THE EFFECT OF TWO METHODS OF PROGRAMMING UPON

THE DEVELOPMENT OF THE ORCHESTRA

IN A SECONDARY SCHOOL

APPROVED:

Graduate Committee:

Major Professor
Charles J. Cress

Committee Member
Paul J. Smith

Committee Member
Paul D. Emochs

Dean of the School of Education
Robert Toulour

Dean of the Graduate School
THE EFFECT OF TWO METHODS OF PROGRAMMING UPON
THE DEVELOPMENT OF THE ORCHESTRA
IN A SECONDARY SCHOOL

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

Joan Boney, B. S., M. M.
Denton, Texas
June, 1966
# TABLE OF CONTENTS

**LIST OF TABLES** ....................................................... iv

**Chapter**

I. **INTRODUCTION** ................................................... 1

Foreword
Statement of the Problem
Hypothesis
Definition of Terms
Limitations of the Study
Basic Assumptions
Method

II. **SURVEY OF RELATED LITERATURE** ......................... 18

Musical Perception
Attitudes

III. **METHOD** ....................................................... 48

Subjects
Implementing Devices
Measuring Devices
Procedure

IV. **RESULTS** ....................................................... 64

Findings
Discussion

V. **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS** .... 83

**APPENDIX** ......................................................... 90

**BIBLIOGRAPHY** ..................................................... 109
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Results of the Musical Memory Test For the Control Group and the Experimental Group</td>
<td>65</td>
</tr>
<tr>
<td>II.</td>
<td>Results of the Musical Discrimination Test For the Control Group and the Experimental Group</td>
<td>66</td>
</tr>
<tr>
<td>III.</td>
<td>Results of the Pre-Test and Post-Test Attitude Scores of the Experimental Group</td>
<td>67</td>
</tr>
<tr>
<td>IV.</td>
<td>Results of the Pre-Test and Post-Test Attitude Scores of the Control Group</td>
<td>68</td>
</tr>
<tr>
<td>V.</td>
<td>Attitude Mean Gains of the Control Group and the Experimental Group</td>
<td>69</td>
</tr>
</tbody>
</table>
Among issues of concern to music educators today is the development, expansion, and continuation of secondary school orchestras throughout the United States. Much effort is currently being expended in the public schools to provide instruction in a wide range of musical activities for young people in the hope that they may develop an understanding of, and an appreciation for, various types of music. However, according to the string committee of the Music Educators National Conference (23), secondary school orchestras, in a great many cases, exist on a year-to-year basis depending primarily upon the interest of the student body in orchestra as is evidenced through enrollment figures, the number of sections of orchestra classes per school, and concert attendance figures.

While it is possible that the musical listening experiences provided in the school and the community are sufficient for the training of an appreciation of lighter forms of music, such as those compositions which frequent the band and choir repertoire, there is some doubt that the students are, for the most part, developing an appreciation of the
more complex forms of music which are typical of orchestral performances.

The fact that curriculum workers recognize the need for the development of an increased public appreciation of the arts is exemplified in curriculum bulletins through statements such as the following:

The arts should raise critical standards and widen the area and depth of public appreciation. The commitment to raise critical standards is so important to our national goals that its solution cannot be left to forces outside formal education. There is a need for scholarly research to know more about how judgments of taste and beauty are developed and used in varied experiences. We need to know more about perceptive listening and seeing and how these can be provided for in the curriculum (22, p. 13).

There is general agreement among music educators and professional musicians (7, 10, 12, 15, 16, 24) that an understanding of certain basic musical elements usually precedes an appreciation of classical forms of music. Some of the specific elements listed are (1) the ability to follow a melodic line through a variety of keys and rhythms, (2) the ability to follow the musical form of a composition, and (3) the ability to identify tone qualities of musical instruments.

Upon recognizing that a student body may lack the necessary training leading to an appreciation of the more complex forms of music that are frequently associated with orchestral performances, public school orchestra directors
have sometimes taken one of the following opposing positions concerning programming for public school audiences: (1) music is programmed for the entertainment of the student body audience with little regard for the quality of the music, or (2) music is programmed according to the quality of the music with little regard for the level of music appreciation of the student body audience.

One of the earliest recorded attempts toward finding a solution to this programming problem was made in the 1890's by Walter Damrosch, the conductor of the New York Philharmonic Orchestra (4, p. 210). Damrosch introduced a type of "instructional programming" designed for the purpose of beginning with music characterized by clearness of melodic line and simplicity of musical form and leading toward an understanding of, and an appreciation for, more complex melodic lines and musical forms. This type of programming, referred to in the present study as demonstration programming, was used in the special concerts presented to school age children and was made a regular part of the concert season by the New York Philharmonic Orchestra.

Since its introduction by Damrosch, demonstration programming has frequently been employed by conductors of the professional symphony orchestras as a method of increasing the musical perception and appreciation of audiences composed of young people. However, since these young audiences
are primarily composed of a majority of well-schooled musical listeners, the question concerning the advisability of using the demonstration type of programming, performed by school orchestras, for public school audiences remains to be answered.

If the development of musical perception of student audiences and favorable attitudes toward orchestra as a school activity are two of the major objectives of orchestral programming, the effectiveness of methods of programming in attaining these objectives should be investigated. If it is discovered that one method of programming is more successful than another in formulating musical perception and attitudes in a selected secondary school, knowledge of this method could lead to additional investigations of the effect of this method in other secondary schools, thereby leading to a revision in thinking as to the method and content of orchestral programming for public school orchestras.

Statement of the Problem

The present study was designed for the purpose of comparing the effectiveness of two methods of orchestral programming, demonstration and non-demonstration, upon (1) the musical perception of the members of a student body audience, and (2) the attitudes of the members of a student body toward orchestra as a school subject. This comparison of demonstration and non-demonstration programming involved
the question concerning the effectiveness of instructive listening as compared with free listening in the development of musical perception and attitudes. The problem of the present study is presented in the following major areas: (1) musical perception, and (2) attitudes.

The development of musical perception, according to music educators (7, 15, 16, 24), appears to be related to the student's ability to discriminate between variations of the elements of melody, harmony, and rhythm in musical compositions and to his ability to follow a melodic line through variations of notes, keys, and rhythms.

If the recognition of specific musical elements is of significance in the development of musical perception, students who are trained in the recognition of variations of a musical passage through alteration in the notes of the melody, the key of the passage, or the rhythm should have significantly greater scores on musical perception tests than students exposed to performances of intact music without the benefit of verbal and musical illustrations. If this is the case, the students exposed to demonstration programming should show significantly higher scores on tests of musical perception than would students exposed to non-demonstration programming. Therefore, the present study was designed for the purpose of comparing the effect of demonstration and non-demonstration programming upon the members of an audience.
in their ability to identify changes in the specific musical elements of variations in notes, keys, and rhythms and in their ability to select the more appropriate use of these musical elements in musical examples.

A related question in the area of musical perception concerned the effectiveness of instructional programming, referred to in the present study as demonstration programming, when presented to a large group of students in an audience setting.

 Separate studies have been conducted by Andrews (1) and Pepinsky (19) concerning the development of musical perception among public school students grouped in small classes ranging in size from twenty to thirty students per class. The results of each of these studies led the investigators to conclude, in separate reports, that the development of musical perception is more closely related to musical training than to musical aptitude, socio-economic background, intelligence, scholastic achievement, or personality. These studies, conducted by Andrews (1) and Pepinsky (19), illustrate the position that a student's level of musical perception may be significantly affected by means of special musical training presented during classes composed of a limited number of students. Unfortunately, the sizes of the classes used by Andrews and Pepinsky tend to limit the findings of their respective studies as they relate to the
development of the musical perception of a student body as a group. Therefore, the following related question was developed as a part of the present study: Can musical perception be significantly affected, through the use of instructional programming, when students are instructed in large groups consisting of approximately one hundred students per group?

The second major area of the present study was concerned with the attitudes of members of a student body toward orchestra as a school subject. Remmers (20) defines an attitude as an "emotionalized tendency, organized through experience, to react positively or negatively toward a psychological object."

Programming investigations (3, 6, 9, 21) have provided the basis for the theory that the attitudes of students toward a musical organization may be affected by the presentation of music which is likely to be accepted by the student body audience. The researchers conducting these investigations agreed that a majority of students in the secondary school prefer popular music to classical music. It is recommended by Baumann (3), Erneaton (6), and Rogers (21) that the development of a favorable attitude toward a performing organization and an appreciation of more complex forms of music should have its beginning in the programming of that music which is most acceptable to audiences composed of secondary school students and that programming
should be designed so that the complex forms of music might be introduced along with the lighter types of music.

The second major purpose of the present study was the investigation of the effect of two types of programming, demonstration and non-demonstration, upon the attitudes of the members of student body audiences in a selected secondary school. Concerning attitudes, the major questions which were to be investigated in the present study were as follows:

1. What is the attitudinal effect of the programming of popular and semi-classical music with samples of classical music by means of non-demonstration programming?

2. What is the attitudinal effect of the programming of popular and semi-classical music with samples of classical music by means of demonstration programming?

Hypotheses

The general hypotheses in the present study were (1) demonstration programming will cause a change in the group's level of musical perception and will foster a positive group attitude toward orchestra as a school subject, and (2) non-demonstration programming will foster a positive group attitude toward orchestra as a school subject, but the group's level of musical perception will be significantly lower than the level of musical perception of the demonstration programming group.
The specific hypotheses to be tested were

1. The musical memory scores of the group of students exposed to demonstration programming will be significantly greater, in a positive direction, than the musical memory scores of the group of students exposed to the non-demonstration programming.

2. The musical discrimination scores of the group of students exposed to the demonstration programming will be significantly greater, in a positive direction, than the musical discrimination scores of the group of students exposed to the non-demonstration programming.

3. The post-test attitude scores of the group of students exposed to the demonstration programming will be significantly greater, in a positive direction, than the pre-test attitude scores of the group of students exposed to the demonstration programming.

4. The post-test attitude scores of the group of students exposed to the non-demonstration programming will be significantly greater, in a positive direction, than the pre-test attitude scores of the group of students exposed to the non-demonstration programming.

5. A similar change in attitude will occur for the group of students exposed to demonstration programming and the group of students exposed to non-demonstration programming so that there will be no significant difference in the
change of attitude scores between groups as measured by the mean differences of the pre-test and post-test.

Definition of Terms

1. Programming--This term refers to the selection of music for presentation to an audience and to the arrangement of selections of music according to classifications.

2. Demonstration programming--This term refers to the illustration, by lecture and performance, of the primary aspects of the music or characteristics of the orchestra.

3. Non-demonstration programming--This term refers to the presentation of music in formal concert style with verbal or written program notes of a biographical nature.

4. Musical perception--This term refers to factors which are usually considered to be necessary, but not always sufficient, for the development of an appreciation of music. These factors are operationally defined as (1) the ability to recall melodic passages and to recognize variations in the specific elements of notes, key, and time; and (2) the ability to discriminate between a masterwork and an adaptation of a masterwork in which an alteration has been made in either the melody, the harmony, or the rhythm.

5. Melodic line--This term refers to a musical unit, conventionally four measures in length, although it may be shorter or longer, which is terminated by a cadence.
6. Popular, semi-classical, and classical music--These terms refer to the music classified as "popular," "semi-classical," and "classical" in the lists of recommended orchestra music prepared by the American String Teachers Association (8, 17).

Limitations of the Study

This study was subject to the following limitations:

1. All students used in this study were from one secondary school, the Laboratory School at North Texas State University, with certain characteristics which are not necessarily representative of all other secondary schools.

2. The criterion of musical perception and attitude was restricted to the measuring instruments used and was limited by the validity of those instruments.

Basic Assumptions

The following assumptions were basic to this study:

1. It was assumed, since the students were randomly assigned through the technique of stratified selected sampling to the experimental and control groups, that (1) there would not be a significant difference at the beginning of the experiment in the ability of the experimental and the control groups to retain a melodic line and to discriminate between a masterwork and its adaptation; and (2) differences which might arise during the study between the experimental
and control groups in their ability to retain a melodic line and to discriminate between a masterwork and its adaptation would not be significantly affected by special radio or television programs or by regularly scheduled instruction in the general music class.

2. It was assumed that the master of ceremonies would be capable of communicating favorably with the student body audiences of both groups.

3. It was assumed that the performance level of the orchestra would not be of significance in the study because of the fact that music was selected for the performances according to the performance level of the organization and the type of music set forth in the programming standards recommended by music educators (2, 10, 12, 14).

Method

The following introductory paragraphs provide a summary of the method used in collecting and testing the data for the present study. A detailed account of the method employed is recorded in Chapter III.

The subjects for the present study were the members of the junior high school student body of the North Texas Laboratory School at Denton, Texas. The students were assigned to the experimental and the control groups according to their grade levels and section numbers. A total of six sections of students were assigned to the experimental group and six sections of students to the control group.
Each group heard a series of two orchestra programs of thirty minutes in length, performed by the Laboratory School Orchestra. The programming for both groups was based upon the programming standards recommended by music educators (2, 8, 17, 14, 25). The experimental group was exposed to the demonstration programming and the control group was exposed to the non-demonstration programming. Duplicate musical selections were presented to the groups.

A post-test was given to measure the musical perception of each group. A pre-test and a post-test was given to measure each group's attitude toward orchestra as a school subject. The following tests were used in the present study: (1) The Drake Test of Musical Memory, (2) The Oregon Test of Music Discrimination, and (3) Attitude Test Toward Any School Subject.

The t test for independent samples was used to determine the significance of the mean differences between the control group and the experimental group in hypotheses one, two, and five. The t test for non-independent samples was used to determine the significance of the mean differences between the control group and the experimental group in hypotheses three and four.

Summary

In Chapter I the statement of the problem, the hypotheses, the definition of terms, the limitations of the study,
the basic assumptions, and the method of collecting and
treating the data were presented.

In the chapter which follows, studies will be presented
which are relevant to the present study.
CHAPTER BIBLIOGRAPHY


CHAPTER II

SURVEY OF RELATED LITERATURE

The survey of the literature relevant to the present study is divided into the following sections: (1) musical perception and (2) attitudes.

Since 1955, research concerning musical perception and attitudes has been conducted on an increasing scale. In this same period, there has been an even larger number of articles devoted to some aspect of musical perception and attitudes in which logical arguments are made but in which no actual investigations are reported. The following reviews are representative of both the logical arguments and the investigations concerning levels of musical perception of students at selected grade levels and attitudes of students toward music and performance organizations.

Musical Perception

Musical perception, as related to the present study, refers to factors which are usually considered to be necessary, but not always sufficient, for the development of an appreciation of music. These factors are operationally defined as (1) the ability to recall melodic passages and to recognize variations in the specific elements of notes, key,
and time; and (2) the ability to discriminate between a masterpiece and an adaptation of a masterpiece in which an alteration has been made in either the melody, the harmony, or the rhythm. According to this operational definition of musical perception, the related literature would deal with, for the most part, the discrimination processes in learning.

Robert W. Travers (28) offers the following explanation of the discrimination processes:

Young infants have very little capacity for discriminating one stimulus from another. Slowly, discriminations are learned, and by six months the infant is likely to be able to discriminate between his mother's face and the face of a stranger, between a bottle of milk and other objects similar in shape, color, and size. Later the child learns to discriminate shapes, the sounds of different words, and so forth. Not only does he learn all of these discriminations, but he develops skill in discriminating so that new discriminations are rapidly made. He may become a specialist in making certain kinds of discriminations, as when, for example, he grows up to be a violinist and must make fine discriminations in judging whether a note is correctly played. . . . The learning of discriminations is one of the commonest learning tasks and represents a process which operates in a direction opposite to that of generalization. In discrimination learning, the subject learns to respond only to a narrow range of stimuli and to ignore other related stimuli which lie outside of that range. Pavlov trained dogs to respond by salivating to a given note, say middle C, by providing food following the sound of this note. The dogs then learned not to salivate when other notes were sounded. The latter was done by sounding the note and then not providing food (23, pp. 124-125).

The concept of categorizing behavior has been expanded by Bruner, Goodnow, and Austin in their book entitled A Study of Thinking (5). Bruner et al. suggest that the subject does not perceive and respond to the large number of
objects and events in his environment as if each one were separate and distinct, for he has already categorized them. Objects are categorized in terms of attributes. The process of identifying the attributes that characterize a particular category is referred to as the process of "concept attainment."

According to Trevers (23), the process of concept attainment may proceed along the following lines:

1. Suppose the child is taken for a walk in the park by his mother. On this walk he encounters a number of animals, including dogs, cats, horses, squirrels, and others. These are "exemplars" of the category "dog" and exemplars of the category other than dog. As each exemplar is encountered, the child might make a decision, and, if the decision is that the animal is a dog, then the child might say "dog." The decision of the child in each case would be either endorsed or corrected by his mother.

2. Through the making of such decisions and through the information provided the child by his mother, the child learns to respond to certain attributes rather than to others in deciding whether an animal is or is not a dog. Early in the process of concept attainment he may be reacting mainly to the size of the animal. Small animals are called dogs, while larger animals are called something else. As learning proceeds and decisions are made with many exemplars, the child shows through his decisions that he is responding more and more precisely to the attributes that discriminate the category dog from the category non-dog.

3. The decisions that the child makes as he is faced with a series of exemplars in the attainment of a concept provide information concerning the "strategy" which the child is following. A strategy is defined as an observed regularity in the decision-making process. In attaining his concept of a dog, the child may respond to all animals by saying either "dog" or "not dog," or he may select out certain animals for making these decisions. These two sets of behavior represent different strategies (23, pp. 127-129).
Travers says that some concepts are much more difficult to attain than other concepts. Therefore, concepts may be conveniently classified into the categories of conjunctive, disjunctive, and relational. The following examples are presented for each classification.

1. Conjunctive concepts: In a conjunctive concept all of the attributes must be present at the same time. If one of them is lacking, then the object belongs in a different category. For example, the trombone is identified as being (1) a wind instrument, (2) made of brass, and (3) played by extending the slide. If an instrument is not characterized by all of these properties or attributes, then it is not a trombone. It would appear that conjunctive concepts are some of the simplest concepts to acquire and retain.

2. Disjunctive concepts: In a disjunctive concept there is always an either-or element. For example, in baseball a strike is either a ball which is above the plate and between the batter's knee and shoulder levels or a ball which the batter attempts to hit or does hit. In comparison with conjunctive concepts, disjunctive concepts are difficult to learn.

3. Relational concepts: An example of a relational concept is the use of the phrase "to the south of." The concept involves the relationship of two positions on a map and also the relationship of the positions of these objects
to the orientation of the map itself. Such relational concepts may be very difficult.

According to Hilgard and Marquis (14), the general method required to produce a discrimination involves the extinction of generalized responses by non-reinforcement, while the strength of the response to some particular stimulus is maintained by reinforcement. Two of the more specific procedures used in discrimination studies are the method of successive presentation and the method of simultaneous presentation.

The method of successive presentation of stimuli is Pavlov’s method of contrasts and is used in the study of discrimination in the classical conditioning situation. The reinforced (positive) and non-reinforced (negative) stimuli are presented on randomly alternated trials, but never together. Under this procedure the animal gradually comes to respond on trials with the positive stimulus. Experiments on discrimination of the instrumental conditioning variety, using the method of successive presentation, have been conducted by Elder (6), Wendt (31), Verplank (29), and Antonetti (2). The results of these studies are summarized in the following paragraph:

Elder taught chimpanzees to react to a telegraph key following a ready signal, provided a tone was present. The animals learned to refrain from response after the ready signal when the tone was absent. In Wendt’s study, monkeys learned to open a drawer which contained food following the positive auditory stimulus.
The drawer was locked following the negative (that is, absent) stimulus, and the animals learned to withhold reaction. Antoninetti's experiment, in which rats were used as subjects, was similar in conception. First the animals learned to open a door containing a black card to get out of a starting box and obtain food. Following this initial training, discrimination learning began. The black card continued to be followed by reinforcement, but on randomly alternated trials a white card was substituted and this card was not reinforced. As a result of this training a discrimination gradually developed. The rats responded very quickly to the black door, but they responded slowly or refused to leave the starting box on trials with the white door. Verplank's procedure was similar to Antoninetti's, except that the apparatus was the Graham-Gagné runway and reinforced and non-reinforced trials were alternated according to the regular schedule (28, pp. 362-363).

In the method of simultaneous presentation of stimuli, the reinforced and non-reinforced cues are presented at the same time, and the situation is arranged so that the animal may respond to one of them by approaching it or manipulating it. If the subject responds to the stimulus arbitrarily designated as correct (positive), it is rewarded. Using adaptations of this basic design, several different kinds of apparatus and reactions have been used in studies of discrimination learning. Subjects have been trained to pull a string on the left or right, which will bring food if correct (18), to open one of two possible boxes to secure food (27), to jump through an opening (19), and to push open a door (23).

According to Hilgard and Marquis (14), there are two important differences between the successive and simultaneous
procedures for studying discrimination learning. These differences are reported as follows: (1) Since the two stimuli are presented simultaneously in the method of simultaneous presentation, the relational characteristics of the stimuli may be easier for the subject to notice than when the stimuli are presented separately. (2) In simultaneous discrimination the choice is usually between two reactions rather than between reaction and restraint. These differences are reported as follows:

In the case where the stimuli to be discriminated are presented simultaneously and in situations involving choice reactions, a relational theory of discrimination seems possible. This relational theory, which is closely related to the cognitive view of learning, holds that the development of a discrimination depends upon a comparison of the stimuli to be discriminated, and that the response of the organism is to the relationship between them. The most important empirical predictions to which this theory leads are that (a) simultaneous presentation of stimuli, which favors the act of comparing stimuli, will lead to the more rapid development of a discrimination than the successive presentation of stimuli; and (b) since the discrimination is a response to a relationship transposition, or transfer, the response will occur to pairs of stimuli not involved in the original discrimination but standing in the same relationship to each other (14, p. 374).

In summary, the central conception in relational theory is that the learning of a discrimination involves an active act of comparison, either between stimuli which are physically present or between one stimulus which is present and the memory trace of another.

Discrimination learning would appear to be related to the development of many of the basic musical recognitions
which music educators, cited in the following reviews, frequently refer to as the development of an "appreciation" of music.

Charles Leonard (21) defines music appreciation as follows:

Appreciation is the apprehension and enjoyment of the aesthetic import of music. Appreciation includes the feelingful responsiveness of all the expressive elements of music, such as rhythm, harmony, melody, texture, timbre, tonality, and form. It would appear that some musical understanding is essential to appreciation since an important ingredient of appreciation is the adequate expectation of what is to happen as the music unfolds (21, p. 310).

According to Parks Grant (10), the term "appreciation" actually implies the goal of the course; therefore, he believes that one cannot teach appreciation but can only teach toward appreciation in the hope that the student will attain the goal. He offers the following description of appreciation:

Appreciation is an utterly intangible thing; it may or may not take place, and if it does not, little has been gained. Appreciation is fundamentally an attitude—a state of mind—rather than a fund of knowledge. Knowledge can contribute to and increase appreciation, but it remains quite distinct from it. Appreciation is not susceptible to testing. Related facts can be tested, but not appreciation itself (10, pp. 119-120).

Regardless of a recognition of the vagueness of the term "music appreciation" by many music educators, the term is still widely used to describe many of the factors necessary for musical perception. Therefore, many of the
following reviews will refer to music appreciation with the same operational meaning as the present study's meaning of the term "music perception."

Harry Burton, in a compendium of articles by music educators (3), criticized directors of musical organizations for having discarded educational philosophies as being extraneous and impracticable in the public schools because of the demand for high contest-ratings and frequent public performances.

Often they (music directors) have been so busy teaching the students to perform music that they have never exactly explained why the students should learn music. Even when the objectives have been defined, teaching methods and procedures have failed to point toward the desired results. Performance is no guarantee of appreciation. The teaching of a selection must be directed toward appreciation if appreciation is taught. Understanding of the music will come from the method of teaching rather than as a guaranteed by-product of performance (3, p. 360).

Sterling Wheelwright (32) says that the problem of the musical layman in trying to understand masterworks of music is basically that of ear-training and cultivation of response to total aesthetic patterns.

The major musical works, so long feared by the musical layman, now become as familiar as a road map, if he can be guided along the three-line score of organ music as he hears some really fine recording played on suitable high-fidelity equipment. These devices are merely for "learning-practice listening." The trained ear will come to differentiate the main themes of a symphonic movement, the major structural divisions and cadences, and the solo voices, and to appreciate the mind and methods of the composer as this study continues. The trained listener is one who can recognize in the music "what happens, and when it happens" (32, pp. 125-126).
In the book, *Hearing Music* (3), Theodore Finney attempted to present music to the listener so that he might understand it intelligently. Finney believed that much of the biographical information that can be learned about music and musicians is of no concern to the listener as a part of the technic of his listening. Finney describes the significant factors in listening to music as follows:

Tone-color, rhythm, melody, harmony—these are the composer's resources, the basic materials out of which he makes music. These are, in consequence, the things which those who desire a real appreciation of music must have a "listening" acquaintance (8, p. 9).

Joseph Machlis wrote a guide to perceptive listening, entitled *The Enjoyment of Music: An Introduction to Perceptive Listening* (22) in which he says that it will heighten the listener's perception if he knows something about the elements of which music is composed and the ways that composers go about organizing the tones into patterns and forms.

To understand music is to perceive its underlying unity. The mature music lover has no fear of musical knowledge. He realizes that the true source of the musical experience is not in himself but in the sounds. Consequently, whatever brings him closer to the sounds heightens his musical perceptions and his enjoyment. His information need not be as technical as that of the professional musician, but it demands some knowledge of the rules of the game. In effect, we listen perpectively; and that is the sure road to the enjoyment of music (22, p. 7).

In 1959, Robert Yates Hare (11) conducted a study of the pedagogical principles of music appreciation. The
purpose of his study was to investigate the basic factors of music appreciation and the method whereby music appreciation might be taught at the college level.

The results of Hare’s study offered evidence in agreement with the theory that the development of musical taste and appreciation is related to musical knowledge. The study disclosed the following points which, according to Hare, are of importance in developing a program of study for music appreciation:

1. Awareness and understanding of the attitudes and sentiments of students are vital to effective teaching of music appreciation. Progression should move from the familiar to the unfamiliar.

2. The instructor of music appreciation should be generally educated as well as musically educated, and should be a student of the principles of learning.

In 1969, Minerva Pepinsky (24) conducted a study to investigate the relationship between sixth grade children’s experiences at school with the music of Gluck, Haydn, and Mozart and the children’s liking for (1) selected items, (2) other music of these composers, and (3) music in general.

Pepinsky presented a curricular program of Gluck, Haydn, and Mozart music during daily twenty-minute music periods for one semester to a class of twenty-four sixth grade children at McMurry Laboratory School at Northern Illinois University.

A music attitude test, devised by Pepinsky, was given before and after the experiment to determine the effectiveness
of the curriculum. The findings substantiated her hypothesis that the children's attitudes toward music of Gluck, Haydn, Mozart and toward other music would be more closely related to musical experiences than to musical aptitude, socio-economic background, intelligence, scholastic achievement, and personality.

Dorothy Andrews (1) conducted a comparative study of two methods of developing musical listening ability in elementary school children.

The Andrews study was designed to determine the existence of any difference in development in both achievement and attitude resulting from different methods of presenting listening materials. The subjects were two fifth grade classes in the Lincoln Elementary School at Chisholm, Minnesota.

The results of the data obtained in the Andrews study supported the belief that the ability to appreciate music is educable and that it is an outgrowth of experience.

Attitudes

Normers, Gage, and Rummel (25) say that attitudes may be informally defined as feelings for or against something. The phrase "for or against" expresses the directionality of attitudes. The word "something" signifies that attitudes are not merely mental images or verbalized ideas but that they take on meaning only when considered in relation to some specific or generalized object, situation, or stimulus.
Remmers says that a further characteristic of attitudes is that they often have so great an effect on behavior that the attitude enables the prediction of other behavior. Another characteristic mentioned concerning attitudes is the fact that attitudes are learned. These authors offer the following summary concerning the definition of the term attitudes:

An attitude may be defined as an emotionalized tendency, organized through experience, to react positively or negatively toward a psychological object. Interests, as observed, are presumable the reflection of attractions and aversions in behavior, or feelings of pleasantness and unpleasantness, likes and dislikes. A distinction may be made between attitudes and interests in that interests merely indicate the degree to which an individual prefers to hold an object before his consciousness whether he reacts approvingly or disapprovingly toward it, whereas attitudes indicate his reaction in terms of its direction, pleasantness or unpleasantness, agreement or disagreement (28, pp. 287-288).

According to Robert M. W. Travers (28), attitudes are related to approach and avoidance tendencies which become more numerous as age advances. Some of these tendencies are referred to as "attitudes" while others are called "interests." Travers suggests that a distinction commonly made between attitudes and interests is that "interests refer to matters of preference for activities, while attitudes refer to a positive approach or negative avoidance of ideas and objects (28, pp. 371-372)." Travers goes on to say that both interest and attitude involve the concept of rejection or acceptance, and both involve some kind of affective, or
feelingful, response to the object involved. Attitudes are classified by Travers as follows:

Attitudes are not directly observable phenomena, but are constructs introduced to account for behavior as it is observed. From behavior an attitude is inferred which accounts for the consistent trend in behavior. The attitude thus inferred represents an intervening variable which operates on behavior. Attitudes represent learned characteristics of the human organism. The laws which describe the conditions under which they are learned are presumed to be similar to the laws involved in the learning of other characteristics. Reinforcement, imitation, and other processes are considered to represent the processes involved in the learning of attitudes (28, pp. 373-274).

Katz and Stotland (17) have recently attempted to define the major components involved in the formulation of attitudes. These writers rejected the idea that attitudes are merely approach or withdrawal tendencies, and suggested that attitudes include to some degree each one of the following components:

1. Affective components. These consist mainly of positive or negative affects or feelings. Attitudes may differ in the extent to which they involve affective components. Some attitudes are extremely irrational and involve little except this affective component. It would appear that these affective attitudes are easily learned and that most persons are characterized by many attitudes that are primarily of this character.

2. Cognitive components. It is believed that attitudes differ in the extent to which they involve a body of
knowledge. Some attitudes are said to be highly intellectualized. For example, a person may take a position on an issue because the evidence at hand would indicate that this position is the most acceptable of the choices. The affective component may be of little consequence in this choice. On the other hand, it is possible for his attitudes to be intellectual while having a strong affective component, for the cognitive component and the affective component may interact although they are still classified as independent components. The term "cognitive" implies knowing and is used to refer to the component of an attitude that is based on knowledge.

3. Action components. It is possible that an expressed attitude may bear little relation to the subject's behavior; thus the action component may be independent of the affective and cognitive components. The action system of an attitude may have little support from the cognitive component, and yet the action may take place. This also may work in the opposite direction—the affective component may be strong without producing any action on the part of the subject. It is stated that the manner whereby relationships are established between the cognitive components of attitudes and action systems is not presently known.

Several studies (12, 13, 16, 30) have been designed for the purpose of investigating the effect of communication upon attitudes of individuals and groups. These studies have
demonstrated that it is possible to change a subject's attitude by providing information with respect to the issues involved. The usual procedure taken in designing studies of this type is to measure the attitudes of the subjects in a pre-test, to administer the treatment, and to measure the attitudes of the subjects in a post-test. The general trend of the results of these studies is that a communication is most effective in changing attitudes when it represents a position not too different from that of the recipient. A summary of the results of studies conducted by Weiss (30), Novland, Harvey, and Sherif (16), Nelson, Blake, Mouton, and Olmstead (13), and Harvey and Rutherford (12) is provided in the following paragraphs.

Weiss (30) concluded that the labeling of a communication by the recipient as extreme may inhibit the change in attitude that otherwise might appear. In a study similar to that of the Weiss study, Novland, Harvey, and Sherif (16) concluded that attitudes change most in those subjects who begin with a position relatively close to that of the communication.

According to Nelson, Blake, Mouton, and Olmstead (13), the subject's attitude toward a communication may be significantly affected by the presence of an extreme amount of social pressure. Nelson et al. conducted a study in which social pressure was exerted on the individual by a group.
The conclusion was that the degree of shift from a private opinion was a function of the discrepancy between the opinion held by the listener and the opinion expressed by the group. The greater the discrepancy, the greater was the shift in the individual's attitude. The results of the Nelson et al. experiment was accounted for by the researchers by suggesting that attitudes are not generally firmly anchored phenomena, and hence the immediate social situation provides anchorage.

In providing communications designed to change attitudes an important related problem is the question of whether the communications designed to change attitudes should begin by taking a position close to that of the person whose attitude is to be changed and then gradually move away from that position in the direction of the change to be made or whether the initial position of the communication should diverge greatly from that to be changed. Harvey and Rutherford (12) conducted a study pertaining to this question. Their results generally do not favor the approach to attitude change whereby the communicator begins with a position similar to that of the persons whose attitude is to be changed and then gradually shifts. Within the limits of their experiment, the recommended approach is that the communicator take a position divergent from that of the person whose attitude was to be changed for both weak and strong
positions of attitude. However, in a review of this experiment, Travera (28) cautions against over-generalization from the Harvey and Rutherford experiment because of its special nature, which Travera describes as follows:

The very special nature of the experimental situation (of the Harvey and Rutherford study) limits the generalizations that can be made from it. . . . Since their research represents an indirect attack upon the problem, some explanation is necessary of their procedure. Their basic technique involved what is known as the autokinetic effect. The phenomenon is illustrated by the projection of a small spot of light onto the wall of a darkened room. When this spot of light is observed, it may appear to move, and different observers will report different amounts of movement. The amount of movement reported is altered by suggestion and by group pressures. A person in a group of persons who state that they see the light move one to two feet is likely to report a similar movement, and if the group reports a movement of only a few inches, then the observer is likely to report a movement of only a few inches. By repeated exposure to such a situation, a person may develop a strong concept of how much movement takes place. Fewer exposures will produce a weaker concept. . . . The experiment needs to be repeated in different contexts. At this time the results can be considered only suggestive (28, pp. 385-386).

Merton Zahrt, in a compendium of articles by music educators (33), reminds the music director that the attitudes of the students toward musical selections must be considered to have a relationship with the attitudes of the students toward the performing organization. Zahrt recommends the use of the following general principles in selecting music for public school performing organization for the purpose of public presentation to a student body audience:
1. Know your students and community. Only through an understanding of their needs is it possible to select suitable materials.

2. Begin at the level which the student can understand and is willing to accept. At first, select music that will insure successful participation and accomplishment to develop the confidence of the student. Example: spirituals for vocal groups; lively marches for instrumental groups.

3. Apply the knowledge the student has already acquired to a new composition with similar elements. Keep in mind that growth cannot be forced.

4. A wide variety of forms, styles, and musical media should be presented to each musical organization or class each term. When possible, comparisons of two or more similar items should be encouraged, to aid in the development of musical discrimination.

5. No matter what the form or style, the best possible musical examples that are within the performing and/or appreciative capabilities of the group at hand should be chosen. Only music within the technical competence of the performers should be used (35, pp. 356-359).

In addition to the consideration of the attitudes of the students toward specific musical selections, Leader and Haynie (20, pp. 184-213) state that the musical director will need to consider, in program building, the sequence of selections to be used on a program. These authors say that the sequence and order of "heavy" and "light" music may be arranged in several different ways which may be represented by the following symbols:

1. ———— This type of program begins with light music and moves toward the heavy music in the middle of the program. The heavy music is followed by a gradual return to lighter music.

2. ———— This type of program places the heavy music at the beginning and the end of the program with the light music in the middle.
3. This type of program begins with light music and works progressively toward a climax of heavy music.

4. This type of program begins with heavy music and works progressively toward light music.

5. This type of program interlaces light and heavy music.

Laeder and Haynie recommend that either the fourth or the first type of programming be used, in a majority of cases, for public school organizations in order to avoid the physical strain that could result if all heavy music was scheduled toward the end of the program.

In 1961, Maurice Gerow (9) conducted a study at Michigan State University for the purpose of investigating the relationship between the criteria used for choral concert program building and an analysis of the elements found in choral music. The study proceeded to gather information relating to two questions: One, what criteria guide the conductor in building a concert? Two, what are the reasons for varying degrees of structural monotony in the music programmed?

In the Gerow study, nine Southern California colleges and universities possessing relatively similar characteristics furnished the source of data. Information was gathered by personal interviews from the choral conductors in each of the colleges studied.
Gerow analyzed each situation in terms of those external or internal factors which might influence the conductor's choice and arrangement of selections. Information was obtained relative to the purpose of the organization and its subsequent home concerts, the experiences and influences which contributed most to the procedures of building choral programs, and those factors which seriously limit the conductor from freely selecting and programming music.

Gerow reached the following conclusions concerning the factors affecting program building:

1. The purpose which was revealed as of highest importance was the value of the choral organization as an educational experience for the participants. Other purposes in order of their importance were an educational experience for the college audience, and the fact that the college places a high degree of importance on the choral activities and their contributions toward the cultural life of the community.

2. Those experiences and influences which contributed most to the procedures used by the conductors in building programs consisted of experience in program building, research in libraries, and attendance at other college concerts.

3. In selecting individual compositions for use, four general criteria were held to be highly important. These consisted of the over-all worth of the music, the literary worth and suitability of the text, the inclusion of selections of a light or humorous nature, and the matter of the over-all probable appeal of the music for the performers and audience.

4. In combining individual compositions in order to form groups, those specific criteria held to be important were the following structural elements: tempo, mood, dynamics, quality of sacred or secular, rhythm, harmony, and meter.

The results of the study, according to Gerow, showed that (1) the majority of conductors do not give sufficient
attention to the details of music structural elements or are not aware of their importance for attaining a high degree of variety and contrast in music interest, and (2) other things being equal, it is reasonable to expect that a concert containing a high amount of variety and contrast in the musical elements studied will have a high degree of musical interest.

There appears to be a general agreement among music educators (3, 9, 16, 20, 33) that programming can have a significant effect upon the attitudes of members of an audience and that educational programming should begin at the music appreciation level of the student body audience and should progress through a variety of musical forms and media with emphasis placed not only upon the selection of music but also upon the grouping of music for specific audiences. These theories have provided the bases for several correlational studies concerning the musical preferences of students and the factors related to musical preference. The factors analyzed in the musical preference studies include: (1) age and grade level, (2) sex, (3) musical experience, (4) mental ability, and (5) socio-economic level.

A study designed for the purpose of investigating the musical preferences of students at selected grade levels and the factors related to these musical preferences was conducted by Vincent Robert Rogers (26).
In order to test the musical preferences of students, Rogers constructed a fifty-seven item paired-comparison test. Items on the test consisted of two excerpts of forty-five seconds each from various recordings. The music used in this test was categorized as follows: (1) serious classical music, (2) popular classical music, (3) dinner music, and (4) popular music. The child was told to listen to the two excerpts and to decide which of the two he liked better.

Rogers' test was administered to 635 fourth, seventh, ninth, and twelfth grade students from six different school systems in New York state. Approximately twenty-five to thirty children were randomly selected at each grade level within each system. The test was administered in three sessions of one and one-half hours each.

Rogers reached the following conclusions based upon the statistical significance of the test results:

1. There is an overwhelming and increasing preference for popular music at all grade levels, and with all groups regardless of type of school, sex, or socio-economic status.

2. With increased age, children exhibit a tendency to conform more and more to a single pattern of musical preferences.

3. Physical maturity is a factor, though indirectly, in determining one's musical preferences. The earlier sexual maturation of girls apparently influences their musical preferences simply because the popular music (which the seventh and ninth grade girls prefer to a much greater degree than do the boys) heard by these girls has taken on a new social meaning.

4. While socio-economic status is not a strong enough factor to break the basic pattern of preferences displayed by all children on this test; i.e., an increasing preference for popular music with increasing
age, it is apparently strong enough to cause differences in preferences, as evidenced by the consistently larger number of choices made in favor of classical music by the upper class group.

In 1958, V. H. Baumann (4) conducted a study similar to the Rogers study. Baumann investigated the factors related to the musical preferences of California teen-agers. The following conclusions were reached by Baumann concerning the musical preferences of teen-agers in his study:

Popular music is the kind of music teen-agers like. Rock 'n' roll, which was the current fad, was significantly more popular with younger teen-agers than with older ones.

Young people presumably learn their musical preferences where they enjoy hearing their favorite kinds of music. Radio was the favorite means of hearing music, with phonograph next and television well behind them. Music classes and assemblies ranked extremely low.

Whatever the causes, popular music selections proved to be most acceptable to all teen-agers: younger and older, rich or poor, male or female.

Assuming that preference indicated a storehouse of musical knowledge with which the high school student is familiar, all current educational programming should begin with this teen-age interest. If teachers are to take students where they are and guide them to more mature and satisfying experiences, this is where the music teacher will find the majority of a high school body. Jazz and current song hits can furnish meaningful illustrative material and the best of it can be worthy of performance. The ability to perform it should help the teacher approach music from the teen-ager's standpoint.

The relationship of musical experience and mental ability in the formulation of musical taste was investigated in a study conducted by Nicholas Erneston (7). It was the purpose of this study to determine whether or not musical
experience and mental ability affected acquired musical
taste.

Erneston operationally defined musical taste as a com-
bination of attitude toward music, musical preferences, and
ability to discriminate musically. Separate tests were uti-
lized to measure these qualities, the results of which were
correlated with types and amounts of musical experience and
with scores of mental ability tests. The entire freshman
class of 780 students at Appalachian State Teachers College
at Boone, North Carolina, comprised the test group.

It was found, in Erneston's study, that although sig-
nificant differences were evident between experienced groups
on attitude toward music and music discrimination, no sig-
nificant differences existed between groups in musical pref-
ference. An analysis of variance revealed that highly
significant differences (beyond the .01 level of confidence)
existed between taste scores of students who had not experi-
enced any musical activities whatsoever and those of stu-
dents who had been active in music, regardless of the type
of musical activity or the amount. These findings suggested
that musical experience is essential to the formulation of
musical taste. No evidence was discovered linking any par-
ticular type of musical experience with a higher level of
acquired taste.

According to Erneston, one of the most significant of
the findings in his study is that mental ability does not
appear to be a factor in taste development among inexperienced persons, but is a highly significant factor among experienced persons.

Summary

Musical perception is related to discrimination learning in that the development of musical perception involved a response to a narrow range of stimuli and a non-response to other related stimuli which lie outside of a specified range. The concept of categorizing behavior has been expanded by Bruner, Goodnow, and Austin (5). The process of identifying the attributes that characterize a particular category is referred to as the process of concept attainment. Some concepts are more difficult to attain than other concepts. Travers (28) classified concepts into the following categories: conjunctive concepts, disjunctive concepts, and relational concepts.

Music educators (3, 8, 10, 21, 22, 32) agree that the acquisition of an appreciation of music and musical forms may be attributed, in part, to the musical perception of the individual. It is generally agreed that appreciation includes the feelingful responsiveness to all the expressive elements of music, such as rhythm, harmony, melody, texture, timbre, tonality, and form. Although these authors recognize the probability that musical perception cannot guarantee musical appreciation, it is believed that some musical
understanding of the basic elements of music is essential to an appreciation of music.

Attitudes are informally defined by Remmers, Gage, and Rummel (25) as feelings "for or against something." Attitudes take on meaning only when considered in relation to some specific or generalized object, situation, or stimulus. One important characteristic of attitudes is that attitudes are learned by the subject. Travers (28) says that attitudes are related to approach and avoidance tendencies which become more numerous as age advances. Katz and Stotland (17) suggest that attitudes include, to some degree, each of the following components: affective components, cognitive components, and action components. These components may work together in the construction of the subject's attitude, or they may be independent of one another.

Zahrt (33) suggested that the attitudes of students are of importance in selecting music for performing organizations and set forth a group of general principles for the selection of music for public school programs.

Separate studies (4, 3, 24, 26) concerning the musical preferences of students at various age levels agreed that the major factor determining preferences is the musical experience of the students. Each of the studies concluded that a majority of teen-agers prefer popular music to classical music.
CHAPTER BIBLIOGRAPHY


CHAPTER III

METHOD

In this chapter a method of investigation is presented for the purpose of comparing the effectiveness of demonstration programming and non-demonstration programming upon musical perception and attitudes of the members of a student body audience.

Descriptions are provided of the subjects, the implementing devices, the measuring devices, and the procedure.

Subjects

The subjects for the present study were the members of the junior high school student body of the North Texas Laboratory School at Denton, Texas. A total of 232 students were assigned to the experimental and the control group according to their grade levels and section numbers.

At the Laboratory School, students in the seventh grade were assigned to sections according to their scores obtained on the Stanford Achievement Test. Students in the eighth and ninth grades were assigned to sections according to their scores obtained on the California Test of Scholastic Progress. The seventh grade scores ranged from 3.2 through 11.0 with a median of 7.4 and a mean of 7.3. The eighth
grade had a range of 36-73 with a median of 53 and a mean of 53. The ninth grade had a range of 37-73 with a median of 56 and a mean of 55.7.

Each grade, at the Laboratory School, contained four sections of students, two sections of which were composed of students scoring in the upper half on the test and two sections composed of students scoring in the lower half on the test. The upper sections and the lower sections for each grade were assigned to the experimental and the control groups so that each group had a total of three sections of upper scores and three sections of lower scores. A total of six sections were assigned to the experimental group and six sections to the control group.

At the beginning of the study, there were one hundred nineteen students in the experimental group and one hundred thirteen students in the control group. Fourteen students from the experimental group and fifteen students from the control group were absent when one or more of the concerts were presented; therefore it was necessary to eliminate them from the experiment. The test results used in the final analysis included the following number of students: one hundred five students in the experimental group, and ninety-eight students in the control group. From the total group of students, one hundred two students were boys, one hundred one students were girls, seventy-seven students were seventh
graders, sixty-six students were eighth graders, and sixty students were ninth graders.

Implementing Devices

The following devices were used in the study: (1) the orchestra, (2) a master of ceremonies, and (3) scripts for each musical presentation.

The Orchestra

The orchestra consisted of a total of twenty-seven students with the following instrumentation: eight violins, two violas, three cellos, two string basses, two flutes, two clarinets, two French horns, two trumpets, two trombones, one tuba, and one percussion.

The string students participating in the orchestra were members of the seventh, eighth, and ninth grade string orchestra of the Laboratory School. The average number of years of group instruction per student was two years and seven months. Three of the string students were studying privately at the time of the experiment. The string students met orchestra class five days each week for a period of fifty-five minutes during the regularly scheduled school year. The wind students, who accompanied the string players on the selections arranged for full orchestra, were from the North Texas School of Music.
Master of Ceremonies

The master of ceremonies for the concerts presented to both the experimental group and the control group was a junior music major and orchestral student assistant from the North Texas School of Music.

His training in voice production consisted of the regular program of vocal study prescribed by the School of Music at North Texas State University for the degree of Bachelor of Music with a Concentration in Instrumental Music.

The master of ceremonies' communication with both audiences was restricted to the scripts (pages 91-103) which were prepared for each of the concerts.

Scripts

A total of four scripts, two demonstration programming scripts and two non-demonstration programming scripts, were written for the present experiment and were used by the master of ceremonies. The programming used in each of the four scripts was based largely upon the programming guide recommended by Merton Zahrt (5). Zahrt's recommendations may be seen by referring to pages 35-36 in Chapter II.

The sequence of heavy and light music was arranged so that each program would begin with light music, move toward heavy music in the middle of the program, and return to light music for the program's conclusion. This order of music is described by Leader and Haynie (4) as Type 1
programming. The classifications of types of programming, according to Leeder and Haynie, may be seen by referring to pages 36-37 in Chapter II.

Since the type and sequence of programming are believed to have a significant effect upon the attitudes of students toward the performing organization, these elements were controlled so that each of the scripts would contain identical elements.

The main difference in the scripts was in the description of the musical selections. Each of the selections in the non-demonstration programming scripts (see Appendix, pages 91-94) were described in non-musical terms. That is, the announcements were of a biographical type.

The demonstration programming scripts (see Appendix, pages 95-103) were designed for the purpose of illustrating the musical elements involved in a composition. In demonstration programming, script one, (pages 95-99), illustrations were provided showing the use of the following musical elements: (1) melody, (2) harmony, (3) rhythm, and (4) form. In demonstration programming, script two (pages 99-103), illustrations were provided showing the techniques used by the composer in arranging for a variety in the sound of a single theme of a composition. Illustrations were presented showing discrimination in the variation of the musical elements of notes, key, and time within a single theme.
Each of the scripts for the demonstration programs made references to charts (page 104) which were used to illustrate the musical elements of the compositions. The students in the demonstration programming group were given printed programs containing blank spaces in which they were to provide answers according to the directions given by the master of ceremonies. The programs used by the students may be seen by referring to page 90 of the Appendix.

Measuring Devices

The following tests were used for the purpose of comparing the effect of demonstration programming and non-demonstration programming upon the musical perception and the attitudes of the members of the experimental and the control groups: (1) The Drake Test of Musical Memory, (2) The Oregon Test of Musical Discrimination, and (3) Attitude Scale Toward Any School Subject. The following descriptions are provided concerning the purpose of each of the measuring devices and their use in the present study.

(1) The Drake Test of Musical Memory (DTMM)--This test was used in the present study for the purpose of measuring the ability of the pupil to retain a melodic line when listening to music. It was administered as a post-test to the experimental and control groups to determine the presence or absence of a significant difference between the experimental and control groups in their ability to retain a melodic line.
The DTMM measures the student’s ability to remember two-bar melodies. In the test, the subjects hear a two-bar melody which they must recall for comparison with other melodies. If the new melody is the same as the first one, they put $S$ in the appropriate answer box; the same melody in the new key is indicated by $K$; a change in time by $T$; and a change of notes by $N$.

The split-half reliability scores for music students were .93 and for non-music students .85. The test was validated against estimated musicality and musical examination, and received coefficients of .49 to .67. For the purpose of validation, an external criterion of "talent" was used and defined in terms of expression in playing and rapidity in learning music.

The DTMM has been reviewed in Buros' Fifth Mental Measurements Yearbook (2, pp. 379-380) by Robert W. Lundin, Associate Professor of Psychology, Hamilton College, Clinton, New York, and by James Mainwaring, formerly Lecturer in Psychology and Music, Dudley Training College, Birmingham, England.

According to Lundin (2, p. 379), the Drake test is superior to other currently available tests "such as the Seashore Measures of Musical Talent and the Kwalwasser-Dykema Music Tests."

Ample practice exercises are provided before the tests proper are taken. The number of each test item
is announced on the phonograph record to prevent the subject from losing his place. . . . A wide range of difficulty is presented, and the harder items will prove a challenge for the most musically sophisticated individuals. . . . In general, it would seem that these tests are a valuable and much needed addition to the field of musical aptitude measurement. On the basis of evidence so far reported, they are superior to others previously available (2, pp. 379-380).

Mainwaring (2) says that the conciseness of the Drake test, its ease of administration, and its evolution from Drake's long experience in the field of testing makes the test both practical and authoritative, and in his opinion, reliability scores are sufficient grounds for the placement of the test high among existing group tests in music.

Edwin Gordon (3) conducted an experimental study to determine the effects of training and practice on the Drake Musical Aptitude Test scores. As a part of this study, Gordon investigated the effect of training and mental ability upon the student's performance on the Drake Musical Memory Test. After the administration and scoring of the pre-test, five of the high scoring students and five of the low scoring students were selected at random to serve as the experimental group and to receive training. The remaining ten students comprised the control group and received no training. The training period consisted of twenty lessons, each one-half hour. The lessons extended over a period of one month. At the end of the month, both groups were retested on the Musical Memory Test. Data for the two groups were also treated independently to test the significance of the gain from
pre-test to post-test. The experimental group and the initially high scoring students made the greater gains after training and practice. The experimental group made statistically significant gains on the Musical Memory Test at the five percept level of confidence.

(2) The Oregon Test of Music Discrimination (OTMD)—This test was used in the present study for the purpose of measuring musical discrimination. It was administered as a post-test to the experimental and control groups to determine the presence or absence of a significant difference between the groups in their ability to discriminate between a masterwork and its adaptation.

The OTMD consists of short excerpts from musical compositions. The test is so designed that the student is required to make a musical preference judgment as well as a musical discrimination judgment. Following the presentation of two musical examples, the student must decide whether or not a difference exists between the examples, and if so the source of the difference and which of the two examples is the more appropriate.

The original Oregon Music Discrimination Test was published in 1934 by Kate Hevner and J. L. Landsbury. The 1934 test was withdrawn from the market when RCA Victor abandoned 78 rpm records for long-playing discs. The revised test had not been published at the time of the present study although the statistical data had been compiled by the authors, Kate
Hevner and Newell H. Long. The test was used by special permission of the authors. The musical examples were reproduced by means of a tape recording.

(3) **Attitude Scale Toward Any School Subject** (Remmers)—This test was used in the present study for the purpose of measuring the attitudes of the members of the student body concerning the orchestra as a school subject. It was administered as a pre-test and a post-test to the experimental and control groups to determine the presence or absence of a significant difference between the groups in their attitudes toward the school orchestra.

The coefficients of reliability (Form A versus Form B) range from .71 to .82. The scale was validated against Thurstone attitude scales and was checked for its validity in differentiating among attitudes known to differ among various groups in their liking for school subjects.

The attitude scale has been reviewed in Buros' *Fourth Mental Measurements Yearbook* (1) by Donald T. Campbell, Assistant Professor of Psychology, University of Chicago, and Kenneth L. Clark, Associate Professor of Psychology, University of Minnesota.

Campbell (1, p. 91) says:

> There is one type of problem for which generalized scales are essential; this is the sociological problem of the relative reputational standing of social objects. In the Remmers series, this use is illustrated in the studies of attitudes toward school subjects.
Clark (1, pp. 91-92) describes the attitude scale as being a special type of Thurstone scale, designed to reduce the amount of labor ordinarily required to develop the scale. Clark says that "The assumption is made, and demonstrated to be reasonable, that a single set of items may be scaled by Thurstone methods and then used in the measurement of attitudes toward an entire class of objects."

Procedure

The following topics provide an explanation of the procedures used in the present study: (1) initial arrangements, and (2) treatment of groups.

Initial Arrangements

The initial arrangements included (1) a pre-test of the students' attitudes toward orchestra as a school subject, and (2) a period of vocabulary orientation of musical terms.

The Attitude Scale Toward Any School Subject was administered as a pre-test to the experimental and control groups prior to the treatment of groups. This pre-test was given on September 16, 1965, during home-room periods at the Laboratory School. A description of the Attitude Scale Toward Any School Subject was presented on pages 57-58 of the present chapter.

A vocabulary orientation of musical terms was presented, at Recital Hall at the School of Music at North Texas State
University, to both the experimental and the control groups during a special assembly. The vocabulary of musical terms was illustrated by means of a tape recording which was presented to the groups for the purpose of showing the use of the terms "melody," "harmony," and "rhythm" in connection with the musical sounds. The interplay between the elements of melody, harmony, and rhythm was illustrated by means of original musical examples showing the tonal effect achieved by holding two of the variables constant while changing the third variable. The tape recording consisted of fifteen musical examples showing variations of melody, harmony, and rhythm.

Treatment of Groups

During a period of eight weeks, the experimental and control groups heard two separate assembly concerts of thirty minutes in length, performed by the Laboratory School Orchestra. The programming for both groups was based upon the programming standards recommended by music educators (4, 5). The following identical musical selections were performed for the subjects in each group:

1. Concert One: The Syncopated Clock, by Leroy Anderson, Concerto Grosso, by Margaret Parish, and Snow White Fantasy, by Frank Churchill, were performed on October 14, 1965, in the auditorium of the Laboratory School. Two performances were presented. Performance number one was presented
from 9:00 to 9:30 a.m. to the subjects in the control group. Performance number two was presented from 9:30 to 10:00 a.m. to the subjects in the experimental group.

2. **Concert Two:** *Song of Jupiter* by G. F. Handel, *Variations on a French Folk Tune* by J. Holesousky, and *Highlights From My Fair Lady* by Lerner and Hurfurth were performed on November 4, 1965, in the auditorium of the Laboratory School. Two performances were given. Performance number one was presented from 10:00 to 10:30 a.m. to the subjects in the control group. Performance number two was presented from 10:30 to 11:30 a.m. to the subjects in the experimental group.

The concerts differed in the method of programming used. The experimental group heard the demonstration programming and the control group the non-demonstration programming.

The demonstration programming consisted of verbal and musical illustrations of the following elements: (1) melodic, harmonic, and rhythmic interests of musical compositions; (2) variations in the melody through the manipulation of notes, time, and key; and (3) methods of following a melodic line. The scripts for the demonstration concerts may be seen on pages 95-103 of the appendix.

The non-demonstration programming consisted of the presentation of the musical selections in formal concert style with verbal program notes of a biographical nature. The scripts for the non-demonstration concerts may be seen on pages 91-94 of the appendix.
During the week following the treatment of the experimental and the control groups, post-tests were given to determine the effect of the two methods of programming upon musical perception and attitude. The musical compositions used in the concerts were not duplicated in the musical perception and discrimination tests. The post-tests administered in the present study were (1) The Drake Test of Musical Memory, (2) The Oregon Test for Musical Discrimination, and (3) Attitude Scale Toward Any School Subject.

Summary

In Chapter III a description was provided of the subjects, apparatus, measuring devices, and procedure used in conducting the present study.

The subjects for the present study were the members of the junior high school student body of the North Texas Laboratory School at Denton, Texas. Students were assigned to the experimental and the control groups according to their grade levels and section numbers. A total of six sections of students to the control group.

The implementing device used in the study consisted of an orchestra, a master of ceremonies, and scripts for each musical presentation.

The following tests were used for the purpose of comparing the effect of demonstration programming and non-demonstration programming upon the musical perception and the
attitudes of the members of the experimental and the control groups: (1) The Drake Test of Musical Memory, (2) The Oregon Test of Musical Discrimination, and (3) Attitude Scale Toward Any School Subject.

Prior to the treatment of the experimental and the control groups, a vocabulary orientation was presented to both groups. The orientation period was presented to the groups for the purpose of illustrating the use of the words "melody," "harmony," and "rhythm" in connection with the musical sounds. The musical examples were presented by means of a tape recording.

The following procedures were used in administering the experimental treatment and the control treatment. Each group heard two programs of thirty minutes in length performed by the Laboratory School Orchestra. The experimental group was exposed to the demonstration programming and the control group to the non-demonstration programming. Duplicate musical selections were presented to the groups.

Post-tests were given to measure the students' levels of musical perception. The musical examples on the musical perception post-tests consisted of different music from that music performed on the concerts. A pre-test and post-test were given to measure the students' attitudes toward the orchestra as a school subject.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

RESULTS

The results of the present study are reported in the following sections: (1) findings, and (2) discussion.

Findings

The findings of the present study are presented in the areas of musical perception and attitude. The t test for independent samples was used to determine the significance of the mean differences between the control group and the experimental group in hypotheses one, two, and five. The t test for non-independent samples was used to determine the significance of the mean differences between the control group and the experimental group in hypotheses three and four. For all statistical tests, the .05 level of significance was adopted as the level of confidence. An analysis of the data relevant to the present study yielded the following results.

Hypothesis One

Hypothesis one was stated as follows: The musical memory scores of the students exposed to demonstration programming will be significantly greater, in a positive
direction, than the musical memory scores of the students exposed to the non-demonstration programming.

The post-test scores of the control group and the experimental group, as measured by the Drake Test of Musical Memory, are presented in Table I.

The mean musical memory score for the control group was 25.59. The mean musical memory score for the experimental group was 27.16. The difference between the means for the control group and the experimental group was 1.57. This difference yielded a t value of 1.30. Since this difference

### TABLE I

RESULTS OF THE MUSICAL MEMORY TEST FOR THE CONTROL GROUP AND THE EXPERIMENTAL GROUP

<table>
<thead>
<tr>
<th>Item</th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in the Group</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>Range of Scores</td>
<td>9-45</td>
<td>10-47</td>
</tr>
<tr>
<td>Median Score</td>
<td>24.31</td>
<td>27.60</td>
</tr>
<tr>
<td>Mean Score</td>
<td>25.59</td>
<td>27.16</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.18</td>
<td>3.36</td>
</tr>
<tr>
<td>Difference in Means</td>
<td></td>
<td>1.57</td>
</tr>
<tr>
<td>t Value</td>
<td></td>
<td>1.30</td>
</tr>
</tbody>
</table>

between the means of the groups failed to reach the .05 level of significance, hypothesis one was refuted.
Hypothesis Two

Hypothesis two was stated as follows: The musical discrimination scores of the students exposed to demonstration programming will be significantly greater, in a positive direction, than the musical discrimination scores of the students exposed to the non-demonstration programming.

The post-test scores of the control group and the experimental group, as measured by the Oregon Test for Musical Discrimination, are presented in Table II.

The mean musical discrimination score for the control group was 26.64. The mean musical discrimination score for the experimental group was 29.16. The difference between the means for the control group and the experimental group was 2.52. This difference between the means yielded a t

<table>
<thead>
<tr>
<th>TABLE II</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESULTS OF THE MUSICAL DISCRIMINATION TEST FOR THE CONTROL GROUP AND THE EXPERIMENTAL GROUP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in the Group</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>Range of Scores</td>
<td>7-45</td>
<td>12-48</td>
</tr>
<tr>
<td>Median Score</td>
<td>26.00</td>
<td>28.34</td>
</tr>
<tr>
<td>Mean Score</td>
<td>26.64</td>
<td>29.16</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.27</td>
<td>7.94</td>
</tr>
</tbody>
</table>

| Difference in Means | 2.52         |
| t Value             | 2.14         |
value of 2.14 for a level of significance greater than .05. The research hypothesis was accepted.

**Hypothesis Three**

Hypothesis three was stated as follows: The post-test attitude scores of the students exposed to the demonstration programming will be significantly greater, in a positive direction, than the pre-test attitude scores of the students exposed to the demonstration programming.

The pre-test and post-test scores of the experimental group, as measured by the Attitude Scale Toward Any School Subject, are presented in Table III.

The mean pre-test attitude score for the experimental group was 65.56. The mean post-test attitude score for the experimental group was 67.67. The difference between the

**TABLE III**

**RESULTS OF THE PRE-TEST AND POST-TEST ATTITUDE SCORES OF THE EXPERIMENTAL GROUP**

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test Scores</th>
<th>Post-test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in the Group</td>
<td>105</td>
<td>105</td>
</tr>
<tr>
<td>Range of Scores</td>
<td>22-85</td>
<td>24-87</td>
</tr>
<tr>
<td>Median Score</td>
<td>68.05</td>
<td>66.50</td>
</tr>
<tr>
<td>Mean Score</td>
<td>65.56</td>
<td>67.67</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>15.67</td>
<td>13.19</td>
</tr>
<tr>
<td>Difference in Means</td>
<td></td>
<td>2.11</td>
</tr>
<tr>
<td>t Value</td>
<td></td>
<td>.95</td>
</tr>
</tbody>
</table>
means for the pre-test score and the post-test score was 2.11. This difference yielded a t value of .85. Since this difference between the means failed to reach the .05 level of significance, the research hypothesis was rejected.

**Hypothesis Four**

Hypothesis four was stated as follows: The post-test attitude scores of the students exposed to the non-demonstration programming will be significantly greater, in a positive direction, than the pre-test attitude scores of the students exposed to the non-demonstration programming. The pre-test and post-test scores of the control group, as measured by the Attitude Scale Toward Any School Subject, are presented in Table IV.

The mean pre-test attitude score for the control group was 66.49. The mean post-test attitude score for the control

**TABLE IV**

RESULTS OF THE PRE-TEST AND POST-TEST ATTITUDE SCORES OF THE CONTROL GROUP

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test Scores</th>
<th>Post-test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in the Group</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>Range of Scores</td>
<td>22-87</td>
<td>43-87</td>
</tr>
<tr>
<td>Median Score</td>
<td>68.10</td>
<td>75.75</td>
</tr>
<tr>
<td>Mean Score</td>
<td>66.49</td>
<td>75.12</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>13.42</td>
<td>9.26</td>
</tr>
<tr>
<td>Difference in Means</td>
<td></td>
<td>6.63</td>
</tr>
<tr>
<td>t Value</td>
<td></td>
<td>2.01</td>
</tr>
</tbody>
</table>
group was 73.12. The difference between the means for the pre-test score and the post-test score was 6.63. This difference yielded a t value of 2.01 for a level of significance greater than .05. Therefore, the research hypothesis was accepted.

**Hypothesis Five**

Hypothesis five was stated as follows: A similar change in attitude will occur for the students exposed to demonstration programming and the students exposed to non-demonstration programming so that there will be no significant difference in the change of attitude scores between groups as measured by the mean differences of the pre-test and post-test.

The mean gain attitude scores of the control group and the experimental group, as measured by the *Attitude Scale Toward Any School Subject*, are presented in Table V.

**TABLE V**

<table>
<thead>
<tr>
<th>Item</th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in the Group</td>
<td>98</td>
<td>105</td>
</tr>
<tr>
<td>Mean Gain Scores</td>
<td>6.56</td>
<td>2.10</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>12.38</td>
<td>11.05</td>
</tr>
<tr>
<td>Difference in Means</td>
<td>4.46</td>
<td></td>
</tr>
<tr>
<td>t Value</td>
<td></td>
<td>2.70</td>
</tr>
</tbody>
</table>
The mean gain attitude score for the control group was 8.56. The mean gain attitude score for the experimental group was 2.10. The difference between the mean gain scores for the control group and the experimental group was 4.46. This difference between the mean gains yielded a t value of 2.70. Therefore, the research hypothesis was rejected.

Research hypotheses two and four were accepted while research hypotheses one, three, and five were rejected.

Discussion

The present study was conducted for the purpose of obtaining information concerning the comparative effectiveness of demonstration programming and non-demonstration programming upon the development of the orchestra in a secondary school.

The findings of this study provided partial support for the general hypotheses, in that (1) the students exposed to demonstration programming had significantly higher scores on musical discrimination tests than did the students exposed to the non-demonstration programming; and (2) the control group had a significant increase from pre-test to post-test in the favorableness of their attitudes toward orchestra as a school subject.

The remainder of this chapter will be devoted to a discussion of the findings of the present study as they relate to musical perception and attitude.
Musical Perception

The findings of the present study indicate that it is possible, through demonstration programming, to significantly affect one of two factors involved in the development of the musical perception of an audience composed of secondary school students. The comparative results of the musical discrimination tests yielded a $t$ value of 2.14 for a level of significance in excess of the .05 probability of chance occurrence. This significant difference between the mean scores of the groups was in favor of the experimental group. These results provide support for the position that demonstration programming can be effectively used with large groups in the development of musical perception as it is related to discrimination.

This result, however, did not emerge clearly for the musical memory portion of the question concerning the development of musical perception. The results of the musical memory tests did not show a statistically significant difference between the mean scores of the groups. However, it should be pointed out that the mean difference between the groups did yield a $t$ value of 1.30 in the direction of the experimental group.

Several related factors may account for these differential results. First, it is possible that the development of musical memory, as used in the present study, calls for more
highly developed skills in recognition, discrimination, and retention than does the development of musical discrimination. Therefore, musical memory may develop at a slower rate than does musical discrimination. The movement in the direction of statistical significance would seem to indicate that it is possible that additional training, in the form of an increased number of concerts in which musical illustrations are presented, may be necessary in the development of musical memory. This would suggest the possibility of a need for replications of the present study in which an additional number of concerts are presented.

Second, it is possible that musical memory, as related to the present study, may only appear to develop at a slower rate than does musical discrimination. The basic differences between the tests used in the present study may account for the apparent difference in the rate of the development of musical memory and discrimination.

The Drake Musical Memory Test called for the recognition of variations of notes, key, and time in two-bar musical examples. The test is designed to progress from examples in which the original melody is followed by two musical passages, as shown in blanks one and two of the answer sheet on page 105, to the final series, which contains an original example followed by seven musical passages. The fact that each of the original melodies and the examples are
two measures in length provides additional difficulty in allowing the listener to have time to group the notes of each example into a clearly recognizable theme, as would frequently be the case in listening to actual musical themes within compositions.

By contrast, the musical examples presented in the Oregon Test of Musical Discrimination are approximately eight measures in length, thus allowing, in most cases, for the presentation of a complete musical theme. Therefore, in the discrimination test, the listener has more time, during each example, in which to perceive a recognizable grouping of notes. This finding would suggest the need for further research concerning the effect of the length of musical passages upon recognition, discrimination, and retention.

Probably the most significant result of the musical perception portion of the present study was the finding that demonstration programming was more effective than non-demonstration programming in the development of musical discrimination. It would appear that this finding entails two major implications concerning the method of programming and musical perception. First, this finding would indicate that instructive listening is more beneficial than free listening in the development of musical discrimination. However, it is possible that this finding may be limited, in part, to the background of the listener. For example, it is possible
that instructive listening may be preferable so long as the material is relatively new to the listener. Past this point, the listener might find the free listening to be of more consequence in the continued development of musical perception. Further research should be conducted, with regard to the development of musical perception, for the purpose of comparing the musical knowledge of the listener with the type of listening experience.

Second, since the act of musical discrimination called for a preference indication, on the part of the student, in the use of basic musical elements within musical examples, it would appear that the students in the experimental group of the present study had begun not only to recognize the variations of the elements, but also to relate the use of the elements in proportion to each other as they were presented as a musical group. The implication of this finding indicates the need for further research in which the correlation of musical perception and attitudes toward classifications of music is studied. Since music educators (1, 4, 5, 6) believe that musical perception is a major factor affecting a student's attitude toward a musical selection, it would appear that a correlation would exist between a high level of musical perception and preferences for more complex musical compositions. If further research indicates such a correlation, demonstration programming should provide one method
whereby the orchestra director might communicate with the student body. It would be interesting to see findings concerning the attitudes of members of a student body toward more complex music before and after demonstration programming. Therefore, it is suggested that, in future research, demonstration programming might provide the basis for a method of testing some of the theories concerning not only the development of musical perception, but also the development of favorable attitudes toward more complex musical compositions.

**Attitudes**

Hypotheses three, four, and five concerned the effect of two types of programming upon the attitudes of two groups of secondary school students toward orchestra as a school subject.

It was hypothesized that the attitudes of both groups toward orchestra as a school subject would show a significant change in a favorable direction from the pre-test to the post-test. It was further hypothesized that there would be no significant difference in the amount of attitude change between groups.

The hypotheses concerning a like amount of attitude change for both groups were thus stated because of the controlled type of programming used in both the demonstration concerts and the non-demonstration concerts. The programming
standards used in the present study, for both groups, were based upon recommendations made by Merton Zahrnt (7), Leeder and Haynie (3), and Maurice Gerow (2). Each of these music educators stated that programming should have a significant effect upon an audience's attitude toward the performing organization and that a change in audience attitude should be made possible by adherence to general principles of programming.

The results of the present study yielded a significant difference in attitude from the pre-test to the post-test for the control group (beyond the .05 level of confidence), but failed to show a significant difference in the amount of attitude change from the pre-test to the post-test for the experimental group. The mean gain score from pre-test to post-test showed a statistically significant gain between groups at the .05 level in favor of the control group.

These findings would indicate that, since non-demonstration programming was more effective than demonstration programming in influencing the group attitude of a student audience, the effectiveness of the type of programming used is dependent, in part, upon the method of presentation.

The slight mean change in the attitude scores of the experimental group from pre-test to post-test would indicate that one, or a combination, of the following factors is affecting the attitudes of the members of the student body
audience toward orchestra as a school subject: (1) the method of programming, or (2) the type of programming.

The method of programming, demonstration versus non-demonstration, may have affected attitudes as a result of the following reasons. First, demonstration programming is placing the student in a position of tension through the presence of a challenge in the form of correct and incorrect participation. The situation may have provided a perceived successful or unsuccessful experience for the student. It is possible that the non-reinforced students would experience little, if any, attitude change in a favorable direction.

Second, demonstration programming requires the student to exert energy in listening to musical compositions. The student may find it more difficult to accept this method of programming due to a conditioned expectancy concerning musical presentations. It is possible that the student expects to attend the concert as a spectator. He may wish to be left, during the presentation, to his own thoughts, which may or may not include the musical selections. The illustrations presented in the demonstration programming direct the attention of the listener to specific elements of the musical compositions. Therefore, it is possible that the listener does not experience the freedom found in other methods of programming.
The type of programming, consisting of the selection and grouping of musical compositions, may have affected the attitudes of the experimental group as a result of the following reasons: The programming standards used in the present study were based upon Zahrt's (7) theory that educational programming should begin with programs which are composed primarily of music that is likely to be accepted by the audience. The concert series should then progress, in a gradual manner, to programming which consists of a sample of compositions which are more complex in musical form. While this type of programming was apparently effective with the control group, it was not effective in producing a statistically significant change in the attitudes of the experimental group.

It is possible that a combination of the type of music programmed and the number of concerts in the series may account, in part, for the attitudes of the experimental group. Demonstration programming is designed for the purpose of helping the listener in his understanding of the use of some of the specific musical elements within a musical composition. This active approach to listening is believed to be of significance in the development of an understanding of more complex forms of music. However, the music used in the two concerts of the present study was, for the most part, characterized by simplicity of melodic line and form. There
were two reasons for the use of this type of music. First, the programming standards (2, 3, 7), upon which the present study was based, indicated that the programming should begin with simple musical forms. Second, the illustration of the musical elements necessitated the use of music characterized by clarity of melodic line and musical form.

The students in the experimental group were hearing music which they could have, for the most part, found to be listenable without access to additional information concerning the use of the elements of melody, harmony, rhythm, and form. The students may not have recognized a need for the type of listening to which they were being exposed. Therefore, it is possible that additional concerts are needed for the purpose of progressing to more complex musical compositions. Further research should be conducted for the purpose of comparing methods of programming with the type of music programmed. It would be interesting to see a study conducted in which the series of concerts is expanded to four performances, and in which the first two concerts are presented in the same manner as those of the present study with additional concerts consisting of progressively more complex music.

A point should be presented concerning the possible severity of the implication concerning the results of the attitude tests for both groups. The attitude scale used in
the present study is so designed that the favorableness or unfavorableness of attitudes may be determined in addition to the degree of change from pre-test to post-test. The point of indifference on the scale is the score sixty. Scores falling below sixty are considered to be unfavorable in attitude. Scores above sixty are favorable. The mean pre-test scores of the groups were: (1) control group—66.49; and (2) experimental group—65.56. Each of the groups displayed a favorable attitude toward orchestra as a school subject at the beginning of the present study. The mean post-test scores of the groups were: (1) control group—73.12; and (2) experimental group—67.67. The post-test for each of the groups showed a gain in favorableness of attitude. The gain of the control group was statistically significant. The gain of the experimental group was not statistically significant. Both groups had a favorable attitude toward orchestra as a school subject at both the pre-test and the post-test. These results are of significance in that the members of the experimental group appeared to accept the demonstration programming although there was no significant change in their attitude, as a group, toward orchestra as a school subject.

Summary

In Chapter IV the results of the present study are reported. In the first section of the chapter, the statistical
findings of the hypotheses are cited. These findings are followed, in section two, by a discussion of the results of the present study as they relate to the areas of musical perception, attitude, and the findings presented in other studies. Recommendations for further research are made at the conclusion of each major point in the discussion section.
CHAPTER BIBLIOGRAPHY


The purpose of the present study was to compare the effectiveness of demonstration and non-demonstration programming upon (1) the musical perception of the members of the student body audience as determined by their ability to retain a melodic line and by their ability to discriminate between a masterwork and an adaptation of a masterwork; and (2) the attitudes of the members of the student body toward orchestra as a school subject.

The following general hypotheses proved a basis for the formulation of the study: (1) the students exposed to demonstration programming will have significantly higher scores on musical perception tests than will the students exposed to the non-demonstration programming; and (2) both groups, the experimental and control, will show a significant increase from pre-test to post-test in the favorableness of their attitudes toward orchestra as a school subject.

The subjects for the present study were the members of the junior high school student body of the North Texas Laboratory School at Denton, Texas. Two hundred thirty-two students were assigned to the experimental and the control groups according to their grade levels and section numbers.
A total of six sections of students were assigned to the experimental group and six sections of students to the control group.

The implementing devices used in the study consisted of the Laboratory School Orchestra, a master of ceremonies, and scripts for each musical presentation.

Prior to the experimental treatment, a vocabulary orientation was presented to both the experimental and the control groups. The fifteen-minute orientation period was presented to the groups for the purpose of illustrating the use of the words "melody," "harmony," and "rhythm" in connection with the musical sounds. The musical examples were presented by means of a tape recording.

The following procedure was used in administering the experimental treatment and the control treatment. Each group heard two programs of thirty minutes in length, over a period of eight weeks, performed by the Laboratory School Orchestra. The experimental group was exposed to the demonstration programming and the control group was exposed to the non-demonstration programming.

Demonstration programming consisted of illustrations, by lecture and performance, of the primary aspects of the music. The following basic elements were illustrated: (1) melodic, harmonic, and rhythmic interests of the musical compositions; (2) variations in the melody through the
manipulation of notes, time, and key; and (3) methods of following a melodic line.

Non-demonstration programming consisted of the presentation of musical selections in formal concert style with verbal program notes of a biographical type.

Duplicate musical selections were presented to both the experimental group and the control group.

The musical perception of the groups was measured by means of the Drake Test of Musical Memory and the Oregon Test for Musical Discrimination administered in the form of a post-test.

The attitudes of the members of the student body audience were measured by means of the Attitude Scale Toward Any School Subject administered in the form of a pre-test and a post-test.

The t test for independent samples was used to determine the significance of the mean differences between the control group and the experimental group in hypotheses one, two, and five. The t test for non-independent samples was used to determine the significance of the mean differences between the control group and the experimental group in hypotheses three and four. For all statistical tests, the .05 level of significance was adopted as the coefficient of risk. An analysis of the data relevant to the present study yielded the following results:
1. The mean musical memory score of the group of students exposed to demonstration programming was greater (t value of 1.30), but not significantly greater, than the mean musical memory score of the group of students exposed to the non-demonstration programming.

2. The mean musical discrimination score of the group of students exposed to demonstration programming was significantly greater (t value of 2.14) than the mean musical discrimination score of the group of students exposed to the non-demonstration programming.

3. The mean of the post-test attitude scores of the group of students exposed to the demonstration programming was not significantly greater than the mean of the pre-test attitude scores. The difference between the pre-test and post-test means yielded a t value of .35 in the direction of the post-test.

4. The mean of the post-test attitude scores of the group of students exposed to the non-demonstration programming was significantly greater (t value of 2.01) than the mean of the pre-test attitude scores.

5. The attitude mean gain score from pre-test to post-test of the group of students exposed to non-demonstration programming was significantly greater (t value of 2.70) than the attitude mean gain score from pre-test to post-test of the group of students exposed to demonstration programming.
On the basis of the findings obtained in the present study, the following conclusions are drawn:

1. Demonstration programming may be effectively used in the development of the musical discrimination of a student body audience.

2. Demonstration programming may be more effectively used than non-demonstration programming in the development of the musical perception of a student body audience.

3. When based upon the programming standards used in the present study, non-demonstration programming, as compared with demonstration programming, may be more effective in the improvement of the favorableness of the group attitudes of a student body audience toward the orchestra as a school subject.

4. Attitudes toward orchestra as a school subject appear to be affected by both the type of programming and the method of programming used in musical presentations.

To clarify some of the findings of the present study and to either refute or support the tentative conclusions, it is recommended that

1. The series of concerts for both groups be extended in number for the purpose of re-examining the levels of musical perception and the group attitudes toward orchestra as a school subject under conditions in which students have an opportunity to hear a greater number of concerts composed of progressively more complex musical compositions.
2. A study be designed for the purpose of comparing demonstration and non-demonstration programming in the development of attitudes toward selected musical compositions. It is recommended that a correlational study be conducted along with the experimental study and that both musical perception and attitudes toward musical compositions be compared with factors such as age, sex, mental ability, musical training, and socio-economic background.

3. The present study concerning the effect of programming upon the students' attitudes toward orchestra as a school subject be replicated in other secondary schools representative of a variety of environmental backgrounds in different sections of the United States.

4. The type of programming used in the present study be compared with different types of programming currently being used by orchestras in secondary schools for the purpose of comparing the effectiveness of types of programming upon the attitudes of student body audiences toward orchestra as a school subject.

5. A study be designed for the purpose of comparing the relationship between methods of programming and types of music programmed in relation to an audience's level of musical perception, attitude toward classifications of music, and attitude toward orchestra as a school subject.

6. The use of different types of orchestral programming be compared with the action component of student's
attitude concerning orchestra as a school subject as indicated by (1) an increased enrollment in orchestral classes in the secondary school, (2) an increased student attendance of non-required orchestra concerts, and (3) an increased purchase of records of orchestral music.
APPENDIX A

PRINTED PROGRAMS FOR DEMONSTRATION CONCERTS

Concert I

The Syncopated Clock ............ Leroy Anderson
Concerto Grosso ................. Margaret Parish

Soloists: Katie Gustafson, violin
         Martha Costes, viola
         Alex Pancheri, cello
         James Rust, bass

Snow White Fantasy ................ Frank Churchill

Selections: Whistle While You Work
           Someday My Prince Will Come
           Heigh Ho

Concert II

Variations on a French Folk Tune ........ J. Holasovskey

Song of Jupiter ................. Handel-Anderson

My Fair Lady (Highlights) ......... Loewe-Hurffurth

Selections: Get Me To The Church
           On The Street Where You Live
           I've Grown Accustomed To Your Face
           I Could Have Danced All Night
APPENDIX B

SCRIPTS FOR NON-DEMONSTRATION PROGRAMMING

Concert I

Emcee:

We are happy to present the first of a series of two concerts featuring the Laboratory School Orchestra, under the direction of Miss Joan Boney. The Orchestra is accompanied by wind players from the school of music. I'm your announcer, Alex Pancheri.

The opening selection of today's concert spotlights a very unusual clock. Instead of sounding tick-tock, tick-tock, tick-tock, this crazy mixed-up clock sounds tick-tock, tick-tock, (pause) tick (pause) tock-tick.

This is the *Syncopated Clock*, by Leroy Anderson.

Orchestra:

*Syncopated Clock* . . . . . . . . . . . . Leroy Anderson

Emcee:

Our next selection, a concerto grosso by Margaret Parish, goes back in history to make use of a type of music that was popular during the seventeenth and eighteenth centuries.

During this time—the period of Bach and Handel—concerts were presented only to members of royal families and their guests. Each royal palace had among its employees a number of household servants who were amateur musicians and were able to sit in with a handful of professional musicians for the purpose of presenting music for the royal family. Special music was written for these concerts so that the easier parts might be performed by the servants and the more difficult parts by the hired musicians. This music was called a concerto grosso.
Joining me as soloists for this performance will be student teachers Katie Gustafson, Martha Coates, and James Rust.

The Concerto Grosso is performed in three movements. There will be a brief pause between movements.

Orchestra:

Concerto Grosso . . . . . . . . . Margaret Farish

Emcee:

For the final selection of today's concert, the orchestra will perform a medley of songs from Walt Disney's Snow White and the Seven Dwarfs.

In this selection you will hear: Whistle While You Work, Someday My Prince Will Come, and Heigh Ho.

Orchestra:

Snow White Fantasy . . . . . . . Frank Churchill

Emcee:

We hope that you have enjoyed today's program. We will be looking forward to performing for you again during this semester.

You may now return to your first period classes.

Concert II

Orchestra: (Plays while students enter auditorium)

Syncopated Clock . . . . . . . Leroy Anderson

Emcee:

Upon entering the auditorium, you heard the orchestra playing a number performed on the assembly program presented in October--The Syncopated Clock, by Leroy Anderson.

The opening selection of today's concert is a composition written by one of the major composers of the latter seventeenth century and the early eighteenth century, George Frederic Handel.
Handel was born in Germany in the year 1685. He later moved to England and remained there until his death in 1759.

The key to Handel's genius lies in his operas and oratorios. Handel's output of vocal compositions has established his greatness far more than the few organ concerti, sonatas, and harpsichord pieces he composed.

The following composition, The Song of Jupiter, is a transcription of one of Handel's more beautiful arias entitled, Where'er You Walk. This aria is from the oratorio Samson, which was written in London in 1743.

In The Song of Jupiter, we find a flowing melody of simple grandeur that is characteristic of Handel's music.

And now, The Song of Jupiter, by George Frederic Handel.

Orchestra:

The Song of Jupiter . . . . . . . . . . Handel-Anderson

Emcee:

Composers have long been fascinated by the art of making several variations on a single musical theme.

As a musical spoof, the composer, Holeovsky, took a simple children's tune and developed it into several not-so-simple musical variation.

The tune used is known to us as Twinkle, Twinkle, Little Star. The name of the composition is Variations on a French Folk Tune.

Orchestra:

Variations on a French Folk Tune . . . J. Holeovsky

Emcee:

During the mid-1950's, a musical play opened on Broadway that was destined to break all records for worldwide performances.

This musical play has been successfully translated into several languages. The remarkable fact about the
translations is that the play is all about one language, the English language.

The concluding selection of today's program will be a medley of numbers from this popular Broadway musical.

And now, selections from Lerner and Loewe's, *My Fair Lady*.

**Orchestra:**

*My Fair Lady (Highlights)* . . . . . . . . Loewe-Harfurth

**Encores:**

We hope that you have enjoyed this second concert of the fall semester.

You are now dismissed to return to your second period classes.
APPENDIX C

SCRIPTS FOR DEMONSTRATION PROGRAMMING

Concert I

Emcee:

We are happy to present the first of a series of two concerts featuring the Laboratory School Orchestra, under the direction of Miss Joan Boney. The orchestra is accompanied by wind players from the school of music. I'm your announcer, Alex Panchari.

For the opening selection of today's program the orchestra will perform a novelty number written by the popular composer, Leroy Anderson. This is The Syncopated Clock.

Orchestra:

Syncopated Clock . . . . . . . . . Leroy Anderson

Emcee:

If we were to ask you what you usually hear when you listen to music, chances are that many of you would say that the main thing you hear in music is the melody or the tune. For example, during our opening selection, if you heard melody more than harmony or rhythm, you heard something like this.

Orchestra: (Melody only--measures 3 to 9)

Syncopated Clock . . . . . . . . . Leroy Anderson

Emcee:

If we add other tones to this melody, we have harmony. Some of you may think you heard mostly harmony. If so, you heard something like this.

Orchestra: (Measures 3 to 9)

Syncopated Clock . . . . . . . . . Leroy Anderson
I imagine several of you heard most rhythm. Although rhythm is present at all times, we can vary the amount of rhythmic interest by emphasizing or de-emphasizing the amount of motion in a composition. Some passages in music are more rhythmic than others because the motion is emphasized. For example, listen to the rhythmic movement in the following two passages.

First theme A:

Orchestra: (Plays measures 3 to 9)

Syncopated Clock . . . . . . . . . . . Leroy Anderson

Emcee:

Now, theme B:

Orchestra: (Plays measures 19 to 23)

Syncopated Clock . . . . . . . . . . . Leroy Anderson

Emcee:

By now it should be obvious that when we listen to music we really hear all three musical elements—melody, harmony, and rhythm—in combination with each other, fighting for our attention.

When you find that you are aware of the variation of combinations of melody, harmony, and rhythm you will have achieved the first step in learning to listen to music.

However, there is still more of which to be aware in listening to music. A musical composition provides interest not only in the combinations of melody, harmony, and rhythm but also in the musical sentences written by the composer. When these musical sentences, also called phrases or themes, are combined we say that a composition has musical form.

For example in Syncopated Clock, the composer used the following formula in building the composition. He began the piece with the introduction of the main musical sentence, called theme A.

Orchestra: (Plays measures 3 to 11)

Syncopated Clock . . . . . . . . . . . Leroy Anderson
Emcee:

After theme A, the composer had the orchestra repeat theme A with a change in instrumentation. Listen to the different sound as theme A is repeated.

Orchestra: (Plays measures 11 to 19)

Syncopated Clock . . . . . . . . Leroy Anderson

Emcee:

So that the music can continue to be interesting, the composer adds a new theme, called theme B.

Orchestra: (Plays measures 19 to 27)

Syncopated Clock . . . . . . . . Leroy Anderson

Emcee:

The composer ends the composition by returning to theme A, in its original form.

Orchestra: (Plays measures 27 to 35)

Syncopated Clock . . . . . . . . Leroy Anderson

Emcee:

You can learn to write the musical form of each composition that you hear on today's program by calling each of the musical themes by the letters assigned to the themes.

If you had written the form of *The Syncopated Clock*, you would have had the following musical pattern:
(holds up card with letters A, A, B, A, C, C, A, A)

Follow along with me as the orchestra repeats the *Syncopated Clock* and I'll show you how this musical formula works. As the orchestra plays a theme, I'll point to it with this baton. Ready? Here's Leroy Anderson's *Syncopated Clock*.

Orchestra: (Plays all of composition)

Syncopated Clock . . . . . . . . Leroy Anderson
Although most compositions have two or more themes, it is possible to write an entire work and to use only one main theme. The composer of our next selection made use of this technique.

Here is the main theme that you will hear repeated throughout the composition.

**Orchestra**: (Plays measures 1 to 6)

Concerto Grosso . . . . . . . . . . Margaret Parish

**Emcee**: Count the number of different times you hear this theme as we play the Concerto Grosso by Margaret Parish.

**Orchestra**: (First movement)

Concerto Grosso . . . . . . . . . . Margaret Parish

**Emcee**: That single theme was played six different times.

Now, for a real challenge in listening to music, let's see if you can write the musical form of our final selection.

Take out your pencils and your printed program of today's concert. (Pause)

If you will look on your program at the final selection, you will see listed under the main title of Snow White Fantasy, the names of each of the selections which you will hear played. They are: Whistle While You Work, Someday My Prince Will Come, and Reign No.

As we play the Snow White Fantasy, write the letters that show the musical formula of each of the three tunes, beside the name of the tunes on your printed programs.

Use the letters of the alphabet to identify the different themes. Each of the three songs will begin with theme A, so you may now write the letter "A" beside the title Whistle While You Work, and beside the
title Someday My Prince Will Come, and beside the title Heigh Ho.

Fill in the other letters as the orchestra plays the Snow White Fantasy.

Following a four measure introduction, you will hear theme A to the first tune, Whistle While You Work.

Orchestra:

Snow White Fantasy . . . . . . . . . . . Frank Churchill

Emcee:

The correct answers to each of the compositions are:

Whistle While You Work--Form A, A, B, A
Someday My Prince Will Come--Form A, B, A
Heigh Ho--Form A, A, B, B, C, A, A

Please place your grade and your home room section at the top of your program and leave your program on one of the tables in this auditorium.

We hope that you have enjoyed today's program and we will look forward to performing for you again during this semester.

Please remain in the auditorium until the bell rings for second period classes.

Concert II

Orchestra: (Plays while students enter auditorium)

Syncopated Clock . . . . . . . . . . Leroy Anderson

Emcee:

Upon entering the auditorium, you heard the orchestra playing a number performed on the assembly program presented in October--Syncopated Clock, by Leroy Anderson.

As was demonstrated in the previous program, musical compositions are designed, by the composer, to provide interest in a number of ways.
You will recall that a passage which features a steady rhythmic accompaniment may change without warning to a smooth passage emphasizing the melody and the harmony.

Or, the composer may vary the arrangement of the order of the different themes giving the composition different musical forms, such as A, B, A and A, A, B, A.

Part of the fun in listening to music comes through the recognition of the techniques used by the composer to vary the original theme while retaining musical interest. Other techniques used for this purpose will be shown in today's program.

The orchestra will play two measures from Syncopated Clock and we will show you how it will be possible to change these two measures without changing the main theme.

In the following examples you will hear the original melody from Syncopated Clock played in a different key, then played with a change in time, then with a change in notes, and finally played in the same way as the original example. These words—key, time, notes, and same—will be abbreviated by the letters shown on these charts. (points to chart number one)

Listen carefully to the original melody and try to remember it.

**Orchestra:** (Plays measures 3 to 6)

*Syncopated Clock* . . . . . . . . Leroy Anderson

**Emcee:**

The melody will now be played in a different key.

**Orchestra:** (Plays measures 3 to 6 in a new key)

*Syncopated Clock* . . . . . . . . Leroy Anderson

**Emcee:**

To show that this example differed from the original melody by a change in *K*, a "K" is placed in the first square on this chart. (turns to chart number two)

Next, the melody is played with a change in time.
**Emcee:**

The last example was played with a change in time, as "T" is placed in the next square (chart number two).

Now the melody is played with a change in the notes.

**Emcee:**

An "N" is placed in the third square (chart number two).

Now the melody is played in the same manner as it was first played.

Because that last example was the same as the first example, as "S" is placed in the last square on the chart (chart number two).

Through the use of the techniques which we have just demonstrated, a composer may build a complete composition around only one or two musical themes.

**Emcee:**

An example of a composition using these techniques is a novelty number built around the tune, Twinkle, Twinkle, Little Star.

Let's see if you can write these changes of notes, time, and key on your printed programs in the squares underneath the title, Variations on a French Folk Tune, which is known to us as Twinkle, Twinkle, Little Star.

Take out your pencils and your programs (pause).

You will hear the melody played by the orchestra. Listen carefully to the melody and try to remember it.
Then listen carefully to the melodies that follow, and compare each of them with the first melody.

If it is exactly the same as the first melody, put "S" in the answer box.

If it is the same melody played in a different key, put "K" in the answer box.

If the time has been changed, put "T" in the answer box.

If any of the notes have been changed, put "N" in the answer box.

Write your answers—S, K, T, or N—during the short pause after each melody.

Ready? Listen to the first melody, and then compare each of the following melodies with the first melody.

**Orchestra:** (Measures 4 to 8)

Variations on a French Folk Tune . . . . J. Holesovsky

**Emcee:**

Here are the answers: (turns to chart number three)

The original melody was: (orchestra plays melody)

Then the varied examples were: (orchestra plays each example, during pause emcee points to correct letter on chart number three)

Let's see if you can write these changes of notes, time, and key for selection number two, *The Song of Jupiter*, by G. F. Handel.

Listen to the first melody, and then compare each of the next four melodies with the first melody.

**Orchestra:** (Measures 4 to 8)

Song of Jupiter . . . . . . . . . . Handel-Anderson

**Emcee:**

Here are the answers to *The Song of Jupiter*. (turn to chart number four)
The original melody was: (orchestra plays melody)

Then the varied examples were: (orchestra plays each example, during pause emcee points to correct letter on chart number four)

The concluding selection on today's concert features highlights from the Broadway musical play, My Fair Lady. In this selection, as was done in our last concert, I will identify the musical themes by the letters of the alphabet.

As the orchestra plays the songs listed under the My Fair Lady selection on your programs, I will use this poster to guide you through the musical form of each of the selections. (turns to chart number five)

And now, the highlights from the musical play, My Fair Lady.

Orchestra:

My Fair Lady (Highlights) . . . . . . Loewe-Hurfurth

Emcee:

We hope that you have enjoyed this second concert of the fall semester.

Please place your name, grade, and section on the printed program and leave it on one of the tables.

You are to remain in the auditorium until the bell rings for third period classes.
APPENDIX D

POSTERS USED IN DEMONSTRATION PROGRAMMING

Concert I

Poster number one: A A B A
C C A A

Concert II

Poster number one: K--KEY
T--TIME
N--NOTES
S--SAME

Poster number two: K T N S

Poster number three: N S X T

Poster number four: T K S N

Poster number five: 1. A A B A
2. A A B A
3. A A B A
4. A A B A
APPENDIX E

MUSICAL MEMORY TEST

Directions: Mark in each answer box one of the following letters:

S—SAME
K—KEY changed
T—TIME changed
N—NOTES changed

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX F

OREGON TEST OF MUSICAL DISCRIMINATION
(Indians Revision)

<table>
<thead>
<tr>
<th>No.</th>
<th>No difference heard between A and B</th>
<th>R—Rhythm</th>
<th>H—Harmony</th>
<th>M—Melody</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>A B No R H M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX G

ATTITUDE SCALE TOWARD ANY SCHOOL SUBJECT

Instructions: Following is a list of statements about orchestra as a school subject. Place a circle around the number before each statement with which you agree. Mark only the statements with which you agree.

1. No matter what happens, orchestra as a school subject always comes first.
2. I am attracted to orchestra as a subject.
3. Orchestra is profitable to those who take it.
4. Any student who takes orchestra is bound to be benefited.
5. Orchestra is a good school subject.
6. All lessons and all methods used in this subject are clear and definite.
7. I would be willing to spend my time studying this subject.
8. Orchestra is a good pastime.
9. I don't believe orchestra will do anybody any harm.
10. I haven't any definite like or dislike for orchestra.
11. Orchestra will benefit only the brighter students.
12. My parents never had orchestra, so I see no merit in it.
13. I am not interested in orchestra.
14. Orchestra seems to be a necessary evil.
15. I would not advise anyone to take orchestra.
16. Orchestra is a waste of time.
17. Orchestra is all bunk.
BIBLIOGRAPHY

Books


Buros, Oscar Krisen, editor, Fourth Mental Measurements Yearbook, Highland Park, New Jersey, Gryphon Press, 1940.


Articles


Harvey, O. J. and J. C. Rutherford, "Gradual and Absolute Approaches to Attitude Change," *Sociometry*, XXI (Fall, 1958), 61-68.


Publications of Learned Organizations


Unpublished Materials


