A COMPARATIVE ANALYSIS OF RESPONSES OF CHILDREN JUDGED AS FUNCTIONAL ARTICULATORY DEFECTIVE SPEAKERS AND NORMAL SPEAKERS TO A TEST OF RHYTHM

Thesis for the Degree of M. A.

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ABSTRACT

A COMPARATIVE ANALYSIS OF RESPONSES OF CHILDREN JUDGED AS FUNCTIONAL ARTICULATORY DEFECTIVE SPEAKERS AND NORMAL SPEAKERS TO A TEST OF RHYTHM

by Elizabeth Stamos

The purpose of this study is to compare and analyze rhythm scores obtained by grade school children on the rhythm portion of the Seashore Measures of Musical Talents in order to determine their rhythm discrimination.

The subjects for this study consisted of 30 normal speaking children and 30 children with functional articulatory defects. These subjects were selected from grades 4, 5, and 6. The experiment took place in six school buildings. Groups ranging from 5 to 15 children were tested at one time. In order to familiarize the children with the rhythm test, an orientation period preceded the actual test situation. The rhythm portion of the Seashore Measures of Musical Talents record was the stimulus material for the test. Subjects were instructed to indicate their responses on an IBM answer sheet.

The findings of this study indicate that a significant difference of rhythm discrimination exists between children with functional articulatory defects and normal speaking children.

The conclusions drawn from this study suggest that the rhythm discrimination of normal speakers is significantly better than the rhythm discrimination of functional articulatory defective speakers. There is a significant variation between rhythm discrimination of students in the fourth, fifth, and sixth grades. Variation in performance in rhythm discrimination increases as a function of increase in grade level.

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By

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Reviewing the therapeutic approach to articulation defects, we find that most speech therapists teach the correct production of a sound in the following sequence: isolation, nonsense syllables, words, sentences, running speech. This procedure has long been accepted and used in the area of speech and hearing therapy.

Recently it has been noted that children possessing articulation defects do not appear to integrate the correct production of a sound into context as naturally as normal speaking children. A series of interviews conducted by Shames revealed that students enrolled in articulation therapy felt that their deliberate efforts at sound production seemed to distort their phrasing, rate of talking, and their inflection patterns. These cases described their rhythm as abnormal and felt their conversational speech sounded artificial.[1]

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[1]George Shames, "Use of the Nonsense Syllable," Journal of Speech and Hearing Disorders, 22 (1957), 261-262.

Thomas tells of the deviant rhythm patterns of foreign students.[1] Although these cases were not considered speech defectives, they required speech improvement work and in this sense were indirectly related to the major problem of concern.

Travis and Davis contend that a sensory difference does exist between speech defective and normal speaking individuals.[2] Assuming this sensory difference exists could we also suspect a difference in the sense of rhythm displayed by both types of speakers?

It is important to discover the type of rhythm patterns in children and evaluate them in terms of our present day therapeutic approach to articulatory defective speakers who may display distorted rhythm patterns. Shames made an attempt at this problem and came up with some answers.[3] However, since his study there has been no further research dealing with this specific problem.

Knowledge in this area is important in order to discover the degree of rhythm handicap in children. Because the limited information which is available is not conclusive, further research is needed.

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[1]Edward Thomas, "Rhythm and Speech Improvement," Ohio Schools, 19 (March, 1941), 136-137.

[2]Lee Edward Travis and Mildred Davis, "The Relationship Between Speech and Lack of Certain Musical Talents," Psychological Monographs, 36 (1926), 72.

[3]Shames, op. cit., pp. 261-263.

Statement of Problem and Purpose of Study

This study involves the measurement of rhythm discrimination among fourth, fifth, and sixth grade students. The purpose of this study is to investigate and analyze the rhythm discrimination patterns of children with functional articulatory defects and children with normal speech obtained on the rhythm test of the Seashore Measures of Musical Talents. From the analysis of this investigation it is hoped that the following questions will be answered: (1) Is there a difference in the responses made by functional articulatory defective speakers and normal speakers? (2) If so, which group displays superior rhythm accuracy? (3) Do over-all responses vary as a function of grade level?

Hypotheses

In order to answer the above questions the following null hypotheses have been formulated.

1. There is no significant variation among the responses of children judged as functional articulatory defective speakers and normal speakers.
2. There is no significant difference between grade levels with respect to rhythm discrimination.

Importance of Study

The ability to speak with a continuous smooth flow of words denotes a rhythmic pattern which is essential to a pleasant sounding voice. It is important that the speech therapist discover the degree of rhythm handicap in children so that generalizations regarding their expected rhythm performance can be made and current therapeutic procedures evaluated. It has been noted that some people with speech problems tend to talk in a somewhat jerky fashion. They are frequently not able to blend and assimilate sounds within phrases, thus, lacking smooth rhythmic patterns in their everyday conversational speech. Thomas recognizes this problem in students requiring speech improvement and tells how their rhythm patterns differ from that of the normal speaker.[1] Shames found that speech correction patients felt their phrasing and rate of talking were distorted.[2] Reports of this type indicate the need for further research in determining the relationship between rhythm patterns and speech defective individuals. Because we perceive rhythm patterns and speech defective individuals. Because we perceive rhythm mainly through the sense of hearing, the Seashore Measures of Musical Talents was selected as a

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[1]Thomas, op. cit., p. 136.

[2]Shames, op. cit., p. 262.

measurement of rhythm discrimination. The rhythm portion of the Seashore Measures of Musical Talents purports to determine one's auditory ability to discriminate among rhythm patterns.[1] It is hoped that this measurement will help us gain a more valid understanding of the kind of rhythm patterns that exist in both articulatory defective and normal speaking children. It is also hoped that statistical analysis will yield results which are significant enough to formulate conclusions as to the expected rhythm discrimination of children according to grade level and speech skills.

Definition of Terms

For the purpose of this study the terms used herein are defined in the following manner:

1. Rhythm.--Refers to recurrence in time of a pattern of vocal changes.[2]

2. Functional articulatory defective speakers.--Those children who exhibited fractionated articulation which was not considered to be caused by organic anomaly and are enrolled in speech therapy classes.

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[1]Carl E. Seashore, Don Lewis, and Joseph G. Saetveit, Seashore Measures of Musical Talents (New York: The Psychological Corporation, 1960).

[2]Grant Fairbanks, Voice and Articulation Drillbook (New York: Harper and Brothers, 1960), p. 118.

3. Normal speakers.--Children who do not exhibit any type of speech defect and have never received speech therapy.

4. Rhythm discrimination or rhythm test.--A test which measures the patient's sense of discrimination among similar rhythm patterns.

5. Sense of rhythm.--The ability to discriminate among similar rhythmic beats.

6. Seashore Measures of Musical Talents.--A test which purports to measure the patient's discrimination abilities of six separate capacities: pitch, loudness, rhythm, time, timbre, and tonal memory.[1]

Organization of the Thesis

Chapter I is devoted to an introduction to the problem, a statement of the problem, and the purpose of the study. It has mentioned the hypotheses, the importance of the study, and defined all terms used within the study.

Chapter II is based upon a review of the literature pertaining to the topic.

Chapter III includes a discussion of all subjects, materials, and testing procedures used for the investigation.

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[1]Seashore, Lewis, and Saetveit, op. cit., p. 3.

Chapter IV consists of a discussion of the results obtained through statistical analysis.

Chapter V contains the summary, conclusions, and implications for future study.

CHAPTER II

REVIEW OF LITERATURE

Origin of Rhythm

Rhythm as a function of speech is not a newly born observation. In the year 1775 Joshua Steele wrote an essay dealing with the melody and measure of speech which he considered to be the rhythmic performance of the voice. He described the voice by stating that it possessed a melody which moved rapidly up and down by slides.[1] Steele felt that because our animal existence is regulated by our pulse, we seem to have an instinctive sense of rhythm connected with all sounds. Thus, all people feel the effects of rhythm, as they do those of light and warmth derived from the sun.[2]

Bluemel tends to agree with Steele even though a span of 184 years exists between their literary expressions on the genesis of rhythmic speech. According to Bluemel the rhythm of speech follows the patterns of the heartbeat.

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[1]Joshua Steele, Prosodia Rationalis (London: Printed by J. Nichols, 1775), p. 4.

[2]Ibid., p. 67.

The unborn child supposedly hears and feels the maternal heartbeat during the latter half of his life in utero and later patterns his infantile speech accordingly.[1]

Value of Rhythm Accuracy

Many critics hold that the aesthetic characteristics of an individual's speaking voice rest in the variations of pitch, force, quality, and rhythm. Consequently, we may assume that cultivation and use of vocal rhythm accuracy would make one's speech pleasing to the ear of the listener.

Among children with voice problems Meader suggests the use of rhythm activities as an aid to better speech and voice. He claims these children are tone-deaf and therefore retarded in their sense of rhythm.[2] In Canfield's phonetic approach to voice and speech, he stresses that regularly recurring accented patterns of language are an important adjunct to speech skills and a pleasing voice.[3]

Fairbanks describes a type of speech which is characterized by irregularity of time display or spasmodic

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[1]C. S. Bluemel, "Double Syllable Words," Journal of Speech and Hearing Disorders, 24 (August, 1949), p. 273.

[2]Emma Grant Meader, "Sound and Rhythm in the Speech of Children," Quarterly Journal of Speech, 20 (1934), 277-278.

[3]W. H. Canfield, "Phonetic Approach to Voice and Speech Improvement," Speech Teacher, 13 (January, 1964), 45.

interruptions of the inherent pattern. He labels this "jerky" speech. If the periodicities become obtrusive the speech will sound monotonous.[1] Obviously the listener will find this kind of speaking voice acoustically undesirable. Hence, if a speech defective individual has distorted vocal rhythm patterns, it behooves the speech therapist to attempt to develop regularly recurring accented rhythmic patterns in his speech.

Auditory Factors and Rhythm

Normal speech often depends upon normal hearing. Breinholt and Schoepfle believe that anything which helps a child learn to listen discriminately may help his speech.[2] Auditory stimulation and discrimination play an important role in the correction of defective speech sounds. In the same respect it would seem that certain auditory capacities would be essential to the development of acceptable rhythmic patterns.

Seashore claims that there are actually five fundamental capacities involved in the perception of rhythm: sense of time, sense of intensity, auditory imagery, motor imagery, and motor impulse for rhythm in action.

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[1]Fairbanks, op. cit.

[2]Verna Breinholt and Irene Schoepfle, "Music Experiences for the Child with Speech Limitations," Music Educators Journal, 47 (September, 1960), 48.

Auditory imagery and motor imagery are explained as capacities for reliving in representation the auditory experience and the motor attitudes respectively.[1]

Others also point out the relationship between rhythm and speech in a similar fashion. Travis and Davis feel that it is justifiable to suppose that if a child had a certain type of speech defect, he may also have a reduction or abnormality in the auditory field.[2] Gilkinson said that ear-mindedness has much the same function in speech that it has in music. Therefore, he concludes that there is a close relationship between speech and musical performance.[3] Meader also claims there is an abnormal auditory field present in speech defectives. He cites how children with voice problems do not discriminatingly hear their own voices or the voice of others. Meader considers these children to be tone-deaf and is convinced that they are in need of rhythm drills. For young children he suggests the use of nonsense syllables and poetry as an aid in the formation of rhythmic speech.[4]

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[1]Carl E. Seashore, Introduction to Psychology (New York: Macmillan Company, 1925), p. 68.

[2]Travis and Davis, op. cit.

[3]Howard Gilkinson, "The Seashore Measures of Musical Talent and Speech Skills," Journal of Applied Psychology, 27 (1943), 443.

[4]Meader, op. cit., p. 276.

Results of Related Studies

The findings of previous investigations have clearly shown the relationship between speech, musical talents, and rhythm. The Seashore Measure of Musical Talents has been employed in former studies to assess such relationships. In an investigation involving 377 university students in a beginning speech course the Seashore test was used as a measure of pitch discrimination, rate, quality, and force. The results revealed a positive relationship between scores on these four tests and speech skills.[1] That portion of the test dealing with rate encompasses the sense of rhythm. Both rate and rhythm are components of time.[2]

Travis and Davis also found the Seashore Measures of Musical Talents to be a useful tool in appraising the sense of intensity, tonal memory, and pitch. University students classified as speech defectives and normal speakers composed the subject population for this research investigation. Results of the study show that: (1) speech defective individuals received the lowest scores on all three tests; (2) the scores among speech defective individuals showed a greater variation than the normal speaking

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[1]Gilkinson, op. cit., p. 446.

[2]Fairbanks, op. cit., p. 113.

group; (3) cases of organic origin did not show the superiority over the defective functional cases that one might anticipate.[1] Although this experiment did not include the sense of rhythm it dealt with the auditory discrimination of other senses which are closely allied to that of rhythm. Since such a close association was found between certain types of speech defectives and low scores on intensity, tonal memory, and pitch, one might expect the rhythm test to yield similar results.

Shames has been concerned with the problem of integration of an isolated sound into word content. In order to verify this problem, interviews were held with articulatory defective speech cases after each sound integration error. The cases revealed that at the moment of error, they were so eager to communicate that they did not remember the new sound or forgot to slow down. They claimed that this caused a definite distortion of their rhythm. They felt there was a gap between deliberate sound production and automatic usage of newly learned sounds.[2]

Although the latter investigation is not conclusive, it suggests that articulatory speech defective cases tend to possess poor rhythm patterns in their conversational speech. From the above review of literature, the need for

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[1]Travis and Davis, op. cit., pp. 73-79.

[2]Shames, op. cit., pp. 261-262.

further research is obvious. Former studies do not provide adequate and valid evidence regarding the rhythm abilities of normal speakers and articulatory defective speakers. Hence, it seems imperative that additional studies be undertaken in this area.

CHAPTER III

SUBJECTS, MATERIALS, AND PROCEDURES

Subjects

The subject population consisted of sixty elementary school children in grades 4, 5, and 6. All subjects attended public schools in Livingston County, Michigan.

The children selected as subjects possessed: (1) adequate vision and hearing acuity; (2) an I.Q. rating which fell within the range of 90 to 129.

Thirty of the subjects possessed functional articulatory defects and were enrolled in speech therapy classes at the time of this experiment. The other thirty subjects were considered normal speakers and had never had a speech impediment of any kind. Within the normal speaking group there were 4 males and 6 females from the fourth grade, 4 males and 6 females from the fifth grade, and 6 males and 4 females from the sixth grade. In the speech defective group there were 4 males and 6 females from the fourth grade, 6 males and 4 females from the fifth grade, and 5 males and 5 females from the sixth grade.

Materials

The rhythm portion of the Seashore Measures of Musical Talents was selected to measure the subject's

ability to discriminate between similar and different rhythmic patterns. A 33 1/3 rpm Long Playing record served as a stimulus material for the subjects. The rhythm portion of the record can be described as follows:

> Thirty pairs of rhythmic patterns comprise the sense of rhythm test. The subject is to indicate whether the 2 patterns in each pair are the same or different. The source of the stimuli was a beat-frequency oscillator set at 500 cycles. Tempo is constant at the rate of 92 quarter notes per minute. The first ten items contain patterns of five notes in 2/4 time; the next ten, patterns of 6 notes in 3/4 time; and the last ten, patterns of 7 notes in 4/4 time.[1]

Approximately 15 minutes was required for orientation, directions, and completion of the test. Phonographs, in good working order, were made available in each testing room.

Procedures

Physical arrangement.--This experiment was conducted in six schools. In each school building a similar room was utilized. The testing rooms were well lighted, adequately ventillated, and away from noisey areas such as playgrounds and gymnasiums. If there were windows in the room, the drapes were drawn in order to prevent any possible outside distractions.

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[1]Seashore, Lewis, and Saetveit, op. cit.

Groups ranging from 5 to 15 children were tested at one time. Subjects were seated at tables situated approximately 5 feet from the record player.

Orientation.--Each child was provided with an answer sheet and asked to fill in the routine data (see Appendix B). Prior to the actual testing situation all groups received the same instructions as cited in Appendix A.

For purposes of familiarizing the children with the rhythm test, a brief practice session followed the instructions. This involved listening to two pairs of rhythm patterns which the examiner selected by randomly placing the recording needle toward the center of the record. The subjects were asked to respond orally by indicating if each rhythmic pair they heard was the same or different.

Testing.--The subjects were instructed to indicate their responses on the answer sheet according to the instructions they had received earlier. The rhythm portion of the Seashore Measures of Musical Talents test was played in its entirety. The length of time required to complete the rhythm test was 5 minutes and 30 seconds.

CHAPTER IV

RESULTS AND DISCUSSION

Results

The results obtained from this experiment were tabulated and subjected to statistical treatment. The objective of this study was to discover if there were any differences between rhythm scores of the subject population according to speech skills and grade level.

1. Standard deviations from the mean for subjects according to speech skills.--The standard deviations for the normal speakers and functional articulatory defective speakers were found. The results among the normal and functional articulatory defective speakers are presented in Tables 1 and 2, respectively.

TABLE 1

STANDARD DEVIATION FOR NORMAL SPEAKERS

Grade	Number of Subjects	Mean	Standard Deviation
4	10	23.2	2.97
5	10	26.1	1.38
6	10	25.1	2.88
Totals	30	24.83	4.35

TABLE 2

STANDARD DEVIATION FOR FUNCTIONAL ARTICULATORY DEFECTIVE SPEAKERS

Grade	Number of Subjects	Mean	Standard Deviation
4	10	23.7	2.74
5	10	23.5	2.95
6	10	20.8	3.85
Totals	30	22.67	5.6

2. Differences among speech skills and grade level in their effect on rhythm scores.--A two-way analysis of variance was employed to determine if there was any significant differences among speech skills and grade level in their effect on rhythm discrimination scores.[1] The results of the two-way analysis of variance test are presented in Table 3.

Discussion

The test scores and mean among the normal speaking group tend to be higher than those found among the speech defective group. The arithmetic means for the normal and functional articulatory defective speakers are illustrated in Figure 1.

[1]Herbert M. Blalock, Social Statistics (New York: McGraw-Hill Book Co., Inc., 1960), p. 250.

TABLE 3

COMPUTATIONS FOR TWO-WAY ANALYSIS OF VARIANCE, WITH TEST FOR INTERACTION

	Sums of Squares	Degrees of Freedom	Estimate of Variance	F
Total	663.73	59		
Between Sub-Class	144.13	5		
Between Columns	63.63	2	31.82	3.31*
Between Rows	68.26	1	68.26	7.10*
Interaction	12.24	2	6.12	
Error	519.60	54	9.62	

*Significant at .05 level.

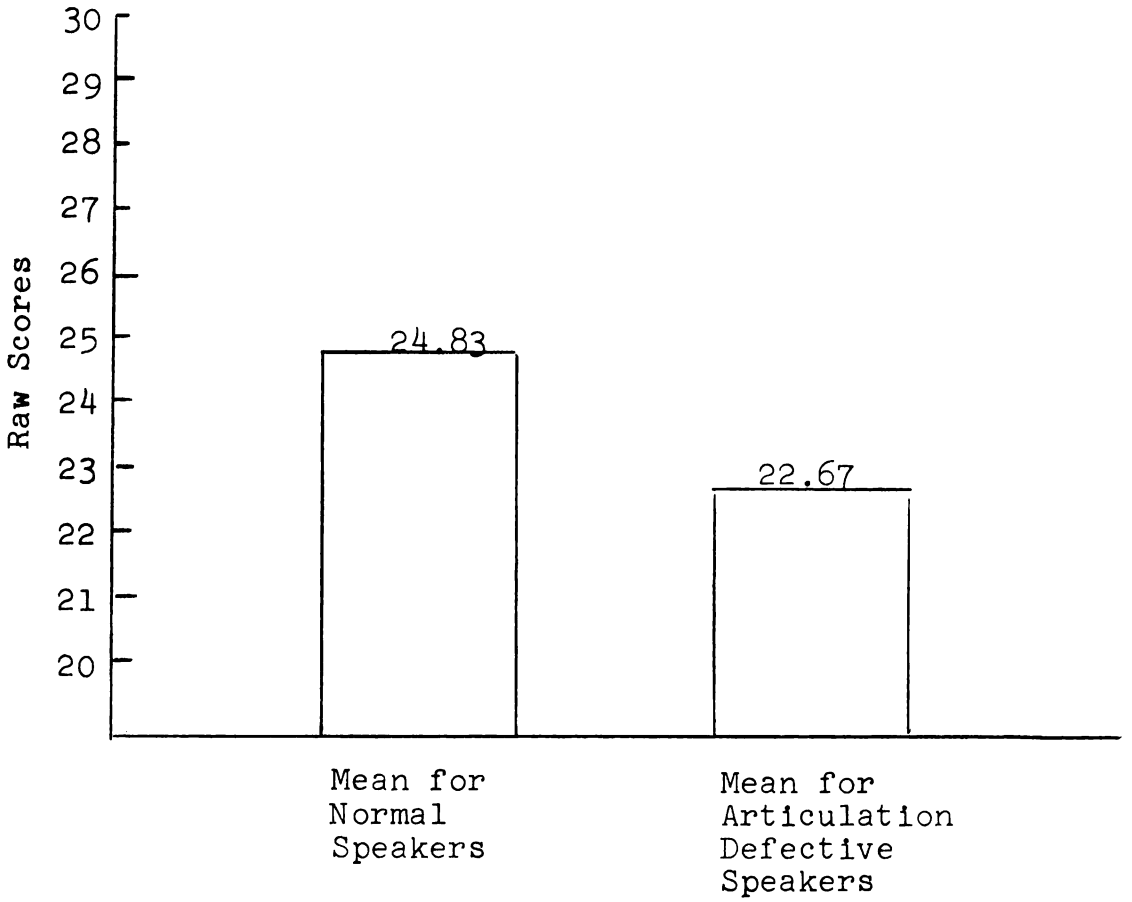

Figure 1.--Arithmetic Mean of Raw Scores by Speech Skills

The arithmetic means according to grade level for both normal and functional articulatory defective speaking groups are illustrated in Figure 2.

The two-way analysis of variance test was utilized to determine if a difference in rhythm discrimination ability exists among the subject population. A significant difference at the .05 level was found between the functional articulatory speech defective group and the normal speaking group. There seems to be a positive correlation between speech skills and the ability to discriminate among similar rhythm patterns. Thus, it is possible to reject null hypothesis number one, which states that there is no significant variation among the responses of children judged as functional articulatory defective speakers and normal speakers.

In Table 3 it is shown that "between columns" has an F value of 3.31 which is significant at the .05 level of confidence. "Between columns" represents the three grade levels involved in this study. Thus, it is possible to reject null hypothesis number two, which states, there is no significant difference between grade levels with respect to rhythm discrimination.

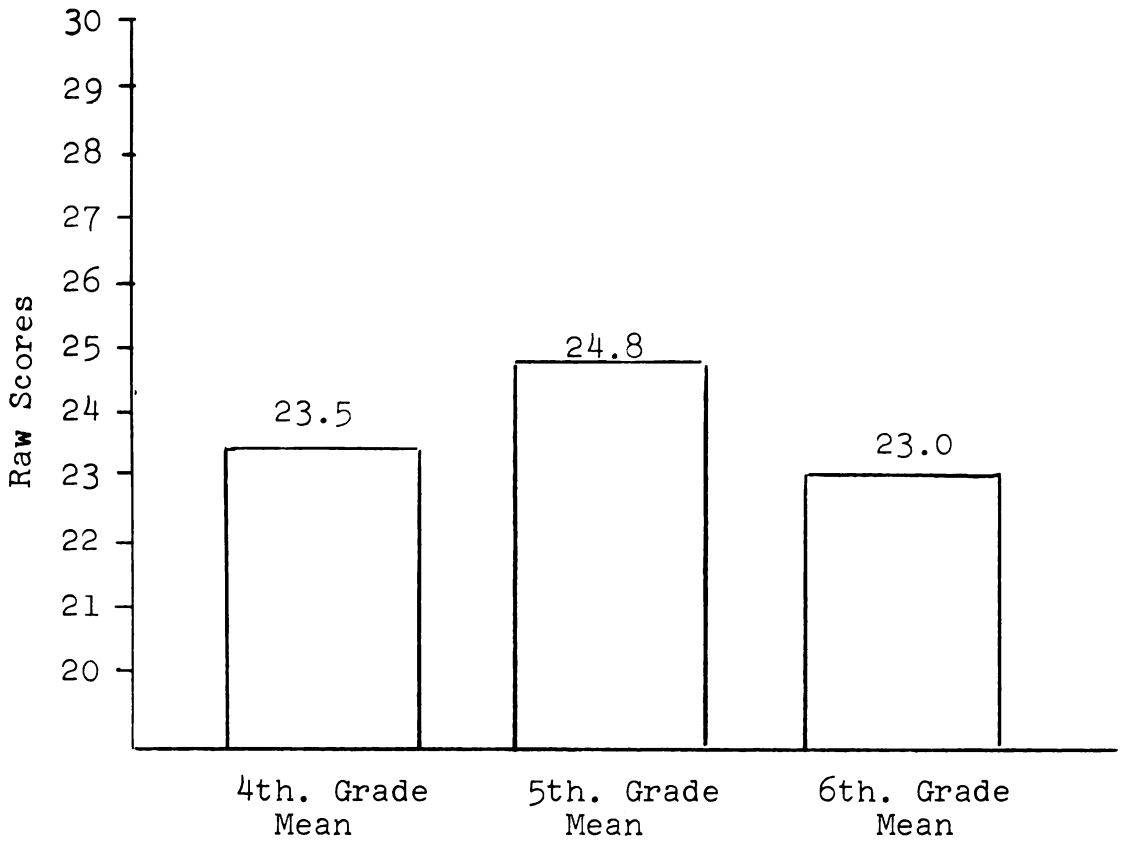

Figure 2.--Arithmetic Mean of Raw Score by Grade Levels

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

It has been observed that speech defective children tend to display rhythm patterns which deviate from that of the normal speaker. In the past, however, knowledge concerning the degree of rhythm handicap in children has not been conclusive.

It has been the purpose of this study to compare and analyze the rhythm discrimination of functional articulations defective and normal speaking children. The rhythm test of the Seashore Measures of Musical Talents was employed for this purpose.

Several authors have cited how rhythm accuracy in speech contributes to a pleasant speaking voice. Consequently, it is important that the speech therapist discover the rhythm discrimination of children so that generalizations can be made concerning their expected rhythm performance and; if need be, evaluation of the current therapeutic approach used with speech defectives possessing abnormal rhythm patterns.

A review of the literature reveals that the relationship between rhythm and speech has been the topic of literary essays since the late 1700's. Previous studies have dealt with such areas as; the origin of rhythm in speech, the desirablility of using accurate rhythm patterns in the speaking voice, and how auditory factors (such as the ability to discriminate) are essential capacities involved in the perception of rhythm. Other senses, closely allied to the sense of rhythm, have been investigated in former studies. Gilkinson found a positive relationship between speech skills and rhythm abilities.[1] However, research is void of thorough and conclusive information concerning this relationship.

The subject population used in this study consisted of thirty normal speakers and thirty functional articulatory defective speakers. All subjects were from the fourth, fifth, or sixth grade in the public schools of Livingston County, Michigan.

In order to measure the sense of rhythm discrimination, rhythm portion of the Seashore Measures of Musical Talents was employed. The test was administered to subjects within six school buildings. Subjects were tested in groups ranging from five to fifteen children at one time. Prior to the test an orientation period acquainted

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[1]Gilkinson, op. cit.

the children with the test procedures but did not reveal any of the actual test items. Approximately fifteen minutes was required for orientation, directions, and completion of the test.

Results of this study indicate that there is a significant difference between the rhythm patterns of functional articulatory defective and normal speaking individuals. It further revealed a significant difference among the three grade levels involved in this investigation.

Conclusions

Within the limits of this study it may be concluded that:

1. The rhythm discrimination of normal speakers is significantly better than the rhythm discrimination of functional articulatory defective speakers.
2. There is a significant variation among the rhythm discrimination of students in the fourth, fifth, and sixth grades.
3. Variation in performance in rhythm discrimination increases as a function of increase in grade level.

Implications for Future Research

There are many other factors relating to the rhythm discrimination of speech defective individuals that remain

unexplored. The following questions might well be suggested for future study:

1. Is there a tendency for the rhythm discrimination of children with functional articulatory defects to decrease as a function of increase in age?
2. Are the rhythm discriminations of children who have had musical training superior to those who have not had musical training?
3. In light of this study what changes might be suggested in therapeutic techniques employed with articulatory defective speakers having rhythm discrimination problems?
4. Is it possible to provide a more successful carry-over of the corrected sounds by including work on rhythm patterns?

BIBLIOGRAPHY

Books

Blalock, Hubert M. Jr. Social Statistics. New York: McGraw-Hill Book Company, Inc., 1960.

Fairbanks, Grant. Voice and Articulation. New York: Harper and Brothers, Publishers, 1960.

Seashore, Carl E. Introduction to Psychology. New York: Macmillan Company, 1925.

Steele, Joshua. Prosodia Rationalis. London: Printed by J. Nichols, 1775.

Periodicals

Bluemel, C. S. "Double Syllable Words," Journal of Speech and Hearing Disorders, 24 (August, 1959), 272-74.

Breinholt, Verna and Schoepfle, Irene. "Music Experiences for the Child with Speech Limitations," Music Educators Journal, 47 (September, 1960), 45-52.

Canfield, W. A. "Phonetic Approach to Voice and Speech and Improvement," Speech Teacher, 13 (January, 1964), 42-46.

Gilkinson, Howard. "The Seashore Measures of Musical Talent and Speech Skills," Journal of Applied Psychology, 27 (1943), 443-447.

Meader, Emma Grant. "Sound and Rhythm in the Speech of Children," Quarterly Journal of Speech, 20 (1934), 275-279.

Shames, George. "Use of the Nonsense-Syllable in Articulation Therapy," Journal of Speech and Hearing Disorders, 22 (1957), 261-263.

Thomas, Edward. "Rhythm and Speech Improvement," Ohio Schools, 19 (March, 1941), 136-137.

Travis, L. E. and Davis, M. G. "The Relationship Between Speech and Lack of Certain Musical Talents," Psychological Monographs, 36 (1926), 71-78.

Other Sources

Seashore, Carl E., Lewis, Don, and Saetveit, Joseph G. Seashore Measures of Musical Talents, Manual. New York: The Psychological Corporation, 1960.

APPENDICES

APPENDIX A

INSTRUCTIONS FOR THE SEASHORE MEASURES OF MUSICAL TALENTS TEST

The following instructions were used for the rhythm portion of the Seashore Measures of Musical Talents Test.

> Notice the many sets of small spaces on these answer sheets. You are to show your answers by making a clear, heavy, black mark in the proper space like this (draw an example on the board and mark it). In each section, place your answers one below another in Column A until that is filled, then down Column B, and so on. . . . I want to make sure now that you know how to show your answers and that you realize that you should make your marks clear and black and between the lines as I have shown you. If you want to change an answer, draw a little light circle around the mark that is wrong, and mark the space that you mean as your choice; then, at the end of the test you can go back and erase thoroughly the marks with circles around them as well as the circles themselves. You will not have time to erase while the test is going on.
>
> You will hear two rhythmic patterns, one right after the other. The second is either the same as the first or different from it. If they are the same, you should blacken the space under the letter S for that item in the section of your answer sheet labeled "Rhythm." If the two patterns are different, mark the space under the letter D. There are only 30 pairs of patterns in this test. You are to decide whether the rhythm in each pair is the same or different. Now listen to a few practice items, but do not make any marks on your paper for these.[1]

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[1]Seashore, Lewis, and Saetveit, op. cit., p. 5.

APPENDIX B

SEASHORE MEASURES OF MUSICAL TALENTS

(1939 REVISION)

SERIES A

For each test, place your answers one below another in column A until that is filled, then down column B, and so on.

PITCH

	A	B	C	D	E
1	H L	H L	H L	H L	H L
2	H L	H L	H L	H L	H L
3	H L	H L	H L	H L	H L
4	H L	H L	H L	H L	H L
5	H L	H L	H L	H L	H L
6	H L	H L	H L	H L	H L
7	H L	H L	H L	H L	H L
8	H L	H L	H L	H L	H L
9	H L	H L	H L	H L	H L
10	H L	H L	H L	H L	H L

RHYTHM

	A	B	C
1	S D	S D	S D
2	S D	S D	S D
3	S D	S D	S D
4	S D	S D	S D
5	S D	S D	S D
6	S D	S D	S D
7	S D	S D	S D
8	S D	S D	S D
9	S D	S D	S D
10	S D	S D	S D

Be sure your marks are heavy and black.
Erase completely any answer you wish to change.

LOUDNESS

	A	B	C	D	E
1	S W	S W	S W	S W	S W
2	S W	S W	S W	S W	S W
3	S W	S W	S W	S W	S W
4	S W	S W	S W	S W	S W
5	S W	S W	S W	S W	S W
6	S W	S W	S W	S W	S W
7	S W	S W	S W	S W	S W
8	S W	S W	S W	S W	S W
9	S W	S W	S W	S W	S W
10	S W	S W	S W	S W	S W

	SCORE	PERCENTILE
PITCH		
LOUDNESS		
RHYTHM		
TIME		
TIMBRE		
TONAL MEMORY		
NORMS USED		

NAME _____ LAST _____ FIRST

PLACE _____ SCHOOL OR COMPANY _____ CITY _____

DATE _____ AGE _____ YEARS _____ MONTHS SEX _____ M OR F

LAST SCHOOL GRADE COMPLETED _____

PERCENTILE	PITCH	LOUDNESS	RHYTHM	TIME	TIMBRE	TONAL MEMORY
99						
95						
90						
80						
75						
70						
60						
50						
40						
30						
25						
20						
10						
5						
1						

The Psychological Corporation, New York

57-109AS

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For each test, place your answers one below another in column A until that is filled, then down column B, and so on.

TIME

	A	B	C	D	E
1	L S	L S	L S	L S	L S
2	L S	L S	L S	L S	L S
3	L S	L S	L S	L S	L S
4	L S	L S	L S	L S	L S
5	L S	L S	L S	L S	L S
6	L S	L S	L S	L S	L S
7	L S	L S	L S	L S	L S
8	L S	L S	L S	L S	L S
9	L S	L S	L S	L S	L S
10	L S	L S	L S	L S	L S

TONAL MEMORY

	A	B	C
1	1 2 3	1 2 3 4	1 2 3 4 5
2	1 2 3	1 2 3 4	1 2 3 4 5
3	1 2 3	1 2 3 4	1 2 3 4 5
4	1 2 3	1 2 3 4	1 2 3 4 5
5	1 2 3	1 2 3 4	1 2 3 4 5
6	1 2 3	1 2 3 4	1 2 3 4 5
7	1 2 3	1 2 3 4	1 2 3 4 5
8	1 2 3	1 2 3 4	1 2 3 4 5
9	1 2 3	1 2 3 4	1 2 3 4 5
10	1 2 3	1 2 3 4	1 2 3 4 5

SCORE		
TIME	TIMBRE	TONAL MEMORY

Be sure your marks are heavy and black.
Erase completely any answer you wish to change.

TIMBRE

	A	B	C	D	E
1	S D	S D	S D	S D	S D
2	S D	S D	S D	S D	S D
3	S D	S D	S D	S D	S D
4	S D	S D	S D	S D	S D
5	S D	S D	S D	S D	S D
6	S D	S D	S D	S D	S D
7	S D	S D	S D	S D	S D
8	S D	S D	S D	S D	S D
9	S D	S D	S D	S D	S D
10	S D	S D	S D	S D	S D

APPENDIX C

Table 4.--Correct raw scores obtained from children with normal speech and those with functional articulatory defects on the rhythm portion of the Seashore Measures of Musical Talents.

Grade Level	Functional Articulatory Defective Speakers		Normal Speakers	
	Subject Number	Raw Score	Subject Number	Raw Score
Fourth Grade	1	28	1	28
	2	27	2	27
	3	26	3	26
	4	25	4	25
	5	25	5	23
	6	22	6	22
	7	22	7	21
	8	22	8	21
	9	21	9	20
	10	19	10	19
Fifth Grade	1	29	1	28
	2	26	2	28
	3	25	3	27
	4	25	4	27
	5	24	5	27
	6	23	6	25
	7	23	7	25
	8	22	8	25
	9	20	9	25
	10	18	10	24
Sixth Grade	1	28	1	29
	2	27	2	28
	3	22	3	27
	4	21	4	27
	5	20	5	26
	6	20	6	25
	7	19	7	25
	8	19	8	23
	9	17	9	22
	10	15	10	19