps to get the meaning across.

6. Remember due to the child's constant need for attentiveness and eye strain, the hard of hearing child may seem bored or not interested, he may be tired and fatigued.

Do not expect the deaf or severely hard of hearing child to speak once you begin working with him.

Methods for Deaf Children

1. Matching of colors
2. Matching of objects
3. Matching of an object to a picture
4. Matching of a picture to a picture
5. Matching of a toy or picture to the spoken word, lipreading.

Don't force the child to look at you. Words that are taught must be common and meaningful in the child's environment. Avoid words which appear identical on the lips. Ex. "Mama" and "papa" look the same on the lips. Say the words over to yourself in the mirror and see if you can distinguish the difference.

Unamplified Sound

1. Talking and singing near the ear.
2. Gross sounds, drum whistles, cow bell, cymbal etc. differentiating between sounds.
3. Vowels, as in animal sounds; baa - baa moo-moo.

REMEMBER: "YOU ARE NOT TESTING" - You are helping the child Learn to Listen.

Bow - wow, meow

Equipment needed: pictures and toy animals. A mirror to permit use of lipreading and hearing together.

4. Differentiating between pitches high and low at the piano.
5. Words: a) nouns; b) action auditory, visual, tactile approach. Differentiating through listening and lipreading. Differentiating through listening only.
6. Sentences: teach language by means of sight, touch, hearing with the use of pictures and mirror.

Amplified sound

Equipment: earphones attached to radio, record player with earphones attached; piano. (If child has hearing aid, use this in place of earphones)

1. Vowel sounds; development of different pitches.
2. Words
3. Sentences, nursery rhymes
4. Hearing aid as an aid in lipreading.

Even if he does not hear sound, this training will be beneficial to the child in that he will learn to concentrate better and will become a better lipreader. The rhythm and inflection of his speech will improve and above all, the practice will help develop word images and the related mental processes, and his understanding of language will be made easier.

VI. MENTAL RETARDATION AND RELATED AREAS

A. Aphasia, psychosis and retardation.

Aphasia is the general term used for disorders of symbolization.

Functionally, language can be divided into 3 types: inner use of language symbols for purposes of inner life or thought, "talking to himself", is acquired 1st; receptive (that language which an individual uses to understand others) is acquired next; and expressive (that language which the individual uses to make himself understood to others) is acquired last. Such symbols may be spoken or written.

There are 3 classifications of language disorders; expressive aphasia, receptive aphasia and central global aphasia. Expressive aphasia being a symbolic distortion interfering with the ability to express language; receptive with the ability to interpret symbols; and global with the use of language for purposes of communicating with self. There are commonly cases of mixed aphasia with each or two of the above.

Normal language development can be impeded by peripheral nervous system damage such as deafness or blindness, central nervous system damage resulting in aphasia or mental deficiency, or by psychological distortion which interferes with the process of integration childhood schizophrenia, infantile autism and severe anxieties.

Aphasia is not a speech disorder as such, but an impairment or inability to relate a language symbol to experience.

Most aphasic children seem to sustain their damage either prenatally or at the time of delivery.

There is much controversy involving the term "childhood aphasia". Many authorities feel that a child who has not acquired language cannot "lose" language or have a disorder of language. Others feel that the classification of aphasia which has been well developed for adults seems to be the logical and appropriate one to be used for the same disorder in the child, despite the fact that he must be a certain maturational level before such a classification can be made.

The main difficulty lies in differential diagnosis between aphasia, psychosis and retardation. A few generalizations concerning these types of children are listed below.

The aphasic child is rather disinterested in noise. He, himself, however, indiscriminately produces noise without minding it. His voice utterances will be heard rarely, at most, in short vowel-like sounds.

The psychotic child mostly produces noise and will react quickly to acoustic impressions. His own utterances, in general, do not seem to resemble human speech, but are occasionally excellent imitations of the noises in his surroundings.

The retarded child, if of the quiet type, produces weak attempts resembling speech sounds. The erethic imbeciles behave very much like the psychotics, which a number of them probably are.

There are characteristic differences in general behavior, too.

The aphasic will react more or less normally to those stimuli of his surroundings which he may be able to understand. Mostly, however, there will be aggressiveness in reactions. (tearing paper, throwing objects, etc.) This may disappear completely when speech begins. His movements appear normally skillful, but attention is fleeting.

The psychotic may show superior skill in those manipulations which constitute his main interest. His tireless and seemingly senseless activity, frequently characterized by hasty movements (running, stereotypic jumping, etc) often leads to a superior development of his muscles and posture.

The typically retarded child tires easily. His interest in objects in his surroundings is limited and easily exhausted. Movements are slow and awkward, correspondingly his muscular development and posture also suffer.

A certain preference of music is common to all 3 groups although some aphasics (sensory) may not appreciate it. The retarded love music and the psychotic are frantic about it.

B. Development of speech as compared to the normal child.

According to Carmichael:

Average age of talking 15.3 - normal child, 38.5 - retarded youngster

Speech sounds (age4) approximate those of normal children of 1 year ratio, vowel consonant ratio and distribution of consonants.

As a result of slow speech development, the retarded child speaks to no one. He is often his own mirror and reflector of his defective speech.

Since there is a frequent inability to distinguish sounds correctly, errors are made all the more probable. His speech brings little social satisfaction as it is difficult for the listener to understand, thus failing to promote oral expression.

C. Relationship between speech and Intelligence

The relationship between speech and intelligence is widely disputed. Gens found that mentally deficient children presented the same types of speech disorders that he found in children of normal intelligence, but in greater frequency. Since there has not been found any specific type of pattern of speech association with mental deficiency, he feels that there is no direct relationship between speech proficiency and mental age.

Travis however, feels that speech defects and mental deficiencies are two manifestations of the same process "generally imperfect development of the central nervous system - to the extent that they may be considered evidences of the same process, speech and intelligence are directly related - to each other.³

"Lack of intelligence is much more likely to be the direct cause of linguistic inadequacy than of speech deficiency. There is a possibility, though, that linguistic deficiency may result in the develop of inferiority feelings, which may manifest themselves in defective speech. This is probably more true in the dull normal and borderline intelligence levels than in the more retarded levels.⁴ Speech defects may be associated with mental retardation, but not necessarily caused by it.

D. Speech Disorders and the Retarded

The incidence of speech defects among the retarded is relatively high. In many cases the severity of the problem is extreme, although speech may be within normal limits. Many defects of pronunciation can be found in retarded children. These may belong to an earlier stage of development, outright dysarthrias (in cases of motor aphasia) errors due to lack of grasping sound (sensory aphasia) or complete lack of certain articulation mostly due to intelligence.

Stuttering and cluttering have a very specific relation to the problems of retardation. Cluttering is very frequent as it depends to a great degree on heredity and lack of self control. Stuttering may serve as proof of certain intelligence in the child, as it depends on self-observation.

3. Berry and Eisenson, Speech Disorders pg 247

4. Ob. cit.

Mental retardation is not an entity, but a symptom complex. As it is caused not only by pathology of the physical system, especially the central nervous system, but also by defects in the psychological and sociological spheres, one should not diagnose speech problems as being caused by mental retardation. An awareness of this invites a more searching investigation into speech problems.

Speech treatment of retarded children is more difficult and painstaking than in the normal child and its results are on the whole less satisfactory. Speech therapy can aid, however, in the general adaption of the Mentally Retarded by making them more like other individuals. This treatment may have a much more profound influence on the mental development of the patient, and therefore, constitute a decisive factor for his future.

E. The retarded cerebral palsied child

Available data on the speech of cerebral palsied children show that about 65% have speech problems. Although no statistics are available concerning the speech of the trainable cerebral palsied child, one may assume most children in this group have some defect in speech. The majority not only have speech difficulties but also language problems as evidenced by their limited understanding of what is said to them and their poor ability to express their needs through speech or gestures.

Speech of the Mentally Retarded is low in productivity or content and frequently contains errors of articulation, but it is not usually complicated by gross physiological disturbances of the speech mechanism. The cerebral palsied child with normal intelligence has the desire to speak, but lacks the necessary muscular control of lips, tongue and jaw, and may also have poor breathing. The Mentally Retarded cerebral palsied child combines the negative aspects of both groups. The result being a child who has low speech production, has little to say and also has trouble saying it.

VII. SPEECH AND HEARING PROGRAM AT WOODBRIDGE STATE SCHOOL

A. Therapy

The speech and hearing therapist sees 20 children (two or three times a week on a $\frac{1}{2}$ hour basis for intensive individual and small group therapy.) She works in close conjunction with the teacher with almost 100 residents who are in need of speech work. Specific lesson plans and helpful hints are given to each teacher to aid in their speech work with the individual child and the class as a whole.

B. Referrals

Any speech or hearing referral should be sent to the speech therapist. She has audiometric equipment and administers hearing tests, as well as evaluating speech.

C. Role of Teacher and Supportive Personnel

In working with children who have a multitude of problems, the team approach produces the best results. The teacher and supportive personnel are part of this team. They see the children a good part of the day, exerting influence on them. The teacher and her assistant can promote reinforcement and better carry over. Teachers and supportive personnel are invited to discuss any problems involving the speech, language, or hearing of a child with the therapist. Conferences are urged.

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