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Most authorities agree that a deficiency in listening skills is a significant concomitant to severe functional articulatory defects in children and that an initial improvement in listening skills is necessary for effective correction of these defects. Recent studies have also reported a significant auditory deficiency in the economically disadvantaged child.

This study was concerned with developing a listening skills program for children with severe functional articulatory defects. The writer assumed that participation in such a program prior to traditional speech therapy would enable a child with this type of defect to correct his problem more readily than a child who had not participated in the program.

Sixteen subjects, eight boys and eight girls, were selected from one white, elementary ESEA target school in an urban North Carolina community. The subjects were randomly assigned to two groups, an experimental group of eight subjects receiving the intensive listening skills program, and a control group of eight subjects receiving no listening training. The experimental group was given the listening skills training in sub-groups of four for thirty minutes, twice a week for eight consecutive weeks. In the listening program, emphasis was placed on identification and discrimination of gross sounds, musical sounds, and finally speech sounds through the use of poems, records, stories, games, and sound producing objects. Pre-test and post-test

scores obtained from the Templin-Darley Screening Test of Articulation were examined at the end of the program to determine its effectiveness.

Such a comparison indicated that an intensive listening skills program had been beneficial. Thus, although not conclusive, the results seemed to support such a listening skills program as a desirable prerequisite to speech therapy with this type of defect. Not only did these children readily correct the speech sounds taught in the traditional method, but they also, indirectly, acquired other correct speech sounds. Moreover, even the children considered to be "poor risks" in general school readiness seemed to achieve some indirect benefits from improved listening skills.

The study indicates that further research under more favorable conditions with careful control of all data should prove beneficial. In addition to its possible usage in the treatment of voice problems, a concentrated listening skills program may also prove beneficial to children in elementary school who are not necessarily speech handicapped.

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DESCRIPTION OF A PROGRAM EMPLOYED TO DEVELOP
LISTENING SKILLS IN CHILDREN WITH SEVERE
FUNCTIONAL ARTICULATORY DEFECTS

This thesis is a part of the
Faculty of the Graduate School at The University of North Carolina at
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Master of Arts

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There are a number of points of thought concerning the treatment of articulatory disorders. The foremost proponents of these methods are Van Riper, Jones, and Van Riper. Jones and Van Riper utilize the self-activated method in group therapy. Jones uses the articulatory method and, where necessary, the phonetic-alphabet as a self-activated method; Van Riper focuses primarily on the self-activated method.

The Jones and Van Riper (1951, pp. 15-16) approach to functional articulatory disorders is based upon the following principles:

1. Learning proceeds from the whole to parts by a process of progressive differentiation.
2. Group instruction should form the core of speech therapy and should be supplemented in respect to kinds of speech symptoms.

CHAPTER I
INTRODUCTION

One of the major problems confronting the public school speech therapist is that of correcting severe functional articulatory defects. According to a national survey, reported in JSHD, Monogram Supplement (1961, p. 38), 81 per cent of all children in the case loads of speech clinicians have misarticulations. The results of this survey indicate that the majority of the misarticulations of children are probably due to nonorganic factors such as inadequate speech standards, interruption of learning of speech by some event, inadequate phonetic stimulation, or generally poor learning conditions.

There appear to be three general schools of thought concerning the treatment of functional articulatory disorders. The foremost proponents of these schools are Backus and Beasley, Irwin, and Van Riper. Backus and Beasley utilize the conversational method in group therapy. Irwin uses the stimulus-response method and, where necessary, the phonetic-placement and moto-kinesthetic method; Van Riper focuses primarily on the ear training method.

The Backus and Beasley (1951, pp. 18-46) approach to functional articulatory disorders is based upon the following principles:

1. Learning proceeds from the whole to parts by a process of progressive differentiation.
2. Group instruction should form the core of speech therapy and should be non-segregated in respect to kinds of speech symptoms.

3. The teaching situation should be structured in terms of those interpersonal relationships which involve conversational speech.

Backus and Beasley present numerous detailed lesson plans for the correction of speech defects on the basis of those three principles. They also make a distinction in the material suggested for use with intermediate-aged children and primary-aged children. Aside from this, their approach is essentially group therapy through the use of conversation without regard to various differences in the type or the extent of the speech defect. These authors feel that formal training in auditory discrimination is probably not critical for the successful achievement of adequate speech.

The approach to therapy advocated by Irwin (1965, pp. 128-30) for functional articulatory problems is designed with these factors as a basis:

1. The sound should be taught as a unit in a total reaction pattern. The syllable or word is used whenever possible as the unit of speech.
2. The sense modalities (visual, auditory, and kinesthetic) are stimulated simultaneously whenever possible. For this reason, the author prefers to use the stimulus-response method.
3. The clinician may work on more than one problem during each lesson.
4. The desired phonetic pattern must be reinforced in structured conversational situations, formal speech, reading, and informal conversation so that the acceptable speech will become automatic and stabilized.
5. The same sound or word should be reinforced in many different situations. For example, it is better to use "yes" repeatedly than to use s.

In the stimulus-response method, the therapist repeats the sound or word several times and then pauses. The child responds, and then evaluates his response. Finally, the therapist reinforces the child's response. As a supplement to the stimulus-response method, the therapist instructs the child concerning the position of the articulators for a specific sound (phonetic placement method), or as a last resort, he directs the movements of the articulators with his own hands (motor-kinesthetic method).

Van Riper and other speech specialists such as Berry and Eisenson (1956), and Johnson (1967), all support the ear training method--essentially a retraining in listening--as an accepted foundation for treatment of functional articulatory speech disorders.

The ear training method devised by Van Riper (1954, pp. 224-234) involves four basic steps: (1) isolation of the sound to be studied, (2) stimulation by hearing the sound many times, (3) identification of the error sounds, and (4) discrimination between the correct and error sounds. Traditionally, speech therapists have utilized the methods described above and have obtained some measurable success in the treatment of children with functional articulatory disorders. Additionally, Bryngelson and Mikalson (1959, p. 12) state:

The right sound comes by itself, without specific teaching, once the child learns to listen for and recognize the differences that he missed in the early years when his speech patterns were being formed.

Such views, then, stress the ability to listen, another aspect of ear training which is an integral part of the corrective regimen. Similarly,

Barbara (1958, p. 1) states:

Listening is an art which requires more than just letting sound waves enter passively into the ear. Good listening is a process demanding alert and active participation.

Listening ability, then, is not necessarily allied to hearing acuity. A person whose ears function properly is not necessarily a good listener. Data reported by Barbara (1958, p. 94) have shown that less than 6 per cent of the nation's school children are troubled by hearing defects, yet difficulty in understanding what is heard is most prevalent.

Listening is the forerunner and basis of all other language arts. The child's entire life is influenced by his ability to listen. Of the four language arts skills--reading, writing, speaking and listening--the latter is the first to develop, the one most commonly used, the one most taken for granted, and often the last one to receive emphasis in the curriculum. Children in the elementary school spend approximately 50 per cent of their time in listening activities. A study conducted by Wilt (1950, pp. 626-636) showed that children average more than two and one-half hours out of a five-hour school day in listening.

Russell (1964, p. 262) cites studies by Pratt, Hogan, Edgar, Devine, and Lundsteen which all support the value of direct instruction in listening and give unequivocal evidence that planned instruction results in improved listening abilities. Listening skills are not acquired incidentally; they must be taught. The chances are overwhelming that children without direct guidance to improve their skills in listening will develop more bad habits than good ones. By the time children are ready to enter school, many have already learned to "tune-out" or listen with

"half-an-ear" and "piece-out" the rest without listening.

Listening is necessary for developing speech and is so involved with speaking that it becomes half of the speaking process. Both past and recent studies have reported a relationship between these two functions. Strickland (1962, p. 86) adds support to the previous research. She concludes:

The structure of children's oral language as measured by the fluency of use of the common structural patterns is more closely related to listening comprehension than to any other variable. Pupils who rated excellent in listening comprehension used the common structural patterns more frequently than did pupils who rated poor. Fewer short utterances were used by those who ranked high in listening comprehension.

In their studies, Travis and Rasmus, Hall, Kronwall and Diehl, and Schiefelbusch and Lindsey have investigated auditory or listening abilities and functional articulation deficiency. Mange (1960, p. 67) summarized these studies in the following statements:

A degree of auditory memory span ability is undoubtedly necessary for speech and articulation adequacy, and ... some relationship exists between discrimination and articulation ability despite contradictory reports.

Further support for the relationship between discriminatory ability and articulatory ability is reported by Farquhar (1961, pp. 342-347). This study concludes that children with defects of articulation have inferior ability in auditory discrimination. Tests of imitation and auditory discrimination were administered to fifty kindergarten children with "mild" articulatory problems and to fifty with "severe" articulatory problems, to determine the prognostic value of these tools. Although the study did not report that auditory

discrimination ability had prognostic value, it did indicate that the "severe" group had inferior ability to discriminate and strongly supported the need for a structured program of training in auditory discrimination as an integral part of the therapy program for children with articulation disorders.

More recently, some interest has developed in the relationship between hearing and culturally limiting factors. A reported characteristic of the culturally disadvantaged is their inability to discriminate differences in auditory stimuli. Goldman and Sanders (1969) report studies by Deutsch (1964) and Clark and Richards (1966) as evidence of the auditory disability that exists in the disadvantaged child. Specifically, Clark and Richards compared a group of disadvantaged children with a control group of advantaged children on the Wepman Test of Auditory Discrimination. This study revealed the disadvantaged children to be significantly poorer in the ability to differentiate between phonemically similar words, and concluded that procedures must be developed to minimize or eliminate this serious obstacle to learning in the culturally disadvantaged.

Since listening is considered essential, since it can be taught, and since it is necessary for accurate sound production (especially for the disadvantaged child), it would seem that intensive training in listening would be a desirable prerequisite for therapy with children having severe functional articulatory defects. This study, then, attempts to posit information about a specific technique that may enable a child with this type of defect to correct his problem more readily than a child who had not participated in the program.

CHAPTER II

PROCEDURE

An intensive listening skills program for children with severe functional articulatory defects was designed. The materials used in this program were chosen to appeal to the first, second, and third grader. An attempt was made to present the activities in an easily understood manner, because usually the child with a severe speech defect either appears academically retarded as a result of his speech handicap or possesses a severe speech defect due to his low intelligence level (Everhart, 1960). The listening skills program was developed by using games, stories, poems, records, and other materials that produced salient sounds. Emphasis was also placed on musical sounds since they are closely related to speech sounds. This program involved six progressive stages: training in (1) becoming aware of gross sounds, (2) the discrimination of gross sounds, (3) an awareness of pitch, volume, and rhythm, (4) the discrimination of pitch, volume, and rhythm, (5) awareness of the similarities and differences between gross sounds and isolated speech sounds, and (6) fine discriminations between isolated speech sounds.

Skill in each stage was evidenced before the children were introduced to the next stage. Eight lesson plans were created from these six stages. Lesson I was designed as an orientation period, with Lesson II stressing the initial development of the child's ability to learn by listening and to discriminate between sounds. Also stressed

in this lesson were activities that allowed the therapist to begin discovering each child's interests. Lessons III and IV were planned to initiate relaxation activities, while Lessons V and VI were concerned with increasing the child's awareness of differences in pitch, volume, and rhythm. Sound position differences were introduced to the child, and the aforementioned skills were reviewed in Lesson VII. Finally, in Lesson VIII, major parts of the speech mechanism were introduced. Additionally, gross sounds were correlated with isolated speech sounds.

The following is a description of the materials used in the eight lesson plans:

1. Printed Materials

- a. Brown, Margaret W. The Indoor Noisy Book. New York: Harper and Row, 1942.

This is the story of a dog with a cold who hears different sounds in his master's house.

- b. _____. The Country Noisy Book. New York: Harper and Row, 1940.

This is a story about the same little dog who goes to the country on a train. The sounds that the dog hears on the train and on the farm are all related to the story.

- c. Scott, Louise B., and Thompson, J. J. "Readiness." Talking Time. Atlanta: Webster Publishing Co., 1951.

A poem designed to help the children experience the feeling of relaxation.

- d. _____. "Relaxing Time." Talking Time. Atlanta: Webster Publishing Co., 1951.

A poem which requires the child to listen while he relaxes.

- e. _____. "Yawning." Talking Time. Atlanta: Webster Publishing Co., 1951.

A poem which utilizes a projected type of relaxation.

- f. Russell, David H., and Russell, Elizabeth F. Listening Aids Through The Grades. New York: Teachers College Press, 1959.

A manual of one hundred and ninety listening activities. One hundred and three of these activities are designed for the child in the primary grades.

2. Musical Equipment

- a. Melode Bells (Swiss Type). North Hollywood, California, Knickerbocker Musical Toys, 1954.

Eight brightly colored plastic bells which play the notes of the F major scale.

- b. Standard rhythm band instruments

One set of cymbals, sticks, a tamborine, and one bell. These are available in most elementary public schools as a part of the musical equipment.

- c. Pitch pipe - Master Chromatic

A small musical pipe sounded with the breath to give the pitch for singing or for tuning an instrument.

- d. Record player (4 speeds)

- e. Records

- (1) "Sounds I Can Hear." In consultation with Ralph G. Nichols. Atlanta, Georgia: Scott, Foresman Co., 1966.

An album of four records which presents sounds heard on a farm, at school, in the home, and in the neighborhood.

- (2) "Genie, the Magic Record." New York, New York: Decca Records, Inc., 1946.

The story of Genie who meets all sorts of things that make various noises. There is the sound of a fire engine, a whistle, environmental noises, etc.

3. Other materials

- a. One small block of wood, approximately 4" by 6"
- b. One small piece of metal, approximately 3" by 4"
- c. One small glass, approximately 3" by 4"

- d. One small cardboard box, approximately 4" by 6"
- e. Wooden cylinders (No. T1608), New Jersey: Creative Playthings.

Four covered wooden cylinders containing objects: beans, rice, pebbles, and hooks. They can be arranged in ascending or descending order according to loudness.

- f. Mirrors

Four small mirrors (one for each child in the group), approximately 3" by 4" with a metal frame. These may be inexpensively purchased at a ten cents store.

Although primarily concerned with the development of listening skills, this program served as a preparatory period to acquaint the child with the procedures of the speech class. The relaxation techniques, the movements of the articulators, and the exercising of these articulators--all new to him--were integrated into the listening skills program. The preparatory period also provided an opportunity to discover each child's interest, present speech therapy as a pleasurable experience, and stimulate the child's desire to improve his speech.

A preliminary investigation was conducted to determine, to the writer's satisfaction, the feasibility of incorporating intensive training in listening skills in public school speech therapy. The primary-grade students enrolled in an Elementary and Secondary Education Act (ESEA) target school were screened, and those having severe functional articulatory defects were evaluated through the use of the Templin-Darley Tests of Articulation. A total of sixteen students from grades one through three were used in the investigation. The subjects in each of the groups had severe functional articulatory defects and scored thirty-eight or below on the Templin-Darley Tests of Articulation.

These groups involved eight white boys and eight white girls ranging in ages from 6.6 to 10.2. There were 8 first graders, 6 second graders, and 2 third graders. Their scores on the Metropolitan Readiness Test placed them in the borderline range of intelligence. None of the subjects had any known organic impairments.

Matching the subjects on the usual factors--aptitude, socio-economic level, and teacher assessment of achievement--in an attempt to equate two groups for the treatment effects was considered, but rejected due to the limitation of available subjects. Subsequently, the subjects were divided randomly into a control group and an experimental group. Each of these groups was further divided into two sections consisting of four students. Section A of the control group consisted of three boys and one girl (3 first graders and 1 third grader). Section B of the control group consisted of three girls and one boy (2 first graders and 2 second graders). Section A of the experimental group consisted of two girls and two boys (3 first graders and 1 second grader). Section B of the experimental group consisted of three girls and one boy (3 second graders and 1 third grader). This division was made in order to provide more individualized instruction and to equate more nearly the size of a usual speech therapy group. The students met twice a week for thirty minutes for a total of twenty-four sessions or the equivalent of eight weeks.

The sessions were conducted under typical conditions. Considerable time was spent reminding the teachers and students of the importance of the therapy schedule and establishing rapport with the students. Many activities had to be repeated due to interruptions

caused by other activities in the school--field trips, practices for programs, and other school-closing activities. In addition, numerous distractions were created by the physical facilities.

The program was conducted in a small ante-room which was used for storage as well as for small-group instruction. The room, approximately 8' by 9', was surrounded by shelves of supplies and books. Additionally, six small desks and chairs, a portable blackboard, and a teacher's chair were also crowded into this space. The room was poorly ventilated but accessible, with one door leading to the principal's office and another door leading to the teachers' lounge. This room was also adjacent to the playground; consequently, classroom teachers were often asked to move their classes to another part of the play area so that the pupils involved could continue their listening activities.

This situation seemed typical of schools located in the lower socio-economic community and possibly even contributed to the students' lack of listening skills. However, less limiting conditions may have altered the results of the investigation by creating an atypical classroom learning situation.

CHAPTER III

PLANS

Since adequate auditory comprehension and discrimination are desired prerequisites to effective speech therapy for the young child with a severe functional articulatory defect, methods for the development of listening skills in such children were devised. Initially, the goal of the program was to make each child aware of various gross sounds so that he would develop the ability to identify as well as to distinguish gross environmental, musical and speech sounds. Subsequently, he would be able to hear and use the latter sounds correctly. The desired result of such an intensive listening skills program was that the child would, through critical listening, become aware and convinced of his speech errors and, therefore, be more receptive to learning in the therapy sessions.

Implementation of these plans assumes that the children have been screened, have received a battery of tests, and have been scheduled for therapy at a specific time. Conferences with parents, teachers, and/or necessary community agencies have also been held.

Lesson I

I. Aims

- A. To introduce the children to the speech class
- B. To obtain their interest in activities which correct speech
- C. To begin setting-up good speech standards
- D. To make the children aware of gross sounds

II. Procedure

A. Introduction of teacher and pupils

1. Tell the children your name and that you are their speech teacher for this year. Have them introduce themselves in turn.
2. Call on them by name and encourage them to refer to each other by first name.

B. Explanation of the speech class

1. Explain to the children that they will be coming to speech class this year.
2. Ask them to guess what they will do in a speech class. (Tell them that in a music class you learn to sing, and in an art class you learn to draw. Ask, "What do you think you will do in a speech class?")
3. Explain that in a speech class they will learn to speak correctly. Speaking is talking. They know how to talk, but they will learn to talk better, just as they know how to sing, but in music class they learn to sing

better; the art teacher helps them draw prettier pictures, etc.

C. Introduction of "Good Speech Rules"

1. Ask, "What do we need to do in order to sing better or draw better?" (Help them understand that using certain colors or a certain rhythm makes the activity sound or look better.)
2. Ask, "What are some of the things we need to do in order to talk better?" (Begin the development of such habits as: holding head up, standing or sitting straight, keeping hands away from face while talking, etc. These habits will be considered again, later.)

D. Introduction of the first listening activity

1. Noises in the environment
 - a. Tell the children that many things are learned by listening. They learned to talk by listening.
 - b. Explain to the children that they are going to play a game to find out if they are good listeners.
 - c. Have the children close their eyes, put their heads down on their desks, and listen to find out how many different things they can hear.
 - d. Create some environmental noises while they are listening, by doing such things as: coughing, opening a door, turning pages in a book, or dropping the book.
 - e. Ask individual children to tell what they learned while listening.

2. Evaluate activity

- a. Be sure they understand that they do not have to see in order to learn. Ask them how they knew what you were doing.
- b. Elicit responses such as: "Because I heard noises."
"I was listening." "I used my ears."

III. Conclusion

- A. Tell the children that we will play this game and some others during the week.
- B. Ask them to listen for sounds which tell them things: in their classrooms, on the street, in the cafeteria, at home.

Lesson II

- I. Aims
 - A. To make the children aware of gross sounds
 - B. To develop their ability to learn by listening
 - C. To help them distinguish between two sounds
 - D. To begin to discover their interests
- II. Materials
 - A. The Indoor Noisy Book
 - B. Record player
 - C. Record album - "Sounds I Can Hear"
- III. Motivation
 - A. Tell the children, "I remember three sounds that I heard since our last class, one was at home and two were at school. What sounds have you heard?"
 - B. Give each child ample time to volunteer the sounds he remembers hearing.
- IV. Procedure
 - A. Read the Indoor Noisy Book and discuss the sounds the dog heard.
 - B. Play the record entitled "Sounds Around the House" and discuss the sounds in this record that they also hear in their homes.
 - C. Give them a chance to identify the sounds without the aid of the pictures enclosed in the album.
 - D. Listen for environmental noises. (Use the activity as planned in Lesson I, i.e., the children put their heads down while the

teacher creates noises--tearing paper, crumpling paper, closing windows, etc.--then ask them to guess what the teacher was doing.)

E. Distinguish between two sounds.

1. Tell the children they are going to play a game called, "What Am I Doing?"
2. Have a child come to the front of the class and walk, then skip while the other children observe.
3. Have the other children close their eyes, put their heads down and listen while the child at the front walks or skips.
4. Ask the children to name the action performed.
5. Repeat this activity by asking other children to jump and hop; run and walk; slide and skip, etc.

F. Discover their interests.

1. Tell the children that we have been talking about different things we can do; now, let's talk about the things we like to do. Ask, "What are some of the things you like to do?"
2. Encourage each child to share with the group activities he likes to do. (Note the child's connected speech pattern.)
3. Use these questions to stimulate their thinking:
 - a. What television program do you like best of all? Why?
 - b. If you could wish for one thing and it would come true, what would you wish for? Why?
 - c. What can you do best of all?
 - d. What would you like to be when you grow up?

III. Conclusion

Lesson III

- A. Remind the children to keep listening for sounds everywhere they go.
- B. Tell them to remember that they can learn by listening.

IV. Materials

1. Small block of wood, small piece of metal, small cardboard box, small glass
2. Rhythmic beat instruments
3. Record player
4. Record - "Count Around the Farm in the Zoo"
5. The Counting Book

V. Relaxation and motivation

1. Say, "That's one way well you can listen and to what you hear. This is a good way to get ready for the speaker."
2. Tell the children to listen and do exactly what you say.

"I am sleepy - very sleepy.
 I want to stretch and yawn.
 (Children stretch and yawn.)
 I'll close my eyes and just pretend
 that daylight time has gone.
 (Children close their eyes.)
 I'll breathe so softly, be so still,
 a little mouse might creep across the floor
 because he thought that I was fast asleep.
 I'll listen for a bell to ring.
 (Pause, while the children listen.)
 Or maybe for a bird to sing.
 (Pause)
 I'll listen for a far-off voice
 that tells of busy girls and boys."

Lesson III

I. Aims

- A. To make the children aware of gross sounds
- B. To develop their ability to learn by listening
- C. To help them distinguish between two sounds
- D. To introduce relaxation to them

II. Materials

- A. Small block of wood, small piece of metal, small cardboard box, small glass
- B. Rhythm band instruments
- C. Record player
- D. Record - "Sounds Around the Farm in the Zoo"
- E. The Country Noisy Book

III. Relaxation and motivation

- A. Say, "Let's see how well you can listen and do what you hear.
This is a good way to get ready for the speech class."
- B. Tell the children to listen and do exactly what you say.

"I am sleepy - very sleepy.
I want to stretch and yawn.
(Children stretch and yawn.)
I'll close my eyes and just pretend,
that daylight time has gone.
(Children close their eyes.)
I'll breathe so softly, be so still,
a little mouse might creep across the floor
because he thought that I was fast asleep.
I'll listen for a bell to ring.
(Pause, while the children listen.)
Or maybe for a bird to sing.
(Pause)
I'll listen for a far-off noise
That tells of busy girls and boys.

(Pause)

And then I'll be so very still;

I'll drop my head far down;

(Children drop heads)

I'll cross my legs and make believe

That I'm a sleepy clown.

(Children cross legs and relax)

- C. Let them keep this position for a few minutes.
- D. Ask them what noises they heard while they were listening.

IV. Procedure

A. Distinguish between two sounds.

1. Use rhythm band instruments if available, and/or create noises by striking various objects against various surfaces (as wood on glass; wood on metal; metal on metal, etc.)
2. Sound each of the two instruments and/or objects one after the other while the children are both watching and listening.
3. Have the children close their eyes, put their heads down, and listen while one of the two sounds is repeated.
4. Ask the children to tell which instrument or object they heard being sounded. (This activity may be repeated using different combinations of instruments and objects. If the children respond well and discriminate between the two sounds, the number may be increased.)
5. Ask them what they learned from this game. (Possible answers: "Different things make different sounds."
"Everything makes a different sound.")

- B. Distinguish between two sounds (familiar sounds).
1. Play the record, "Sounds Around the Farm in the Zoo."
 2. Allow the children to identify the animal sounds without the aid of the pictures in the album.
 3. Say, "Listen to this story and the sounds, and tell me what sounds each animal or object makes."
 4. Read shortened and slightly revised version of the Country Noisy Book. (Revise this so that the children can identify the sound as it is made and produce some animal sounds one after the other and let the children distinguish between the two.)
 5. Ask, "Who can tell us what we learned from the record and the story?" (Possible answers: "All animals make a different sound." "You can recognize an animal by the sound that he makes.")
 6. Tell the children that just as animals and objects can make sounds, you can too.
 7. Ask the children to make some funny sounds. (You begin by making odd vocal sounds.)
 8. Say, "Let's make a train like the one the dog rode on. Let's see how many sounds we can make." (Encourage them to invent their own sounds.)
 - a. Have the children line up with their hands on the hips of the child ahead.
 - b. Have the children move forward, one representing

the "chug" of the engine; another the whistle; a third, the sounds of the wheels over the rails; (t-k-t-k); a fourth, the bell, etc.

V. Conclusion

A. Ask, "Did you know there were so many different sounds?"

"Did you know you could make so many different sounds?"

"Did you know you could learn so much from listening to sounds?"

B. Tell them to experiment at home and bring different objects that make different noises or sounds.

III. Procedure

A. Distinguish between two sounds.

1. Use the different objects that they have brought and incorporate them into a sound discrimination game.

2. Suggest that they play these or similar "listening games" at home with their family and neighbors.

B. Listen to and discriminate between variations in pitch.

1. Explain to the children that they are going to play a new game called, "High-Low."

2. Tell the children that if they hear a high note, they are to stand. If the next note is higher, they are to remain standing, but if it is lower, they are to stoop down.

3. Demonstrate the activity while using the melody bells.

4. Repeat the individual notes, varying the differences with

Lesson IV

- I. Aims
 - A. To make the children aware of gross sounds
 - B. To develop their ability to learn by listening
 - C. To help them distinguish between two sounds
 - D. To develop their awareness of pitch differences
- II. Materials
 - A. Melode Bells
 - B. Record player
 - C. Record - "Sounds Around The Neighborhood"
- III. Procedure
 - A. Distinguish between two sounds.
 - 1. Use the different objects that they have brought and incorporate them into a sound discrimination game.
 - 2. Suggest that they play these or similar "listening games" at home with their family and playmates.
 - B. Listen to and discriminate between variations in pitch.
 - 1. Explain to the children that they are going to play a new game called, "High-Low."
 - 2. Tell the children that if they hear a high note, they are to stand. If the next note is higher, they are to remain standing, but if it is lower, they are to stoop down.
 - 3. Demonstrate the activity while using the Melode Bells.
 - 4. Sound the individual notes, having the differences wide

at first, but closer as the game progresses.

5. Allow the children to be the leaders and to produce the notes also.
- C. Listen for environmental sounds.
1. Ask, "How many good listeners are in the class today?"
 2. Ask the children to close their eyes, put their heads down, and listen.
 3. Do not create any environmental sounds.
 4. Ask individual children to tell what they learned while listening.
 - a. Inside noises.
 - b. Outside noises.
- D. Develop listening skills through the use of familiar games.
1. Explain to the children that the next two games require them to listen, remember, and repeat what they hear. Tell them if they do this well they should be winners.
 2. Play "Whispering."
 - a. The therapist whispers the "secret" (a single sound, nonsense word, word, or even a simple sentence) directly into the child's ear.
 - b. The child then whispers the "secret" to the next child in the circle.
 - c. The child attempts to receive and transmit the "secret" without error, which is the object of the game.
 3. Play "I'm taking a trip ...," if time permits.

- a. The pupil says, "I'm taking a trip and I'm going to pack ...," (perhaps socks, hair brush, etc.)
 - b. Subsequent pupils repeat the proper order in which the previous objects were named and each child adds another object.
 - c. The first person to miss naming an object is "out."
 - d. Eliminate the children in this way, until there is a winner.
- E. Develop listening skills through the use of sound stories.
1. Tell the children that just as they may make up stories from pictures, they may also make up stories from sounds they hear.
 2. Play the record, "Sounds Around The Neighborhood."
 3. Help the children realize that they must remember the exact sequence of the sounds in order to make up a logical story.
 4. Show the pictures included in the album only if they have trouble with this activity. After a few attempts, they should be able to tell the stories without the visual clues.

III. Conclusion

- A. Suggest to the children that it might be fun to try the "High-Low" games and others that show sound differences again this week.
- B. Ask them to keep listening for sounds, to listen for the differences, and to remember what they hear.

Lesson V

I. Aims

- A. To make the children aware of gross sounds
- B. To develop their ability to learn by listening
- C. To develop an awareness of pitch differences
- D. To introduce differences in rhythm to them

II. Materials

- A. Clean drinking glasses (one for each child in the group)
- B. Thermos bottle of ginger ale, punch, or water

III. Procedure

A. Review relaxation techniques

Say, "Listen and do everything that this poem tells you to do."

Close your eyes, head drops down,
Face is smooth, not a frown.
Roll to left; head is a ball;
Roll to right, now sit tall.
Lift your chin, look at me;
Deep, deep breath, one, two, three
Big, big smile; hands in lap.
Make believe you've had a nap.
Now you're rested from your play;
Time to work again today.

B. Listen to and discriminate between variations in pitch.

1. Fill the children's glasses, tell them to strike the glasses on the side with their pencils, and listen for the descending sound as they continually drink from them.
2. Encourage them to add to and drink from the glasses, creating high and low sounds and even perhaps a simple tune together.

3. Evaluate by asking, "What did we learn from this game?"

(Possible answers: "Sounds are different." "Some sounds are high, some are low.")

C. Introduce differences in rhythm.

1. Ask, "How many can play 'Just Like Me'?"

2. Say, "Let's play this game. It's similar to 'Just Like Me' except that we are going to make sounds."

3. Tell them, "I will tap on the desk with my pencil or clap my hands; in turn, each of you will do exactly what I did 'Just Like Me'."

4. Use various rhythms: slow, fast, 2/4 and 3/4 time, and dance rhythms such as the congo, cha-cha, etc.

5. Have the children imitate the rhythms produced by the leader. Let the children be leaders too, and create their own rhythms.

D. Listen for pitch and quality differences.

1. Explain to the children that they are going to play another game called, "Who Am I?"

2. Tell them that sometimes when we listen to people talking, we don't have to look to see who it is. We learn who it is by listening to their voices. (Examples: "We know our friends' voices on the telephone; we recognize our mother's voice all the way down the street when we're playing," etc.)

3. Ask them if they know the voices which belong to

the boys and girls in the room.

4. Have the children close their eyes and put their heads down on their desks.
 5. Explain to them that I will tap one person on the shoulder. That person will say, "Who Am I?" Then I will come to the front of the room and you will then open your eyes while I call on individual children to guess who was speaking.
 6. Allow the children to be the leader too.
- E. Incorporate good speech rules or habits.
1. Say, "We have been talking about how we sound--the differences in our voices, etc. Now, what were some of the things we said we needed to do in order to talk better?"
 2. Lead them in a discussion of "Good Speech Rules" or discuss using their "Sunday Speech" as started in Lesson I.
 3. Encourage them to use these rules everywhere.

IV. Conclusion

(Here, the evaluation has been a part of the activity.)

Lesson VI

I. Aims

- A. To make the children aware of gross sounds
- B. To develop their ability to learn by listening
- C. To develop an awareness of pitch, volume, and rhythm differences

II. Materials

- A. Record - "Genie, the Magic Record"
- B. Record player
- C. Wooden cylinders

III. Motivation

Say, "I hear a sound. Is it near or far away? How do you know? What happens as the sound comes closer? What is making this sound? Can you imitate the sound?"

IV. Procedure

A. Listen to gross sounds.

1. Do not ask the children to prepare for a listening activity this time. Perhaps they are talking quietly among themselves or looking at books in the room.
2. Put on the record, "Genie, the Magic Record." Play both sides making no comment about it.
3. Ask for the children's attention and ask them to tell the things they heard. Ask them, "Are you a good listener; what things did you hear?"
4. Follow this discussion by replaying the record to see

if they hear more things the next time.

B. Listen to pitch and rhythm differences.

1. Ask the children to tell some of the high sounds they heard in the record, e.g., piccolo, fire siren, whistle, etc.
2. Replay the orchestral part on the second side of the record; ask the children to raise their hands when they hear high sounds.
3. Discuss the rhythms in terms of fast and slow. Encourage them to "clap-out" the rhythms in certain measures.

C. Discriminate between loud and soft sounds.

1. Show the children the wooden cylinders. Let them handle and shake them freely.
2. Ask them to place them in ascending or descending order as follows: Shake each one and say, "Is it louder or softer than this one?" Have them tell you where to place each one.
3. Let them guess what is in each cylinder by imagining how different objects would sound knocking against wood. (There is no right or wrong answer here; accept any thoughts or guesses.)
4. Remove the covers one by one and let each child see and hear the contents.
5. Help them realize that the big objects make loud

sounds and the little ones make soft sounds.

III. Conclusion

A. Tell them, "We have learned many things in our speech class so far. Now, let's make up a story about the speech class."

B. Help them to construct simple sentences such as:

We learn to talk better in the speech class.
 We learn to talk better by listening.
 We listen for sounds.
 Sounds are different.
 Some sounds are high and some are low.
 Some sounds are loud and some are soft.
 Some sounds are fast and some are slow.
 There are many, many sounds.

(These are the points to emphasize. The children may write this story, together, in any way they wish as long as they understand it. Encourage them to use their own words. A child may volunteer to write the story on the board.)

D. Suggest to them that they may like to keep a notebook and put stories and other things about the speech class in it from time to time.

(In all activities, remind them of their "Good Speech Habits.")

Lesson VII

I. Aims

- A. To make the children aware of gross sounds
- B. To develop their ability to learn by listening
- C. To develop their awareness of pitch, volume, and rhythm differences
- D. To introduce sound position differences to them

II. Materials

- A. Melode Bells
- B. Pitch pipe

III. Motivation

Ask, "Who is a good listener? Who has on his thinking cap today? All right, good! Let's hear you make these sounds."

(Call on individual children to respond to these questions:)

What sound would a big bell make?
What sound would a little bell make?

What sound would a turtle make as he walked?
What sound would a rabbit make as he walked?

What sound would a big dog make?
What sound would a puppy make?

What sound would a piccolo make?
What sound would a tuba or bass horn make?

What sound would a big rooster make?
What sound would a little chick make?

(We are trying to discriminate quickly the volume, pitch, and rate differences here. Perhaps the children will want to make-up questions of their own to ask the therapist and the other children.)

IV. Procedure

A. Introduce sound position differences.

1. Ask the children to think of things that have beginnings, middles, and ends. Help them with examples such as a book, a school day, their bodies, etc. Discuss these and then tell them that sometimes sounds have beginnings, middles, and ends.
2. Explain to the children: "Sometimes we hear a loud sound in the beginning, sometimes in the middle, and sometimes at the end. Now we are going to play a game called, 'Where Am I?'"
3. Have them listen and then tell where they heard the loudest sound or the softest sound.
4. Use the pitch pipe and blow a series of three notes, all the same pitch, but one louder (or softer) than the other two.
5. Reinforce the idea of sound position with this activity: Tell three children to form a line in front of the group. Name them, "First," "Middle," and "Last." Have them to use the Melode Bells, clap or say, "Ah." Whisper to each one whether they are to make their sounds loudly or softly. Let the children tell whether "Middle" or "First," etc. made the loud sound. Then use the soft sound as the distinguishing one.

B. Relate sound position differences to volume, pitch, and

rate differences.

1. Say, "Now, let's listen very well and think very hard."
2. Tell the children they are going to play a game called "Where Am I?" in a more difficult way. Use the Melode Bells or pitch pipe.
3. Tell them they will hear three sounds and that you want them to listen and to tell where they heard the different sounds, at the beginning, middle, or at the end.
4. Sound three notes alike in volume, but produce one different in pitch.
5. Ask individual children to tell where they heard the different sound and how it was different.
6. Vary the sound by producing three notes alike in pitch, but produce one that is different in volume.
7. Vary the activity, if the children respond well, by successively changing the pitch, volume, and rhythm of the notes.

III. Conclusion

A. Prepare for culminating activity

1. Say, "We've worked hard today, and you've done well. Let's have some more fun with something new."
2. Tell them, "I'm going to tell a 'Sound Story.' In this story are many sounds. Some are soft, some are loud, some are fast, etc."

B. Elicit pupil participation.

1. Say, "I will need your help. We must have a King who

says, "Gr-r-r;" a First Daughter who says "Tra-la-la-la;" a Second Daughter: "Tee-hee-hee," a Young Prince: "Tah-tee-tah," an Unhappy Young Prince: "Um-m-m," a Happy Young Prince: "Ah-ha;" and a Fiery Steed: "Bugady-Bugady-Bugady" (Invent or omit characters according to your class size.)

2. Explain that as you tell the story they must listen carefully, and if you call the name of their character, then they must quickly make that character's sound.

The Sound Story

Once there was a King who lived in a big castle. He had two daughters. The First Daughter was slim, pretty and smart. The Second Daughter was slim and pretty, but lazy. The King wanted his daughters to get married, so he sent his men out to find a suitable husband for First Daughter. While they were gone, what do you think happened? A Young Prince came riding by the castle on a Fiery Steed. He was tired and thirsty so he stopped at the castle. When the King saw him, he was so pleased he sent for his daughters right away. First Daughter came in with her sewing and this made the Young Prince very happy. The Happy Prince told the King that he'd like to marry his daughter. "Well," said the King, "Wait until you see Second Daughter." Just then Second Daughter came in, and she had not even combed her beautiful, long hair. This made the Young Prince sad. The Unhappy Prince told the King that he would like to marry First Daughter. Well, the King was so glad to get one daughter married that he said, "Fine, agreed." So First Daughter and the Happy Young Prince rode off on their Fiery Steed leaving the King and Second Daughter behind.

3. Ask them, "What would be a good name for the story?"
4. Suggest to them that they might like to make up sound stories to tell to the other children in their speech class or classroom.

Lesson VIII

I. Aims

- A. To make the children aware of the "talking helpers" and their movements
- B. To move from gross sounds to isolated speech sounds with the children

II. Materials

- A. Small mirror for each child

III. Relaxation

Tell the children to listen and do what the poem says.

I yawn and yawn and yawn,
 As sleepy as can be.
 You too, will yawn if you will watch
 To catch the yawn from me. (descend)
 Yawn, Yawn, Yawn -----

IV. Procedure

A. Introduce the "talking helpers"

1. Ask, "When we are talking, what parts of our bodies do we use? Do we use our arms, eyes, etc.? Watch me, what is moving? What am I using to talk?"
2. Use the mirrors and show the movements of the articulators as they name them. (Some articulators are not so obvious and you will have to indicate them to the children.)
3. Explain the following to the children about their "talking helpers":
 voice box - (Hand over area (Adam's Apple) when

talking.) This makes our voice different from anyone else's voice.

air - (Hand in front of mouth to feel exhaled air when talking.) We use air when we talk. We must breathe deeply in order to talk so that we can be heard.

palate or "trap door" - (Feel roof of mouth with tongue.) This moves up and down; say, "gobble, gobble"; moves up for nasal sound; down for all other sounds.

jaw - (Touch chin and lateral portions of mandible.) This causes the mouth to open and close; only the lower jaw moves up and down.

(Now, discuss the ones they will know and notice.)

tongue - (Protrude tongue.) This is very important; moves up and down, and in and out.

lips - (Appropriate gestures.) This can be rounded, spread wide, squared and stretched wide open.

teeth - (Show teeth.) They can be placed together, open, top teeth placed on the bottom lip, or half open.

4. Explain that these are the parts of our bodies which form our words.
5. Use the mirrors to show the parts and movements, but do not exaggerate the movements.

B. Exercise the "talking helpers."

1. Explain that we learn to talk by listening, and by watching or seeing too. Say, "First, we listen and then we try to make the sound we hear. Sometimes we watch too, and try to make our 'talking helpers' move the same way we see others move."

2. Tell the children that we are going to pretend that we are clowns in a circus. Demonstrate very precise lip movements and have the children imitate you.
 - a. Smile in an exaggerated manner with the lips closed
 - b. Protrude lips
 - c. Blow lightly through closed lips
 - d. Pull lower lip into mouth behind upper teeth
 - e. Pull upper lip into mouth behind lower teeth
 - f. Say, "Ah, o, ee, oo."
3. Have the children play, "Follow the Clown Leader," and allow individual children to take turns being the clown leader.

C. Move to speech sounds

1. Say, "Let's play a pretend game and make these sounds."

Use these for an example:

(Ask after each one, "What talking helpers are you using?")

Pretend you are a bee (z)

Hiss like a goose (s)

Puff like a train (ch)

"Hush" like a mama (sh)

Ring like a bell (ng)

Hum like a humming bird (m)

Blow like the wind (hw)

Pretend you are a far-away train (u)

2. Designate one isolated speech sound as the "secret

sound." Make a variety of sounds and noises, when the "secret sound" is heard the child must signal.

3. Use this same procedure with "Musical Chairs." The child sits when he hears the "secret sound." Change the "secret sound" often.

D. Ask for their sound stories. Help them with the sounds and characters. (This may also give some insight into the child's personality.)

V. Conclude

A. Tell them that we are going to play listening games from time to time in the speech class.

B. Remind them to be good listeners and to use good speech habits.

C. Encourage them to ask each other questions about sounds and their differences.

(Begin to plan your therapy sessions for ear training on their defective sounds, beginning with isolation, etc. of the easiest sound recorded as being defective.)

The booklet, Listening Aids Through the Grades, lists some games which can be used throughout the therapy sessions as a device for reviewing the listening skills developed earlier and as a change of activity. The games may also be used interchangeably in the previously discussed lesson plans so as to afford the therapist a change in pace in working with the numerous severe functional articulation groups in the lower grades.

CHAPTER IV

SUMMARY, RESULTS AND CONCLUSIONS

This study has presented a review of the literature on therapy for children with severe functional articulatory defects and on the development of listening skills. Special emphasis has also been given to the significance of listening skills in the treatment of severe functional articulatory defects. Techniques reported in the literature as most beneficial in the treatment of the problem have been incorporated into the development of a listening skills program with other appropriate methods and materials devised by the writer.

Accordingly, eight lesson plans for the development of listening skills in children with severe functional articulatory defects were designed and a preliminary investigation conducted to determine to the writer's satisfaction the feasibility of including intensive training in listening skills in the speech therapy classes conducted in public schools.

Sixteen subjects, eight boys and eight girls were selected from one white, elementary, ESEA target school in an urban North Carolina community. The subjects were randomly assigned to two groups, an experimental group of eight subjects receiving the intensive listening skills program, and a control group of eight subjects receiving no listening training. The subjects received the listening skills program in groups of four, for thirty minutes, twice a week for eight consecutive weeks.

Results

Results of the program are presented in tabular form below. The percentage of progress for each subject in the experimental group (32.9%, average progress) compared to the percentage of progress for each subject in the control group (24.2% average progress) provides evidence that the acquisition of listening skills prior to enrollment in speech therapy is beneficial. A child with severe functional articulatory defect is able to correct his problem with a degree of progress greater than a child who has not participated in an initial listening skills program.

TABLE 1.--Percentage of progress in comparing Templin-Darley pre-test and post-test scores

Experimental group	Templin-Darley Pre-test Scores	Templin-Darley Post-test Scores	Percentage of Progress
R. H.	37	46	24.0
T. C.	29	43	48.2
D. W.	3	8	166
D. C.	33	39	18.1
D. J.	26	34	30.7
J. W.	21	33	57.0
L. H.	30	38	26.6
G. R.	17	23	35.2
<hr/>			
Control group			
R. W.	37	44	18.9
J. B.	12	17	41.6

TABLE 1.--Continued

D. D.	27	35	29.6
R. P.	17	23	35.2
S. S.	38	42	10.5
S. F.	25	29	16.0
T. B.	9	13	44.4
D. G.	34	38	11.7

Table 2 reveals comparisons of children within the same group.

The children who appear to have had a meager amount of progress* also scored low on the Metropolitan Readiness Test (23-9). This test gives an indication of the intelligence level as well as a prediction of the success expected in school. Thus, low scores on the Metropolitan Readiness Test placed the children in the "poor risk" area with a "letter rating" of "E". Perhaps the acquisition of some degree of listening skills might enable these children (rated "E") to succeed in school in spite of these predictions. Similarly, the children who made appreciable progress also scored higher on the Metropolitan Readiness Test. The fact that only two children, one in the experimental and one in the control group, scored an "average" (45-63) rating seems to substantiate the belief that these children have not

*Meager progress describes the performance of subjects who had low pre-test scores and high-low post-test scores and therefore obtained very high percentages of progress. However, this high percentage of progress was not evidenced in their spontaneous connected speech, rather it reflects only progress made in isolated speech sounds learned in one or more of the three sound positions.

inculcated learning experiences before entering or while attending school, probably because of their inability to listen. Such a belief, of course, is based on the assumption that these children are as they appear--academically retarded rather than mentally retarded or sensorily deprived.

TABLE 2.--Summary of the differences between the experimental and control groups (Metropolitan Readiness Test, Templin-Darley pre-test and post-test scores, and the percentage of progress).

Sub- jects	Sex	Age	Grade	Metropolitan Readi. Test Raw Score	Templin- Darley Pre-test	Post- test	Percentage of Progress
Experimental group							
R. H.	M	8.7	2	45	37	46	24.0
T. C.	F	6.10	1	26	29	43	48.2
D. W.	F	7.4	1	16	3	8	166
D. C.	M	7.9	1	22	33	39	18.1
D. J.	F	7.9	2	36	26	34	30.7
J. W.	M	10.2	2	24	21	33	57.0
L. H.	F	8.5	2	20	30	38	26.6
G. R.	M	8.4	2	21	17	23	35.2
Control group							
R. W.	M	9.10	3	22	37	44	18.9
J. B.	M	6.10	1	34	12	17	41.6
D. D.	F	6.6	1	19	27	35	29.6
R. P.	M	7.2	1	28	17	23	35.2
S. S.	F	8.11	3	40	38	42	10.5

TABLE 2.--Continued

S. F.	F	6.6	1	35	25	29	16.0
T. B.	F	7.4	1	40	9	13	44.4
D. G.	M	8.2	2	56	34	38	11.7

Median age 7.9

Experimental group Mean Progress - 32.9

Control group Mean Progress - 24.2

Conclusions

Comparing the control group used in this study to other groups observed in the writer's ten years of experience in public school speech therapy, it was observed that these children were more willing to participate in the therapy sessions and were subsequently more attentive while in therapy. In addition, the children in the experimental group readily acquired the sounds directly taught in the traditional manner, and as a result of simple stimulation, they indirectly acquired other correct speech sounds. In essence, the listening skills program provided the children with the necessary basis for acquiring correct speech in a manner more closely allied to normal speech sound development. It would appear that observed progress in speech habilitation with these children should be longer lasting and, developmentally, more effective.

Though not conclusive, the results of this study suggest the possible use of a listening skills program as a prerequisite to therapy for clients with voice disorders. The ability to monitor

one's own voice is certainly tantamount to success in the treatment of voice problems. Additional skills in identifying and discriminating the desired and/or undesired pitch, rate, or quality has proved to be most beneficial to persons in therapy sessions concerned with such problems. A listening skills program might also have far wider use in the primary grades with children lacking this skill who are not necessarily speech handicapped.

The writer has concluded that, as a result of enrollment and participation in the listening skills program, the children in the experimental group became:

1. discriminating listeners
2. more cognizant of their own and their classmates' speech errors
3. eager and ready for speech therapy

Limitations of the Study

The favorable results of the listening skills program, its implications for both "poor risk" and "average" children, its relationship with other aspects of readiness and achievement, and its possible implementation as a prerequisite to treating related problems which require speech therapy, should not be generalized to include all related speech problems or subjects whose chronological age is vastly different from those used in this study. The following limitations of the study should be considered:

1. Inappropriate physical surroundings: crowded room filled

with distracting supplies, books, and equipment; noisy situation--room located between the teachers' lounge and the principal's office, and adjacent to the playground area.

2. Insufficient number of subjects: few severe functional articulatory cases enrolled in this one particular school; job situation of the writer would not permit involvement in an additional school for the purpose of obtaining a larger number of subjects.
3. Restricted geographical area: southern, urban location in a culturally deprived community.
4. Uncontrolled variables: day to day presentation of techniques, wording of instructions, and responses to children varied due to human error.

This study has not attempted to prove that training in listening skills is or is not prerequisite to all speech therapy activities. Rather, the study has attempted to point up the relativity of such skills to specific speech defects and to more effective therapy activities.

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