A COMPARISON OF THE TEACHING OF

MUSIC FUNDAMENTALS BY THE

TRADITIONAL METHOD WITH

THE OMNIBUS APPROACH

By<br>BARBARA WORK GARDER<br>Bachelor of Music Education University of Oklahoma<br>Norman, Oklahoma<br>1952<br>Master of Music Education University of Oklahoma<br>Norman, Oklahoma<br>1953

Submitted to the Faculty of the Graduate College of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
August, 1969

Thesis
19690
G218
mg.

A COMPARISON OF THE TEACHING OF MUSIC FUNDAMENTALS BY THE
traditional method with
THE OMNIBUS APPROACH

Thesis Approved:



729846

## ACKNOWLEDGEMENTS

The writer wishes to acknowledge her indebtedness to Dr. Kenneth St. Clair, Chairman of the Advisory Committee for his patience, guidance and criticism in the preparation of this study. To Dr. Russell Dobson, Dr. John Hampton and Dr. Thomas Mayberry is extended an appreciation for assistance as members of the committee.

The writer is also indebted to her husband, Dr. Clarence Garder for his encouragement, assistance, and understanding in the preparation of this study.

TABLE OF CONTENTS
Chapter Page
I. THE PROBLEM ..... 1
Introduction ..... 1
The Statement of the Problem ..... 3
Hypothes is ..... 4
Need for the Study ..... 4
Subjects ..... 7
II. RELATED LITERATURE ..... 9
The Literature ..... 9
Summary and Conclusions of Related Literature ..... 19
III. METHODOLOGY AND PROCEDURE ..... 21
The Traditional Approach ..... 21
The Omnibus Approach ..... 22
Musical Factors Studied ..... 23
Administration and Scoring of Tests ..... 23
Selection of Tests ..... 23
Musical Aptitude Profile ..... 24
Snyder Knuth Music Achievement Test ..... 26
The Questionnaire ..... 27
Pilot Study for Questionnaire ..... 27
Rating Scale for the Questionnaire ..... 28
Literature Related to the Questionnaire ..... 29
Comparisons ..... 30
Method of Statistical Analysis ..... 30
IV. PRESENTATION AND ANALYSIS OF DATA ..... 33
Presentation of Data ..... 33
Analysis of Data ..... 34
Aptitude Results of the Gordon Musical
Aptitude Profile ..... 34
Grade Point Data of Subjects ..... 35
Achievement Results of the Snyder Knuth
Music Achievement Test ..... 38Attitude Results of the Scale to MeasureAttitudes of College Elementary Edu-cation Majors Toward Music46
Chapter Page
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS ..... 53
General Summary ..... 53
Conc1usions ..... 56
Recommendations ..... 58
A SELECTED BIBLIOGRAPHY ..... 60
APPENDIX A ..... 63
APPENDIX B ..... 97
APPENDIX C ..... 101
APPENDIX D ..... 105
APPENDIX E ..... 109
APPENDIX F ..... 113
APPENDIX G ..... 117
Table Page
I. Comparison of Gordon Musical Aptitude Profile Mean Test Scores of the Experimental and Control Class I ..... 36
II. Comparison of Gordon Musical Aptitude Profile Mean Test Scores of Control Class I and Control Class II ..... 37
III. Comparison of Mean Grade Point Averages of Experi- mental Class and Control Class ..... 39
IV. Comparison of Mean Grade Point Averages of Control Class I and Control Class II ..... 39
V. Comparison of Mean Grade Point Averages of Experi- mental Class and Control Class II ..... 40
VI. Comparison of Snyder Knuth Music Achievement Test Pre-Test Mean Scores of Experimental Class and Con- trol Class I ..... 42
VII. Comparison of Snyder Knuth Music Achievement Test Pre-Test Mean Scores of Control Class I and Control Class II ..... 42
VIII. Comparison of Snyder Knuth Music Achievement Test Post-Test Mean Scores of Experimental Class and Con- trol Class I ..... 43
IX. Comparison of Snyder Knuth Music Achievement Test Post-Test Mean Scores of Experimental Class and Control Class II ..... 43
X. Comparison of Snyder Knuth Music Achievement TestPost-Test Mean Scores of Control Class I and ControlClass II . . . . . . . . . . . . . . . . . . . . .44
XI. Comparison of Snyder Knuth Music Achievement Test Pre-Test and Post-Test Mean Scores of the Experimen- tal C1ass ..... 44
XII. Comparison of Snyder Knuth Music Achievement Test Pre- Test and Post-Test Mean Scores of Control Class I ..... 45
Table Page
XIII. Comparison of Snyder Knuth Music Achievement Test Pre-Test and Post-Test Class Mean Scores of Con- trol Class II . . . . . . . . . . . . . . . . . . ..... 45
XIV. Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Pre-Test Mean Scores of Experimental Class and Control Class I ..... 47
XV. Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Pre-Test Mean Scores of Control Class I and Control Class II ..... 47
XVI. Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Post-Test Mean Scores of Experimental Class and Control Class I ..... 49
XVII, Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Post-Test Mean Scores of Contro1 Class I and Control Class II ..... 49
XVIII. Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Post-Test Mean Scores of Experimental Class and Control Class II ..... 50
XIX. Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Pre-Test and Post-Test Mean Scores of the Experimental Class . . . ..... 50
XX. Comparis on of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Pre-Test and Post-Test Mean Scores of Control C1ass I ..... 51
XXI. Comparison of Scale to Measure Attitudes of College Elementary Education Majors Toward Music Pre-Test and Post-Test Mean Scores of Control Class II ..... 51
XXII. Gordon Musical Aptitude Profile Test Scores for Melody Factor of Tonal Imagery for Students of the Experi- mental Class ..... 64
XXIII. Gordon Musical Aptitude Profile Test Scores for Melody Factor of Tonal Imagery for Students of Control Class I ..... 65XXIV. Gordon Musical Aptitude Profile Test Scores for MelodyFactor of Tonal Imagery for Students of ControlClass II . ... . . . . . . . . . . . . . . . . . . . . 66
XXV. Gordon Musical Aptitude Profile Test Scores for Harmony Factor of Tonal Imagery for Students of the ExperimentalClass67Page
XXVI. Gordon Musical Aptitude Profile Test Scores for Harmony Factor of Tonal Imagery for Students of Control Class I ..... 68
XXVII. Gordon Musical Aptitude Profile Test Scores for Harmony Factor of Tonal Imagery for Students of Control Class II ..... 69
XXVIII. Gordon Musical Aptitude Profile Totaled Test Scores for Tonal Imagery for Students of the Experimental Class ..... 70
XXIX. Gordon Musical Aptitude Profile Totaled Test Scores for Tonal Imagery for Students of Control Class I. ..... 71
XXX. Gordon Musical Aptitude Profile Totaled Test Scores for Tonal Imagery for Students of Control Class II ..... 72XXXI. Gordon Musical Aptitude Profile Test Scores forTempo Factor of Thythm Imagery for Students of theExperimental Class.. . . . . . . . . . . . . . .73
XXXII. Gordon Musical Aptitude Profile Test Scores for Tempo Factor of Rhythm Imagery for Students of Control Class I ..... 74
XXXIII. Gordon Musical Aptitude Profile Test Scores for Tempo Factor of Rhythm Imagery for Students of Control Class II ..... 75
XXXIV. Gordon Musical Aptitude Profile Test Scores for Meter Factor or Rhythm Imagery for Students of the Experi- mental Class ..... 76
XXXV. Gordon Musical Aptitude Profile Test Scores for Meter Factor of Rhythm Imagery for Students of Control Class I ..... 77
XXXVI. Gordon Musical Aptitude Profile Test Scores for Meter Factor of Rhythm Imagery for Students of Control Class II ..... 78
XXXVII. Gordon Musical Aptitude Profile Totaled Test Scores for Rhythm Imagery for Students of the Experimental Class ..... 79
XXXVIII. Gordon Musical Aptitude Profile Totaled Test Scores for Rhythm Imagery for Students of Control Class I ..... 80

XXXIX. Gordon Musical Aptitude Profile Totaled Test Scores
for Rhythm Imagery for Students of Control Class II

XL. Gordon Musical Aptitude Profile Test Scores for
Phrasing Factor of Musical Sensitivity for Students
of the Experimental Class ..... 82
XLI. Gordon Musical Aptitude Profile Test Scores for Phrasing Factor of Musical Sensitivity for Students of Control Class I ..... 83
XLII. Gordon Musical Aptitude Profile Test Scores for Phrasing Factor of Musical Sensitivity for Students of Control Class II . . . . . . . . . . . . . . . . ..... 84
XLIII. Gordon Musical Aptitude Profile Test Scores for Balance Factor of Musical Sensitivity for Students of the Experimental Class ..... 85
XLIV. Gordon Musical Aptitude Profile Test Scores for Balance Factor of Musical Sensitivity for Students of Control Class I ..... 86
XLV. Gordon Musical Aptitude Profile Test Scores for Balance Factor of Musical Sensitivity for Students of Control Class II ..... 87
XLVI. Gordon Musical Aptitude Profile Test Scores for Style Factor of Musical Sensitivity for Students of the Experimental Class ..... 88
XLVII. Gordon Musical Aptitude Profile Test Scores for Style Factor of Musical Sensitivity for Students of Control Class I . . .......... . . . . . . . ..... 89
XLVIII. Gordon Musical Aptitude Profile Test Scores for Style Factor of Musical Sensitivity for Students of Control Class II ..... 90
XLIX. Gordon Musical Aptitude Profile Totaled Test Scores for Musical Sensitivity for Students of the Experi- mental Class ..... 91
L. Gordon Musical Aptitude Profile Totaled Test Scoresfor Musical Sensitivity for Students of Control
Class I ..... 92
LI. " Gordon Musical Aptitude Profile Totaled Test Scores for Musical Sensitivity for Students of Control Class II ..... 93
Table Page
LII. Gordon Musical Aptitude Composite Test Scores for Students of the Experimental Class ..... 94
LIII. Gordon Musical Aptitude Composite Test Scores for Students of Control Class I ..... 95
LIV. Gordon Musical Aptitude Composite Test Scores for Students of Control Class II ..... 96
LV. Pre-Test Snyder Knuth Music Achievement Test Scores for Students in the Experimental Class ..... 98
LVI. Pre-Test Snyder Knuth Music Achievement Test Scores for Students in Control Class I ..... 99
LVII. Pre-Test Snyder Knuth Music Achievement Test Scores for Students in Control Class II ..... 100
LVIII. Pre-Test of Scale to Measure Musical Attitudes of Elementary Education Majors Toward Music of Students in the Experimental Class ..... 102
LIX. Pre-Test of Scale to Measure Musical Attitudes ofElementary Education Majors Toward Music of Studentsin Control Class I .. . . . . . . . . . . . . . . . 103
LX. Pre-Test of Scale to Measure Musical Attitudes of Elementary Education Majors Toward Music of Students in Control Class II ..... 104
LXI. College Grade Point Average of Students in the Experimental Class ..... 106
LXII. College Grade Point Average of Students in Control Class I ..... 107
LXIII. College Grade Point Average of Students in Control Class II ..... 108
LXIV. Post-Test Snyder Knuth Music Achievement Test Scores for Students in the Experimental Class....... . . ..... 110
LXV. Post-Test Snyder Knuth Music Achievement Test Scores for Students in Control Class I ..... 111
LXVI. Post-Test Snyder Knuth Music Achievement Test Scores for Students in Control Class II ..... 112
LXVII. Post-Test of Scale to Measure Musical Attitudes of Elementary Education Majors Toward Music of Students in the Experimental Classes ....... 114
LXVIII. Post-Test of Scale to Measure Musical Attitudes of Elementary Education Majors Toward Music of Students in Control Class I................. 115
LXIX. Post-Test of Scale to Measure Musical Attitudes of Elementary Education Majors Toward Music of Students in Control Class II . ...... . . . . . 116

## CHAPTER I

THE PROBLEM

## Introduction

For more than a decade music educators have been particularly concerned regarding music teaching methods used in the classroom, and the corresponding lack of musical insight, appreciation, and the ability resulting from the methods used. Resultant of this concern, there have been regional and national meetings of leading music educators to reevaluate music education, its goals, its strengths and weaknesses, and the methodology used in teaching music. In a lecture at the national convention of the Music Educators National Conference in Seattle on March 17, 1968, John I. Goodlad said most of the revolution in schools and methodology has just been a talking revolution, with really little fundamental change occurring ${ }^{1}$

Methods of teaching music in the schools of the United States, through the present day, were essentially based on an intellectual, fact learning approach. According to Hewson, ${ }^{2}$ this approach to teaching was mechanistic and meaningless. He documented this by stating
${ }^{1}$ John I. Goodlad, Seattle Times, "Education Is Mankind's Salvation, Says Dean," March 17, 1968, p. 11.
${ }^{2}$ Alfred T. Hewson, "Music Reading in the Classroom," Journal of Research in Music Education, Vol, XIV, No. 4, Winter 1966, p. 302.

> . the popular method of teaching music coday usually employs the specific to the general approach. In such a curriculum, each step is drilled separately, until all the steps have been thoroughly assimilated. Then, the techniques are combined, and the "whole" is achieved.
> As musical activities grow more complex, so do the theorecical concepts representing these activities, such as notation, analysis, and theory. Musical insight and response usually precedes intellectual compartmentalization of music into its elements. In his writings about present-day music methodology, Palisca ${ }^{4}$ said that the abstraction of an idea from the flow of total involvement, if not properly timed, can be musically injurious.

Many leading music educators in the United States and abroad have felt an urgent need to evaluate music programs and measure the results of traditional teaching strategies. They felt that, while some of the twenty per cent of the public school students participating in performing groups approached professional levels, the instruction of the remaining eighty per cent was not as successful. ${ }^{5}$

Music educators at the Seattle Music Educators National Convention (MENC) showed a tremendous interest in how children developed musical concepts such as tone, rhythm, and timbre. It was the author's opinion that children learned best through experience and experimentation based on a multi-sensory approach. Since most teachers strongly reflected their academic experiences and background, the teachers of
${ }^{3}$ Hewson, op. cít., p. 302.
${ }^{4}$ Claude V. Palisca, Music in Our Schoo1s: A Search for Improve* ment (Washington, D. C., 1964), p. 6 .
${ }^{5}$ Paul. R... Lehman, "Music for Nonperformers Needed, Says Educator Here, " Seattle Times, March 11, 1968, p. 18.
their student days, and the academic climate of the school from which they graduated, it was the intent of the present study to help deter. mine a method or methods for prospective elementary school teachers which would provide them with skills and attitudes necessary for the carrying through of music instruction which would better teach children music and musicianship.

## The Statement of the Problem

A review of the literature, regarding music methods used today, strongly indicated that they need thoughtful review, revision and, perhaps, supplementation or replacement. The mechanistic, note-reading, fact-learning methods have proven to be quite inadequate in enhancing musicality and improving musicianship. The literature further suggested that methods involving the whole person, promoting insight, utilizing experience, synthesizing all of music into a Gestalt, would result in a much more effective learning situation.

It was the purpose of this study to determine the relative effectiveness and efficiency of teaching music with an "omnibus approach" ${ }^{6}$ when contrasted with the conventional fact*and-note learning method in the following areas: (1) in imparting insight and comprehension in the learning of musical facts, (2) in the development of positive attitudes regarding music, and (3) in the acquisition of music ability.
${ }^{6}$ Throughout this study, the "omnibus approach" will be considered as a composite method involving multiwsensory experiences utilizing bodily motion, singing, listening, and playing of rhythmic and melodic instruments. Following these actual musical experiences, the correlative theoretical concepts of music fundamentals will be presented.

Prior to attempting this comparison, it was requisite to determine whether or not homogeneity existed among the Experimental and Control Classes I and II in musical and academic aptitude. The degree to which these aptitudes were present was measured by the Gordon Musical Aptitude Profile, and the acquisition of the mean college grade point average of each group.

## Hypotheses

The hypotheses under test were that:

1. There would be no significant differences between scores attained by the experimental and the two control groups in response to the Snyder Knuth Music Achievement Test.
2. There would be no significant differences between scores attained by the experimental and two control groups in response to the scale to measure attitudes of college elemenţary education majors toward music.

Need for the Study

That there was an urgent need for different and revised techniques and methods of teaching was illustrated by such meetings as the 1967 Tanglewood Symposium. At this national meeting, where top-level musicians, music educators and knowledgeable laymen met and discussed the critical issues regarding music and music education, Louis Wersen ${ }^{7}$

[^0]charged the music teaching profession thusly:
In an era of protest, irritation, and rapid change, when students tell us that the music we teach and the methods we use are irrelevant and ineffectual, music educators cannot simply sit back with eyes closed and ears tuned backwards.

Goodlad ${ }^{9}$ said that aid must be found for the general elementary classroom teachers, since they often have taught all subjects, and without the necessary equipment to provide meaningful and lasting musical experiences. He further said that there was much work to be done in music education before it came abreast with a number of other academic fields. To illustrate this, he mentioned the development of a new math, a new physics and a new biology, to meet contemporary demands, then pointed out that music education had not altered its format to meet present-day needs. It was the opinion of Gary ${ }^{10}$ that pure knowledge about music was extremely sterile, and took on musical meaning only after musical experience. He felt that methods of instruction in music should of necessity, change.

Information about music will not develop either a responsiveness to it, or appreciation of it. As Wilson ${ }^{11}$ said, this comes only
${ }^{8}$ Judith Murphy and George Sullivan, Music in American Society: An Interpretive Report of the Tanglewood Symposium (Washington, D. C., 1967), p. 57.
${ }^{9}$ John I. Goodlad, "Music's Place in Education," Greative Approaches to School Music (Chicago, 1967), p. 2.
${ }^{10}$ Charles L. Gary, "Music Education," Curriculum Handbook for School Administrators (Washington, D. C., 1967), p. 194.

11 Harry R. Wilson, "On Following Yonder Star," Music Educator's Journal, Vo1. 54, No. 9, May 1968, p. 4.
through experience. Paul Lehman, ${ }^{12}$ a music education specialist for the United States Office of Education, Washington, D. C., said that it was not the fault of the child when he could not tell one melody from another, but the fault of music educators for not having found out how to teach the child.

Many music educators have wondered whether the music field was now ready for the kind of basic curriculum reform which so dramatically altered instruction in the sciences and mathematics over the past decade. The prospect for such a new curriculum in music was suggested by a number of developments. Among these were experiments and demonstrations, such as brain-storming sessions, T-groups in which participants have no fixed agenda and concentrate on sharing their here and now perceptions of each other, sensory: awakening techniques to provoke the imagination and enable participants to come up with fresh ideas and feelings, and by new findings on children's creativity.

Page Bailey, ${ }^{13}$ professor of philosophy at Eastern Baptist College in Pennsylvania asserted that the old way of teaching music has proved inadequate, and that appreciation was not teachable. Thus it would follow that the individual himself can achieve appreciation through his own experiences, and the successful teacher was the one who had the methods, facilities, and ingenuity to present these experiences. Maslow's comment, "Our conventional education looks mighty sick,"14

12 Lehman, op. cit., p. 18.
13
Page Bailey, comments at the Tanglewood Symposium as recorded and cited by Murphy, op. cit., p. 33.
${ }^{14}$ Abraham- H. Maslow, "Music Education and Peak Experience," Music Educator's Journal, Vol. 54, No. 6, Feb. 1968, p. 74.
was a strong indictment of our present-day methods and techniques of instruction, and indicated a definite need for change.

The elementary education majors, being trained by our colleges and universities, were those individuals likely to have a most influential role in the shaping of musical values and attitudes of the next generation. Resultantly, the training of elementary education students, in the opinion of the author, was of primary importance to those concerned with music education in America.

This study was undertaken by the author, using elementary education students as subjects, to acquire data regarding the efficiency of both the omnibus approach and the traditional approach as teaching methods for the Fundamentals of Music. If the data showed significant differences favorable to the omnibus approach, the study was in a position to make a contribution to the advancement of more effective music methods,

## Subjects

The subjects for this study were Central State College, Edmond, Oklahoma, sophomore and junior men and women students majoring in elementary education and enrolled in the Fundamentals of Music course. During the enrollment period, the students randomly selected one of the four sections of the course offered. There was no information, either in the catalog or otherwise, available to the enrolling students that one class was to be taught any differently than the others.

After the completion of enrollment, when the experimenter first met her two sections of Fundamentals of Music, she explained the experiment to them. As had been decided before enrollment, the 9:30 a.m.
section was to function as a control group and the $10: 30$ a.m, group as the experimental group. A third section of Fundamentals of Music, taught by another instructor, was also used as a control group. The groups were identified as follows:

Group I: The experimental group taught by the experimenter using the omnibus approach.

Group II: The control group taught by the experimenter using traditional methods.

Group III: The second control group, taught by another instructor, also using traditional methods.

The literature regarding music teaching methods, reviewed in Chapter II, illustrates the ineffectual nature of present-day methods, and the pressing need for the development and use of more effective methods. Chapter III is a discussion of the methodology and procedure used in this study to acquire the data for analysis and interpretation. The data and the analysis of the data are presented in Chapter IV, while the concluding chapter, Chapter $V$, contains the summary, recommendations and conclusions of this study.

## RELATED LITERATURE

A review of the literature indicated a need for additional, new or altered methods in music education, and use of good, available, but neglected methods. The intellectual approach was essentially the basis for present-day music methodology, to the neglect of other valuable teaching methods.

The Literature

The basic aim of music education is the development of musicality. But what is musicality? The literature provided many diverse definitions. Mursell postulated that musicality was organic, perceptual, and emotional responsiveness to tone itself, and further elaborated this when he said:

The tendency has been to place whole emphasis upon problems of pattern, organization, skill, technique, and intellectual understanding. These matters...are without doubt of importance. But they are the branches, not the main trunk. Many weaknesses, many failures in music education come from cultivating them in isolation from the stem out of which their life flows. A developmental scheme of music education will most assuredly foster a wide variety of musical achievement, experience, and expertness. But in and through and during all such endeavors it will always assiduously cultivate that responsiveness to emotional and expressive values which is the living principle of the art of music itself, and which springs from our profound natural response to the medium of
tone. 1
Archie Jones ${ }^{2}$ said musicality was intellectual competency in music, while Lehman ${ }^{3}$ believed it to be the potential or capacity for musical achievement. Whybrew ${ }^{4}$ held the opinion that musicality was the having of those qualities or traits which permit or facilitate the acquisition or development of musical skills. Kyme 5 presented two concepts of musicality: (1) musicality was the ability to express a musical idea through pitch and time, (2) musicality was the ability to thoroughly grasp a musical idea when heard. In respect to language, verbal ability was considered the analogous quality.

In this study, "musicality" was considered as a synthesized composite of all musical experiences, activities and learnings, as well as native ability of a given individual. Stated differently, musicality was considered the Gestalt of all attributes, both native and learned, contributing towards one's potential for music.

In 1963 a group of music teachers, musicians, composers, and other
$1_{\text {James }}$ L. Murse11, Education for Musical Growth (New York, 1948), pp. 30-31.
${ }^{2}$ Archie Jones, Music Education in Action (Dubuque, Iowa, 1964), p. 6.
${ }^{3}$ Paul R. Lehman, Tests and Measurements in Music (New Jersey, 1968) , p. 8.
${ }^{4}$ William E. Whybrew, Measurement and Evaluation in Music (Iowa, 1962), p. 48.
${ }^{5}$ George H. Kyme, "A Study of the Development of Musicality in the Junior High School and the Contributions of Musical Composition to this Development," Council for Research in Music Education, Bulletin No. 10, Summer 1967, Curriculum Laboratory, College of Edum cation, School of Music, University of Illinois, pp. 15-23.
musically interested people, discontented with the results of music teaching in the public schools, met at Yale University to hold a seminar regarding music education, with appraisal and revision of current practices in music education being their goal. As a result of this seminar, there were many statements of concern regarding music education, and suggestions as to how it might be improved.

Findings emanating from the Yale seminar expressed considerable dissatisfaction over the deplorable condition of music as it has existed in our schools over the past several decades. Several music teachers ${ }^{\text {P }}$ organizations, long concerned with the inadequacy of teaching methods, have sought a thorough revision of methodology. After realizing that elements of challenging intellectual and aesthetic substance were frequently missing from the music curriculum, the 1962 national convention of the Music Educators National Conference focused its attention on "The Study of Music, An Academic Discipline," the theme of the convention. The College Music Society and the American Musicological Society, both outside the immediate field of elementary and secondary education, have actively explored means for improving and strengthening teaching procedures.

Hewson ${ }^{7}$ stated that if all the available techniques of teaching were analyzed, the result would be two fundamental concepts: (1) teaching from the specific to the general, and (2) teaching from the

[^1]general to the specific. Present-day teaching methods usually worked from the specific to the general, accomplishing one step at a time, with the combination of all steps in a unified entity being the ultimate goal.

The method of teaching music from the general to the specific was not as simple for the teacher to present. This method required that a learner initially experience a musical situation in its natural setting. Though some repetition was needed, this experience brought to the student a definite sense of enjoyment, with resultant musical insights the teacher had planned for him to gain. Murphy ${ }^{8}$ felt that a student can discover facts and accomplish insights this way without even knowing he is being instructed. Only after the child has experienced the concept can the problem be isolated and explained verbally with adequate success.

Current literature established Carl Orff, ${ }^{9}$ internationally known as a composer and conductor, as one of the best known and most successful of the contemporary innovators in the field of music methods. His work in elementary methods came into being in the nineteen twenties, when a new feeling for physical activity, sports, gymnastics and dancing seized the youth of Europe.

In 1924, Carl Orff and Dorothee Guenther founded the Guentherschule for gymnastics, music, and dance in Munich. This provided Orff
$8_{\text {Howard A. Murphy, Teaching Musicianship: A Manual of Methods }}$ and Materials (New York, 1950), p. 44 .
${ }^{9}$ Carl Orff, "Orff-Schulwerk: Past and Future,"' Perspectives in Music Education: Source Book III (Washington, D. C., 1966), p. 386 .
with an experimental field for his ideas about "a reciprocal interpenetration of movement and music education. ${ }^{10}$ The rhythm of music became of prime importance, and harmonic learning was assigned a minor role. Orff encouraged his students to play or sing their own compositions or improvisations for their physical education. He dispensed with musical accompaniment played by non-participants in the physical activity. To be able to improvise was not only important per se, but the learning of this technique led his students to spontaneous, personal, musical expression. It was this blending of movement, singing, and playing that was the basis of Orff's work. ${ }^{11}$

With this concept of unity, Orff's method seemed to materialize: elementary music, elementary speech and movement forms. Essentially, "elementary" meant pertaining to the elements, primeval, rudimentary, treating of the first principles. According to Orff, elementary music was never music alone, but formed a unity with movement, dance, and speech. It was music that one made oneself, in which one took part not as a listener, but as a participant.

Orff's music for children, according to Nash, was introduced in the Middlefork School, Northfield, Illinois, on an experimental basis
${ }^{10}{ }_{\text {Orff, }}$ op. cit., p. 387.
${ }^{11}$ During the course of events in Germany, in 1932, the Guentherschule was destroyed and completely burned. It was not until after World War II, in 1948, that Carl Orff was able to re-establish his work in elementary methods, and then at the request of Dr. Panofsky of Bavarian Radio. Orff's music methods have now spread world-wide, including Canada, Austria, Sweden, Denmark, Switzerland, Belgium, Holland, Eng1and, Portugal, Yugoslavia, Spain, Latin America, Turkey, Israel, the United States, and Japan.
in conjunction with the Music Center of the North Shore, Winnetka, Illinois, schools. Nash continued by giving her personal opinion of Orff's music:

What do I think about it as the instructor. . .? Just this: the Orff Music is so vital, so logical, and so right that we must train more and more teachers to present it. Personally, I could never go back to the traditional school music teaching (which I once did for ten years!). The Orff method assures development, musical growth, and individual progress for each child. No child remains static. He improves; in rhythmic and pitch sense, in speech and singing articulation, and in his over-all capacity to make music with an energy and concentration seldom experienced otherwise. ${ }^{12}$
The entire physical system, said Thresher, ${ }^{13}$ was almost unconsciously controlled by the brain in response to the dictates of musical rhythm. Hartse11 ${ }^{14}$ wrote in agreement with this when he said that a basic area of experience in music in the elementary school was planned in terms of response to music through bodily movement, and that music was movement as life is movement. McMi11an ${ }^{15}$ mentioned the importance of experiencing music with the whole person rather than with just the ears or fingers: alone.

Expressive movement as an activity in music was related to a similar activity in the area of physical education, as both involve
${ }^{12}$ Grace C. Nash, "The Orff Schulewerk in the Classroom," Music Educators Journal, April-May 1967, pp. 92-93.

13 J
Janice M. Thresher, "The Contributions of Carl Orff to E1ementary Music Education," Music Educators Journal, Jan. 1964, p. 43.
${ }^{14}$ O. M. Hartse11, Teaching Music in the Elementary School (Washington, D. C., 1963), p. 22.
${ }^{15}$ Eileen McMillan, Guiding Children's Growth Through Music (Mass., 1959), p. 46.
skills in movement and freedom for expression. It was the opinion of Swanson ${ }^{16}$ that common activities may lead to the special goals of each area: physical development, health and poise, for the one; and ability to listen to music, to explore it with the imagination, to hear and feel the expressive ideas contained in it, for the other.

Response to music involved patterned movement such as walking, running, skipping, marching or galloping. It was completely free, interpretive movement possibly in the form of singing games or folk dances; from one of the many different nationalities. Specific movement activities were selected according to the interests and physical capabilities of the class groups involved. In the opinion of Hartsell, ${ }^{17}$ the first activities for gradual development of a movement response to music were usually concerned with guiding students in finding freedom of movement to music carefully selected for this purpose.

Development of a basic musicality was necessary before the teaching of notation, music reading, composition or analysis was possible, for these skills were mechanical and meaningless without it. Musicality was developed through vocal and instrumental performance; bodily movement; vocal and instrumental creation, both improvised and written; and attentive listening and ear training. These facets of music were understood as components of a simultaneous and continuous process. Since bodily movement can be a preparatory stage for performing on instruments, creative rhythmic movement in response to music should
${ }^{16}$ Bessie R. Swanson, Music in the Education of Children (Calif., 1951), p. 28.
${ }^{17}$ Hartse11, op. cit., p. 22.
be introduced early.
From the first, musical instruments used were of high quality and the literature was genuinely good. Of equal importance to performance was the creating of music, which should accompany all other musical activities from the outset. The researcher noted that the literature frequently credited listening as another learning activity, not as a means of recreation and relaxation only. All listening should aim at ear training. This includes such musical elements as tempo, timbre, form, style, dynamics, and duration as well as pitch and rhythm. The music class must be considered as a laboratory in which music is taught through experimentation and physical exposure, and not merely a place where students assemble to collect the correct facts and attitudes dispensed to them. ${ }^{18}$

New and revised methods of teaching, as well as new materials will be needed for a curriculum based on this approach to teaching music. To carry out these goals, the teachers will not only have to be trained musicians, but trained in contemporary methodology, and be themselves creative and ingenius. Appropriate audio-visual equipment, texts, films, slides, tapes, musical instruments and sound making instruments must be available.

The study, titled "Guiding the Development of Musicality in

The experimental music class used in this study was just such a laboratory. Basic Orff concepts and instruments were utilized in conjunction with other innovative techniques by the author.

Elementary School Children" ${ }^{19}$ involving fifteen hundred children and seventy-five teachers conducted in the Madera County Schools, Madera, California was similar to the present study in that it also used innovational instructional approaches utilizing multi-sensory channels toward the discovery of the conceptual structure of music through the avenues of movement, rhythmics, singing and instrumental playing. Beyond this, emphasis was also placed on discovery and improvisatory activities.

The findings of the Madera County project indicated that children can be taught to focus attention to details in music which permit them to make judgments of appropriateness of melody, harmony, rhythm, timbre, and form in musical works chosen to represent a wide spectrum of music. For the lower grades, the project purportedly attempted to measure sensitivity to all kinds of music and, in a sense, to measure the student's musical attitudes resultant of innovational techniques used.

In the upper grades, children were reported to be equally sensitive to the beauties of contemporary music, as to the beauties of traditional music composed by "classic" masters. Test results indicated that students in the innovative curriculum scored highest in rhythm and form, but regressed in the appreciation of harmony.

It was the opinion of Harry Broudy ${ }^{20}$ that the relentless pressure
${ }^{19}$ Joseph W. Novello, Final Report, Guiding the Development of Musicality In Elementary School Children, Madera, California: Madera County Schools Office and Title III, Elementary and Secondary Education Act of 1965, Project No. 66-1418, Grant No. OEG-6-001418-0916, p. 1 .

20
Harry Broudy, comments at the Tanglewood Symposium as recorded and cited by Murphy, op. cit., p. 48.
on the student of today, to be literal, factual, and scientifically terse, was one of the stumbling blocks to aesthetic education. Though modern man probably could not survive without these characteristics, they do inhibit the aesthetic mode of experience, if they do not destroy aesthetic capacities entirely.

The literature indicated that certain college administrators felt that the content and methods of instruction needed great transformation, with individualized education taking a new preeminence. ${ }^{21}$ They also felt that in-service education would be essential, for one cannot expect schoolteachers who were, throughout their own training, exposed mainly to uninspired instruction, suddenly to provide creative teaching in their classrooms. A criticism of college music teachers was that they are so completely engrossed in their own subject field that they have not taken time to develop creative ways of bringing creative experiences to their students, but it is hoped and felt that college faculties of the future will find ways of comunicating with one another their methods for motivating learning and for evaluating the results.

Dynamic learning experiences frequently result when teachers do not suppress their student's questions, but use such curiosity as a springboard for further learning. Recent studies confirmed creative

[^2]learning as a most effective means of developing pupils. Stark's ${ }^{22}$ opinion was that teachers who developed and applied their own creativity to the classroom were more effective than would otherwise have been the case.

The old truism that we learn by doing constantly reappeared in the literature. Hartshorn's way of saying this was "a person learns what he himself does. ${ }^{23}$
"What we need is not to 'know' the truth but to experience it." ${ }^{24}$

Summary and Conclusions of Related Literature

Bold new approaches in music teaching must be tried, and the curriculum reappraised and altered appropriately. Musical development is continuous, coordinated, simultaneous growith through vocal and instrumental performance, bodily movement, attentive listening, ear training, and improvisation. It is assumed that everyone has a certain amount of native musicality and, if properly approached, this potential can be developed in everyone.

The findings of this survey of the literature were as follows:
${ }^{22}$ Charles John Stark, "Creativity: It's Application to the Theory and Practice of Music Teaching," Perspectives in Music Education: Source Book III (Washington, D. C., 1966), p. 223.

23
William C. Hartshorn, "The Teaching of Music," Perspectives in Music Education: Source Book III (Washington, D. C., 1966), p. 215 .
${ }^{24}$ C. G. Jung, Seelenprobleme der. Gegenwart (Zurich, 1939) as quoted by $S_{\text {. Levarie and }} \mathrm{E}$. Levy, Tone: A Study in Musical Acoustics (Ohio, 1968).

1. The methodology currently used in most schools needed revision, supplementation, or replacement.
2. Methods need to be developed and used which would enhance individual growth.
3. The methods needed to stress participation rather than such great dependence on the intellectual approach, which included only minimum participation.
4. Methods should work from the general to the specific, rather than from the specific to the general, which is currently in vogue.
5. There should be considerable use of bodily motion to enhance rhythmic comprehension.
6. Classroom techniques should present a felt need through actual musical experience.
7. Basic musicality should be developed before the presentation of abstract concepts.
8. Prospective teachers must learn new, functional methods for teaching music, and in*service education must be provided for classroom and music teachers now in service.

The literature supported the foregoing needs, and established the urgency for revision of music methodology. While general avenues of approach were presented, specific, functional methods were absent. These findings illustrated the need for this study, a research project that compared the improvement in musical skills and attitudes in classes taught by two methods, the traditional method and the omnibus approach.

METHODOLOGY AND PROCEDURE

During the spring semester of 1969, ninety-five elementary education majors, enrolled in any one of three sections of the Fundamentals of Music course at Central State College, were the subjects used to gain the necessary data for this study. Central State College, a taxsupported institution, located near the geographic center of Oklahoma, has an enrollment in excess of ten thousand.

The Traditional Approach

The traditional method of teaching the Fundamentals of Music has shown itself to be inadequate. The understanding and appreciation of music has declined to a point where musicians and music educators are alarmed for the future of music.

The author believed that the learning of the Fundamentals of Music could be a matter of considerable interest and urgency if there was an immediate expressive purpose for which they were needed. The omnibus approach provided this interest and urgency while in contrast the traditional approach was relatively dull and unprovocative.

A class session, regarding rhythm, typical of the traditional approach, learned facts in the following sequence: (1) table of notes and rests, (2) the staff, (3) the bar line, (4) the measure, and, (5) meter signatures. This lecture was characterized by: (1) a
mathematical analysis of note values, (2) the mechanics of the score, which were typified by the concepts of the time signature, bar lines and measures, and, (3) the concepts of metric pulse in its variations, Following this presentation, it was assumed that the student had a thorough grasp of rhythm.

## The Omnibus Approach

In contrast, a typical omnibus class session studying rhythm incorporated: (1) the production of metric patterns, (2) bodily movement, (3) melodic improvisation, and (4) an aural perception of music. The concept of rhythm was enhanced and personalized by the student's use of: (1) rhythmic instruments, such as: claves, drums, tambourines, woodblocks, maracas; (2) rhythmic-melodic instruments, such as Orff's bass xylophones, alto xylophones, soprano xylophones, alto metallophones, soprano metallophones, soprano glockenspiels, alto glockenspiels, tympani; and (3) melodic instruments typified by the recorder and human voice.

The student, using the facilities in a classroom, thusly equipped, experentially learned the "language" of music. The student learned rhythm and rhythmic contrast through bodily motion and the playing of rhythm instruments, rhythmic-melodic instruments, and melodic instruments. In conjunction with this rhythmic experience, the students learned rhythmic and melodic improvisation. These experiences stimulated a felt need within the learner for the intellectual aspects of rhythm and music in general, and thus gave the instructor the soughtfor opportunity to present the mechanical concepts necessary for the reading of musical notation.

It was the opinion of the author that a feeling for rhythmic and melodic patterns comes to learners through experience, not from 1istening to long dissertations on the subject.

## Musical Factors Studied

The factors determined, considered and analyzed in this study were: (1) the musical aptitude of each student, (2) the level of musical achievement before and after the semester's study, and (3) changes in attitudes toward music and the study of music resultant of the semester's study of Fundamentals of Music. These factors were obtained by application of the following instruments: the Musical Aptitude Profile developed by Edwin Gordon ${ }^{1}$ for the measurement of musical aptitude, (2) the Snyder Knuth Music Achievement Test developed by Alice Snyder Knuth ${ }^{2}$ for the measurement of musical achievement, and (3) a questionnaire designed by the author to determine changes in musical attitude. Each of these instruments were hand scored.

Administration and Scoring of Tests

The three tests were administered to all three groups by the author beginning on the second class period of the semester. The procedure before giving each test was to explain the mechanics and purpose of the test, and its relationship to the problem under study. The subjects were assured that the results of the tests would be kept

[^3]confidential, and that their own scores would be available to them following the completion of both the pre-test and the post-test.

In all of the testing situations the author personally gave all of the tests to help insure like testing conditions for all groups. In all cases the subjects were seated in classrooms under reasonably comfortable, quiet conditions. At the beginning of each testing period the author supplied each subject with all materials. Every effort was made to see that each subject understood what he was to do.

The author constantly supervised each group as the testing was in progress, supplying the subjects with new pencils when needed, and answering necessary questions as they arose.

## Selection of Tests

During the preliminary investigation of materials relative to this study, several tests in the area of musical aptitude and musical achievement were examined to determine the best instruments for the needs of this study. The following listed instruments, each with accompanying description, were those selected and used with this study.

Musical Aptitude Profile

The Gordon Musical Aptitude Profile was selected because it was designed to minimize musical achievement so that the most basic factors of musical aptitude--musical expression, aural perception, and kinesthetic musical feeling--would be adequately assessed.

In this study the author used the Musical Aptitude Profile to:
(1) determine the musical aptitude of each of the three groups, and
(2) find if homogeniety was present. The students' various scores
were also utilized for the purpose of providing appropriate instruction through group and individual teaching, emphasizing different methods and techniques, to compensate for their specific deficiencies, or to enhance their special musical aptitudes.

The Musical Aptitude Profile contained.three tests:. Tonal Imagery (Part I, Melody: Part II, Harmony); Rhythm Imagery (Part I, Tempo; Part II, Meter); and Musical Sensitivity (Part I, Phrasing; Part II, Balance; Part III, Style). In addition to diagnostic analysis of specific aspects of tonal rhythmic aptitudes, the test battery also included an appraisal of musical expression,

The complete battery of tests, including practice exercises and directions, was recorded on high fidelity magnetic tape. The tests consisted of original short selections which were composed for violin and cello, and were performed by professional artists. Each test item consisted of a musical "statement" followed by an "answer" of equal length.

The battery yielded eleven scores, with scores for each of the seven subtests, each of the three basic tests, and composite score.

According to Gordon, ${ }^{3}$ the reliability coefficients of the tests were about as high as those generally reported for academic aptitude tests and diagnostic achievement tests. Reliabilities differed somewhat from grade to grade, and from test to test, but were generally in the $.70^{\circ} \mathrm{s}$ and $.80^{\circ} \mathrm{s}$ for individual subtests; in the $.80^{\prime} \mathrm{s}$ and $.90^{\circ} \mathrm{s}$ for total tests; and approximately . 94 for the complete test. The validity coefficients ranged from . 64 to .97 , with a median of .79 .

[^4]Snyder Knuth Music Achievement Test

To acquire the information necessary for either the acceptance or rejection of the original hypothesis, relative to the efficiency of the "omnibus" approach in comparison to the traditional approach, in the teaching of music fundamentals, it was necessary to administer both a pre-test and a postatest to determine individual achievement in music.

The Snyder Knuth battery was designed to evaluate the musical background of the college student planning to major in elementary education. This test reflected the thinking of the author with respect to the course content of music for the education major. The basic elements of music, which Snyder said are rhythm, melody and harmony, were not separated in this test, but appeared as they normally do in music.

The complete test included 136 items, and was divided into four parts. Part $I$ contained forty-six items in which the student heard on tape a melody played on the piano and saw the notation on an accompanying film-strip. At one point in each melody, four alternative versions of the notation were given, and the student was to choose the correct response. There were also seven items from which he was to choose the harmonic sequences, indicated by Roman numerals most appropriate to accompany a notated melody.

Thirty-eight aural melodies were presented in Part II. The student was to (1) decide which of four contour lines best represented a given melody, (2) determine whether a melody moves by skips, steps, repeated tones, or a combination of these, (3) count the number of times the keynote, the octave or the tonic chord appears in a melody,
(4) determine which phrases of a melody are alike, (5) distinguish between duple and triple meter, and (6) distinguish between the major and minor modes.

Part III contained thirty-five items based on relationships between various musical symbols and terms: $A$ is to $B$ as $C$ is to which of four alternatives.

In Part IV the student was shown the opening phrases of ten wellknown melodies, and he was to choose which of four titles was the correct one. Parts III and IV involved visual stimuli only.

The battery yielded only one score. The author of the test claimed a reliability of .99 , based on the correlation between the two equivalent forms of the test. As evidence of content validity, she claimed that the test items are typical of the material found in basic series books and in curriculums for elementary education majors. ${ }^{4}$

## The Questionnaire

The subjects also completed a questionnaire devised by the author to assess certain attitudes towards music.

Pilot Study for Questionnaire

After surveying the field of available tests, it seemed apparent no appropriate tests measuring musical attitude were available. The only solution was the construction of an instrument to measure musical attitude. Upon completion of the questionnaire entitled, Scale to Measure Attitudes of College Elementary Education Majors Toward
${ }^{4}$ Knuth, op. cit., pp. 5-6.

Music 5 strengths, weaknesses, and general usability.

The questionnaire was given to a class consisting of junior and senior music majors, and to a class of non-music majors, also upperclass students. A few of the questions were discarded, as both groups answered them alike, with no spread over the scale of choices. Several questions were retained because of their informative value, even though change was un1ikely.

As the mean score for the music majors was eleven points higher than that of the non-majors, it appeared that musical attitude was alterable through education in, and exposure to, music. Based on this, it seemed that, at least in part, the questionnaire was able to detect change in musical attitude. Thus, based on the results of the pilot study, the questionnaire was refined and used as a measure of musical attitude in this study.

Rating Scale for the Questionnaire

The author chose the method of scoring attitude scales referred to as "Summated Ratings" which was developed by Likert ${ }^{6}$ and was first reported in 1932 . This technique was similar to methods in use in the mental testing field. In Likert's method, five categories of responses are provided for each item, ranging from "strongly approve" to "strongly

[^5]disapprove." The scoring process is a " $5-4-3-2-1$ " system. The name,
"method of summated ratings," was assigned by Bird.
In this type of scale, the scale value is the sum of all the numbers assigned to the response which the subject made. Since a subject has rated his opinions along a horizontal line and the experimentor has summated all of these ratings, I have used the name "Method of Summated Ratings" to designate the technique. ${ }^{7}$

Literature Related to the Questionnaire

For an investigation of activities termed "appreciation" or "enjoyment" of music, Hevner devised a musical attitude test. In reporting her findings, Hevner stated that:
. . .the measurement of this variable is somewhat more difficult than the measurement of more openly controversial attitudes.. . since in regard to the value of music, the range of attitude is largely between "indifference" and "enthusiasm."8

A survey of Dissertation Abstracts ${ }^{9}$ yielded two studies indexed under "Music Attitudes" which seemed to be relevant to this study. One study was completed in 1958 at Northwestern University by Evans. In Evan's study certain factors of musical experience, factors affecting attitudes toward teaching music in the elementary classroom and relationships between experience and attitude were investigated. It was concluded from this study that:
${ }^{7}$ Charles Bird, Social Psychology (New York: Appleton-Century Company, 1940), p. 159.
$8_{\text {Kate Hevner, "Appreciation of Music and Tests for Appreciation of }}$ Music," Studies in Appreciating Art, Studies in College Teaching, Vol. 1, Bulletin 3, University of Oregon Publications, Vol. 4, No. 6, p. 138.

9issertation Abstracts, 1952-1963, 23 volumes.


#### Abstract

A correlation of .56 was found between factors of musical experience and attitude toward teaching music... Musical activities in the home are a strong factor of musical experience and subsequent attitudes... Those with greater musical experience had more favorable attitudes toward teaching music... Particularly favorable or unfavorable experiences in music have strong influences on attitudes toward music... 10


## Comparisons

The subtests, basic tests, and composite scores of the Gordon
Musical Aptitude Profile were obtained. Pre-test and post-test scores of the following tests were obtained: the Snyder Knuth Music Achievement Test, and the Scale to Measure Attitudes of College Elementary Education Majors Toward Music. These scores and the cumulative grade averages of the three groups: were then plotted in charts for interpretation.

Method of Statistical Analysis

The comparisons described above involved a test of significance to determine the significance of difference between means.

For the test of significance of difference between means, the "t" test was employed involving the following formulas: ${ }^{11}$
${ }^{10}$ C. H. Evans, "A Study of the Factors Affecting the Attitudes of Elementary Classroom Teachers Toward Teaching Music" (Unpublished Doctoral Disseration, Northwestern University, Chicago, Illinois, 1958), p. 288.
$11_{W}$. James Popham, Educational Statistics: Use and Interpretation (New York; 1967), p.,145\%.

Formula (9.1) Separate Variance t Model


Formula (10.1) Pooled Variance t Model

$$
t=\frac{\bar{x}_{1}-\bar{x}_{2}}{\sqrt{\left(\frac{\Sigma x_{1}^{2}+\Sigma x_{2}^{2}}{n_{1}+n_{2}-2}\right)\left(\frac{1}{n_{1}}+\frac{1}{n_{2}}\right)}}
$$

As the data in the pre- and post-test comparisons are likely positively correlated, this correlation was checked by computing the Pearson product-moment correlation coefficient. . The following formula was used: ${ }^{12}$


Since there was a relationship between the scores composing the groups, as indicated by $r$, a special $t$ model was used which is designed specifically for this purpose. This correlated "t" model embodies an adjustment expression which subtracted from the denominator of the separate variance " $t$ " model, thereby increasing the magnitude of

[^6]"t". 13 The following formula was used to test the significance of the difference between means of the post-test scores of the Snyder Knuth Achievemnt Test and the Music Attitude Scores.

Formula (10.3) Corrëlated Observations


Since the t-test is based upon the assumption that the variances are homogeneous, the F-test ${ }^{14}$ was applied to test their homogeneity.

Exact levels of significance were reported where possible for the convenience of the reader. In general, if levels of significance in which probability of occurrence is less than five chances in one hundred ( 0.05 ), the difference was considered of significance and of concern for the present study.
$13_{\text {Popham, op. cit., p. }} 145$.
${ }^{14}$ Popham, op. cit., p. 145.

## PRESENTATION AND ANALYSIS OF DATA

## Presentation of Data

The data in Tables $I$ and II presents information regarding the musical aptitudes of the classes tested as measured by the Gordon Musical Aptitude Profile. Data concerning the mean grade point averages of the tested classes were set forth in Tables III, IV and $V$. Tables VI through XIII contained music achievement data pertinent to pre-test and post-test mean test score comparisons of information gathered through use of the Snyder Knuth Music Achievement Test. Data set forth in Tables XIV through XXI deals with the musical attitudes of the students in the experimental and control classes as established by the Scale to Measure Attitudes of College Elementary Education Majors Toward Music. There were three general types of comparisons: (1) pre-test data comparisons, (2) post-test comparisons, and (3) comparisons of the pre-test data against the post-test data.

Located in Appendix $A$, are Tables XXII through LIV, which presented data regarding the musical aptitude of the Experimental Class, Control Class I and Control Class II: these data were obtained through the administration of the Gordon Musical Aptitude Profile, Presented in Tables LV through LVII (Appendix B) are the data regarding the pretest of the Snyder Knuth Music Achievement Test for the three groups
under study. Meanwhile, found in Appendix C, Tables LVIII through LX, are the data obtained from the initial completion of the Scale to Measure Attitudes of Co1lege Elementary Education Majors Toward Music.

Cumulative college grade point averages data for each of the groups under consideration are located in Appendix D, Tables LXI through XLII. Snyder Knuth Musical Achievement Test post-test.score data are in Appendix E, Tables LXIV through LXVI. Tables LXIX, Appendix F, give the post-test scores of the Scale to Measure Attitudes of College Elementary Education Majors Toward Music. A copy of the Scale to Measure Attitudes of College Elementary Education Majors Toward Music and a Report of Testing form for students is contained in Appendix G.

## Analysis of Data

In general, the hypothesis advanced at the beginning of this study stated that the elementary education majors enrolled in the Fundamentals of Music taught by the omnibus method, would attain significant differences in achievement and attitude over those taught by the traditional method. The data in this chapter were examined and analyzed to determine the validity of this hypothesis.

## Aptitude Results of the Gordon Musical Aptitude Profile

The Gordon Musical Aptitude Profile was given the three groups under study to determine if homogeneity of musical aptitude existed, or to discover if significant differences existed between the Experimental C1ass and Control Classes I and II. When compared, Control Classes I and II had one significant difference at the . 05 level in

Part III, S2: Balance. However, when the composite scores were compared in Table IV, no significant differences were present among the three groups.

On the Gordon Musical Aptitude Profile composite test scores for the students in the Experimental Class, Table LII, the scores ranged from a standard score of 45 , to a standard score of 69, with a mean score of 59.26. Table LIII contains the composite scores of Control Class I, which range from 44 to 77 , with a mean score of 57.88 . The composite scores of Control Group II, ranging from 41 to 67 , and with a mean score of 59.25 are listed in Table LIV. The highest composite standard score possible is 72.

## Grade Point Data of Subjects

The grade point average for each student involved in this study was contained in the table appropriate to his class, Table LXI, LXII, or LXIII. The data in Table LXI showed that the students of the Experimental Class had grade point averages (on the 4.00 scale) that ranged from 1.40 to 4.00 , with a mean grade point average of 2.627 . Control Class I had grade point averages that ranged from 1.40 to 4.00 , with a mean grade point of 2.71 , as the data illustrated in Table LXII. As was presented in Table LXIII, Control Class II had a grade point average that ranged from 1.98 to 3.73 , with a mean grade point of 2.67。

The data in Tables III, IV and $V$ indicated that no significant differences existed between the grade point averages of the three classes. This established homogeneity among the three classes regarding their level of academic aptitude.

TABLE I
COMPARISON OF GORDON MUSICAL APTITUDE PROFILE MEAN TEST SCORES OF THE EXPERIMENTAL CLASS AND CONTROL CLASS I

| Test | Control Class <br> I Meañ Score | Experimental Class Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T1: Melody | 55.93 | 57.48 | 0.8245 | $>20$ | 1.191 | >. 10 |
| T2: Harmony | 54.73 | 58.90 | 1.9319 | $>.05$ | 1.272 | >. 10 |
| Tonal |  |  |  |  |  |  |
| Imagery | 55.63 | 58.57 | 1.5976 | $>.10$ | 1.468 | >. 10 |
| R1: Tempo | 57.32 | 60.67 | 1.8543 | $>.05$ | 1.685 | >. 10 |
| R2: Meter | 61.61 | 58.43 | 1.5779 | $>.10$ | 1.122 | >. 10 |
| Rhythm |  |  |  |  |  |  |
| Imagery | 59.95 | 59.83 | 0.0714 | $>.20$ | 1.251 | >. 10 |
| S1: Phrasing | 58.05 | 60.81 | 1.2702 | $>.20$ | 1.037 | $\geqslant .10$ |
| S2: Balance | 55.90 | 58.74 | 1.8228 | $>.05$ | 1.244 | $>.10$ |
| S3: Style | 60.17 | 58.69 | 0.6956 | $>.20$ | 1.323 | $>.10$ |
| Musical |  |  |  |  |  |  |
| Sensitivity | 56.93 | 59.60 | 1.4294 | $>10$ | 1.653 | >. 10 |
| Composite | 57.88 | 59.26 | 1.0097 | $>.20$ | 1.315 | >. 10 |

TABLE II
COMPARISON OF GORDON MUSICAL APTITUDE PROFTLE MEAN TEST.: SCORES OF CONTROL CLASS I AND CONTROL CLASS II

| Test | $\begin{array}{r} \text { Control Class } \\ \text { I Mean Score } \end{array}$ | Control <br> Class II <br> Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T1: Melody | 55.93 | 59.17 | 1.0629 | $>.20$ | 1.228 | >. 10 |
| T2: Harmony | 54.73 | 59.75 | 1.4297 | >. 10 | 1.260 | >. 10 |
| Tonal |  |  |  |  |  |  |
| Imagery | 55.63 | 59.67 | 1.3419 | $>.10$ | 1.419 | >. 10 |
| RI: Tempo | 57.32 | 56.08 | 0.3973 | >. 20 | 1.330 | >. 10 |
| R2: Meter | 61.61 | 57.25 | 1.5503 | $>.10$ | 1.531 | >. 10 |
| Rhythm |  |  |  |  |  |  |
| , Imagery | 59.95 | 56.67 | 1.2533 | >. 20 | 1.140 | $>.10$ |
| SI: Phrasing | 58.05 | 56.83 | 0.3652 | $>.20$ | 1.177 | >. 10 |
| S2: Balance | 55.90 | 64.08 | 3.2291 | $<.05$ | 1.303 | $>.10$ |
| S3: Style | 60.17 | 62.00 | 0.5865 | $>.20$ | 1.554 | $>.10$ |
| Musical |  |  |  |  |  |  |
| Sensitivity | 65.93 | 61.00 | 1.3257 | $>.10$ | 1.179 | >. 10 |
| Composite | 57.88 | 59.25 | 0.6144 | >. 20 | 1.217 | >. 10 |

Achievement Results of Snyder Knuth Music Achievement Test

The pre-test findings of the Snyder Knuth Music Achievement Test are recorded in Tables LV, LVI, and LVII. The highest score possible on this test is 136. As reflected by the data of Table LV, the scores of the Experimental C1ass ranged from 35 to 99 , with a mean score of 59.19. The scores of the students in Control Class I (Table LVI) range from: 25 to 113 , with a mean score of 62.44 . The students in Control Class II had scores ranging from 38 to 95 , with a mean score of 61.50 , as presented in Table LVII.

Analysis of the pre-test scores of the Snyder Knuth Music Achievement Test, entered in Table VI, showed no significant differences existing between the mean score of the Experimental Class and Control Class I. The same was true of the comparison between Control Class I and Control C1ass II (Table VII).

As stated in Table LXIV, the post-test scores of the Experimental Class ranged from 61 to 115 , with a mean score of 84.50 . Meanwhile, 52 through 116 was the score range for Control Class I, with mean score of 74.38 , set forth in Table LXV. A mean score of 68.19 , resultant of a range of 45 through 103 for control Class II, is found in Table LXVI.

Comparison of the post-test Snyder Knuth Music Achievement Test mean scores, through statistical analysis, for the Experimental Class and Control Classes $I$ and II, was recorded in Tables VIII, IX and X. Table VIII contains a significant difference at the . 001 level with a " $t$ " value of 2.90445 between the Experimental Class and Control Class I. A significant difference at the . 01 level with a "t" value of

TABLE III
COMPARISON OF MEAN GRADE POINT AVERAGES OF EXPERIMENTAL CLASS AND CONTROL CLASS I

| Experimental <br> Class Mean <br> Grade | Control Class <br> I Mean Grade | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2.627 | 2.17 | 0.6419 | $>.20$ | 1.163 | $>.10$ |

TABLE IV
COMPARISON OF MEAN GRADE POINT AVERAGES OF CONTROL CLASS I AND CONTROL CLASS II

| Control Class <br> I Mean Grade | Control Class <br> II Mean Grade | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2.17 | 2.576 | 0.21311 | $>.20$ | 1.173 | $>.10$ |

## TABLE V

COMPARISON OF MEAN GRADE POINT AVERAGES OF EXPERIMENTAL CLASS AND CONTROL CLASS II

| Experimental <br> Class Mean <br> Grade | Control Class <br> II Mean Grade | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2.627 | 2.576 | 0.21649 | $>.20$ | 1.364 | $>.10$ |

2.60262 between the Experimental Class and Control Class II is located in Table IX. A comparison of Control C1ass I and Control C1ass II (Table X) reveals no significant differences.

Based on the preceding data, given in Tables VIII, IX and $X$, the first hypothesis, that there would be no signicant differences between the scores attained by the Experimental Class and Control Class I and Control Class II in response to the Snyder Knuth Music Achievement Test, must be rejected.

As data in the pre-test and post-test comparisons were likely positively correlated, this positive correlation was checked by computing the Pearson product-moment correlation coefficient. The pretest and post-test comparisons of the Snyder Knuth Music Achievement Test were presented in Tables XI, XII and XIII. This computation showed that all groups were significantly different with respect to the means of the pre-test and post-test results. All groups gained significantly, regardless of the method of instruction, in respect to normally expected achievement.

The correlated "t" test was computed to find if significant differences with respect to means existed. During the semester, two students had dropped from Control Class I, and one student had dropped from Control Class II. As this test required equal numbers for computation, it was necessary to drop two scores from Control Class I, and one score from Control Class II. The necessary equalization of numbers was accomplished by deleting the pre-test score that corresponded to the assigned number of the student who dropped the class, thus leaving an equal number for analysis. The Experimental Class enrollment remained constant throughout the semester.

TABLE VI
COMPARISON OF SNYDER KNUTH MUSIC AHCIEVEMENT TEST PRE-TEST MEAN SCORES OF EXPERIMENTAL CLASS AND CONTROL CLASS I

| Control Class <br> I Mean Score | Experimenta1 <br> Class Mean <br> Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 62.44 | 59.19 | 0.82128 | $>.20$ | 1.931 | $<.10$ |

TABLE VII
COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST PRE-TEST MEAN SCORES OF CONTROL CLASS I AND CONTROL CLASS II

| Control Class <br> I Mean Score | Control Class <br> II Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 62.44 | 61.50 | 0.14165 | $>.20$ | 1.237 | $>.10$ |

TABLE VIII
COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST POST-TEST MEAN SCORES OF EXPERIMENTAL CLASS AND CONTROL CLASS I

| Control Class <br> I Mean Score | Experimental <br> Class Mean <br> Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 84.50 | 2.90445 | $>.001$ | 1.9244 | $>.02$ |

TABLE IX
COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST POST-TEST MEAN SCORES OF EXPERIMENTAL CLASS AND CONTROL CLASS II

| Experimental <br> Class Mean <br> Score | Control Class <br> II Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 84.50 | 68.91 | 2.60265 | $>.01$ | 2.116 | $>.02$ |

TABLE X

COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST POST-TEST MEAN SCORES OF CONTROL CLASS I AND CONTROL CLASS II

| Control Class <br> I Mean Score | Control Class | II Mean Score | $t$ | $P$ | $F$ | $P$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 74.38 | 68.91 | 0.88742 | $>.20$ | 1.0996 | $>.10$ |  |

## TABLE XI

COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST PRE~TEST AND POST-TEST MEAN SCORES OF THE EXPERIMENTAL CLASS

| Experimental Class Mean Scores |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Pre-Test | Post-Test |

TABLE XII
COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST PRE-TEST AND POST-TEST MEAN SCORES OF CONTROL CLASS I

| Control Class Mean Scores |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Pre-Test | Post-Test | $t$ | $P$ | Pearson <br> "r" | df |
| 62.92 | 74.38 | 8.08328 | $<.001$ | 0.90874 | 38 |

TABLE XIII
COMPARISON OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST PRE-TEST and post-Test class mean scores of control class il

| Control <br> Pre-Test | Post-Test | $t$ | $P$ | Pearson <br> "r" | df |
| :--- | ---: | :---: | :---: | :---: | :---: |
| 59.36 | 68.91 | 5.9034 | $<.001$ | 0.9580 | 10 |

# Attitude Results of the Scale to Measure Attitudes of College Elementary Education Majors Toward Music 

The scores in the Scale to Measure Attitudes of College Elementaxy Education Majors Toward Music ranged up to a possible 140 points. Table LVIII contains the pre-test scores accomplished by the Experimental Class on this scale. The scores ranged from 81 to 115 , with:a mean score of 100.95 . Contro1 Class I scores (Table LIX) had a range of 80 to 125 , with a mean score of 106.32 . The scores of Control Class II had a range of 96 to 115 , with a mean socre of 103.83 (Table LX).

Tables XIV and XV listed musical attitude pre-test mean score statistical comparisons for the classes under consideration. The data of Table XIV indicates a significant difference between the Experimental Class and Control Class I at the . 05 level with a "t" value of 2.4180. No significant differences between Control Classes I and II exist as set forth in Table XV.

The post-test mean scores of the Scale to Measure Attitudes of Elementary Education Majors Toward Music for the Experimental Class are presented in Table LXVII. The scores ranged from 81 to 124 , with a mean score of 110.74. As stated in Table LXIII, Control Class I scores ranged from 80 to 131 , with a mean score of 107.56 . Control Class II scores ranged from 93 to 123 , entertained a mean score of 106.82, and were listed in Table LXIX.

The statistical analysis for the comparison of the post-test mean scores of the Scale to Measure Attitudes of Elementary Education Majors Toward Music were listed in Tables XVI, XVII and XVIII. The evidence indicated that no significant differences existed among the

TABLE XIV

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC PRE-TEST MEAN SCORES OF EXPERIMENTAL CLASS AND CONTROL CLASS I

| Experimental <br> Class Mean <br> Score | Contro1 Class <br> I Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100.95 | 106.32 | 2.4180 | $>.01$ | 1.105 | $>.10$ |

TABLE XV

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC PRE-TEST MEAN SCORES OF CONTROL CLASS I AND CONTROL CLASS II

| Control Clas <br> I Mean Score | Control Class <br> II Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 106.32 | 103.83 | 0.81556 | $>.20$ | 2.025 | $>.10$ |

three groups under consideration. Therefore, the second hypothesis, that there would be no significant differences between mean scores attained by the Experimental Class, and Control Classes I and II in response to the Scale to Measure Attitudes of College Elementary Education Majors Toward Music, must be accepted.

The Pearson product-moment correlation was computed on the data for the pre-test and post-test of the Scale to Measure Attitudes of College Elementary Education Majors Toward Music. Following this, the correlated "t" test was computed. As was done in the case of the Snyder Knuth Music Achievement Test, equal numbers were obtained by deleting the pre-test scores that corresponded to the assigned numbers of the students that had dropped the class after the pre-test was completed.

Contained in Tables $X I X, X X$ and $X X I$, are the pre-test and posttest comparisons of the scores of the Experimental Class and Control Classes I and II for the Scale to Measure Attitudes of College Elementary Education Majors Toward Music. The pre-test and postotest scores of the Experimental Class showed a significant difference, with a "t" value of 6.4344 significant at the . 001 leve1. Therefore, the author concluded that the Experimental Class did have a more positive attitude toward music at the end of the semester than when the semester began. The data in Tables $X X$ and $X X I$ revealed no significant differences regarding change in musical attitude for Control Classes I and II.

The data included in this chapter indicates that elementary education majors taught by the omnibus approach attain significant differences in achievement in music over those taught by the traditional method. These findings, stated more at length in Chapter $V$, also

TABLE XVI
COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC POST-TEST MEAN SCORES OF EXPERIMENTAL CLASS AND CONTROL CLASS I

| Experimental <br> Class Mean <br> Score | Control Class <br> I Mean Score | t | P | F |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 110.74 | 107.56 | 1.3714 | $>.10$ | 2.10 | $>.02$ |

TABLE XVII

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC POST-TEST MEAN SCORES OF CONTROL CLASS I AND CONTROL CLASS II

| Control Class <br> I Mean Score | Control Class <br> II Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 107.56 | 106.82 | 0.19076 | >. 20 | 2.116 | >. 10 |

TABLE XVIII

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC POST-TEST MEAN SCORES

OF EXPERIMENTAL CLASS AND CONTROL CLASS II

| Experimental <br> Class Mean <br> Score | Control Class <br> II Mean Score | t | P | F | P |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 110.74 | 106.82 | 1.39543 | $>.10$ | 1.0305 | $>.10$ |

TABLE XIX

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATTON MAJORS TOWARDS. MUSIC PRE-TEST" AND POST-TEST

MEAN SCORES OF THE EXPERIMENTAL CLASS

| Experimental Class |  |
| :--- | :---: | :---: | :---: | :---: | :---: | ---: |
| Pre-Test | Post-Test |

TABLE XX

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC PRE-TEST AND POST-TEST MEAN SCORES OF CONTROL CLASS I

| Control Group I |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Pre-Test | Post-Test | t | P | $\begin{gathered} \text { Pearson } \\ \text { "r" } \end{gathered}$ | df |
| 106.13 | 107.56 | 1.10194 | >. 20 | 0.74524 | 38 |

TABLE XXI

COMPARISON OF SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY EDUCATION MAJORS TOWARDS MUSIC PRE-TEST AND POST-TEST

MEAN SCORES OF CONTROL CLASS II

| Control Group II |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Pre-Test | Post-Test | $t$ | $P$ | Pearson <br> "r" | $d f$ |
| 103.82 | 106.82 | 1.1127 | $>.20$ | 0.33272 | 10 |

lead to the recommendations in that chapter, which include suggestions for refining this study, and suggestions for further studies.

## CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

General Summary
:
This study was undertaken because of a persistent and current need to counterbalance the curricular trend away from music and the fine arts; as was indicated by the findings of Yale Seminar and the Tanglewood Symposium. The author hoped to broaden the potential effectiveness of the music education program at Central State College at Edmond, Oklahoma, by focusing on the elementary education majors, who will in turn be influential in the development of musicality and music appreciation in young children.

The methods and techniques of the omnibus approach were innovative in that they combined and integrated within one philosophical and instructional whole, the outstanding elements of the orff approach to the development of musical sensitivity, and its fostering of improvisational techniques, along with a focus on musical symbolization, rhythmics and singing.

In defining musicality, the Yale Report observed that the purpose of music education throughout all the grades, was to develop musicality. Musicality was defined as the ability to express, in its completeness, a musical idea. Conversely, it was the ability to comprehend an expressed musical idea in its entirety.

The literature posed evaluation and evaluative devices as a difficult problem for music educators, as the music area held unique difficulties. One difficulty was that the aesthetic experience was basically non-verbal in character and did not lend itself readily to description or evaluation by verbal or written means. Secondly, the results of music instruction took any one, or any combination of a variety of forms. For example, the individual may have played an instrument, sung, bought recordings, supported local music groups, or simply experienced satisfaction from listening to music. (These ideas were among those incorporated in the Scale to Measure Attitudes of Elementary Education Majors Toward Music used in this study.) Thirdly, music education at all age levels, was characterized by a unique blend of skills, aptitudes, attitudes and knowledge. Collectively, or individually, most facets of music and music education were intangible, and subject to individual taste and judgment. This, with the essential qualities of music being qualitative rather than quantitative, as well as intangible, musical judgment and evaluation posed a difficult problem.

Contemporary literature pointed out that present-day music educators were of the opinion that traditional concepts of aptitude and achievement were intertwined. With this as one criterion for judgment, the author sought tests that embraced these concepts among others. The Gordon Music Aptitude Profile was one of tests selected, and for several reasons. The reliability scores on its subtests ranged from . 90 to .96 , with a median of .94 , which was unusually high. The validity coefficients ranged from .64 to . 97 , with a median of .79 . This was again, unusually high. The test encompassed a profile of
musical traits, and was not atomistic in its approach.
While the Gordon Musical Aptitude Profile was relatively new, being published in 1965, the Snyder Knuth Music Achievement Test was published in 1968, and also used the profile approach. It incorporated the elements of rhythm, harmony, and melody. The author claims a reliability of .99 , based on the correlation between the two equivalent forms. As evidence of content validity, she claims the items are typical of material found in basic series books and in curriculums for elementary education majors. These tests reflected the thinking of the author in respect to the course content of the Fundamentals of Music classes, and thus met functional class needs, as well as a portion of the demands of this study.

A scale to assess the musical attitudes of the elementary education student enrolled in the Fundamentals of Music was constructed. This scale, in the form of a questionnaire, sought to measure those musical attitudes entertained by the students at the initiation of the class. It was again given the students at the conclusion of the semester to determine if, how, and to what extent their attitudes were influenced by one semester of the Fundamentals of Music course.

The Gordon Music Aptitude Profile, the Snyder Knuth Music Achievement Test, and Scale to Measure the Attitudes of Elementary Education Majors Toward Music were administered at the beginning of the semester to the three classes involved in this study. The Snyder Knuth Music Achievement Test and Scale to Measure Attitudes of Elementary Education Majors Toward Music were re-administered at the end of the semester.

The tests were scored. Resultant data were recorded, studied, analyzed, and subjected to appropriate statistical treatment. The
data, as established by the Gordon Musical Aptitude Profile, verified the requisite necessity, that an equivalence of musical aptitude existed.

According to the analysis of the data, based on information procured from the administration of the Snyder Knuth Music Achievement Test, no significant difference in achievement existed among the three groups of subjects at the beginning of the semester. Comparisons at the end of the semester revealed that the Experimental Class achieved significantly higher scores, with a "t" value of 2.90445 at the .001 level when compared with Control Class I. Significance was also achieved with a "t" value of 2,60265 at the . 01 level, when the Experimental Class was compared to Control Class II.

The data of comparisons regarding the Scale to Measure Attitudes of Elementary Education Majors Towards Music, administered at the beginning of the semester, revealed a significant difference between the Experimental Class and Control C1ass I at the .05 leve1, but not with reference to Control Class II. No significant differences were found to exist among classes at the end of the semester. However, when the pretest and post-test scores were compared, the Experimental Class data indicated a significant difference in attitude, with a "t" value of 6.4344 at the .001 leve1. Control Class I and II revealed no significant difference.

## Conclusions

On the basis of the findings of this study, the following conclusions were offered:

1. The omnibus approach resulted in greater musical achievement than did the traditional approach.
2. The evidence seemed to indicate that the omnibus approach influenced the musical attitude of the Experimental Class toward greater appreciation of music, its place in the life of the individual, and possibly of its place in the school curriculum. The data indicated lesser change in attitude from the two control groups.
3. Though subjective in nature, certain observations that were made by the author during the semester appeared to have relevancy for the study:
a. Some highly creative individuals, who performed instrumentally in the classroom did not attain high scores on the aptitude test.
b, Students with private music lessons in their background appeared to have no more positive musical attitudes than did those without private instruction.
c. The younger class members responded to creative approaches more readily than did the older class members.
d. Students in the Experimental Class, who had appeared shy and apprehensive about their music classes at the beginning of the semester, expressed their appreciation for the opportunity of participation in this innovative approach. They said they felt a high level of confidence regarding musical knowledge and participation.
e. It was noted that high musical achievement among individuals was not necessarily accompanied by positive musical attitudes.

# f. Strongly positive musical attitudes were held by several individuals with very low aptitude scores. 

## Recommendations

Though this study accomplished its intended purpose, that of determining whether or not the omnibus method of teaching was more effective than the traditional method, the author felt the following recommendations, in light of the limitations she encountered, would facilitate further research in the field.

1. The classes should be limited to a maximum enrollment of twenty students, as creative instruction is greatly curtailed by large numbers.
2. Classroom facilities and appropriate instruments should be made available for individual practice by students.
3. Sufficient time should exist before and after class periods to set up and put away the equipment and instruments, so as not to impose on the instructional period
4. There should be adequate space in the classroom for physical activities.
5. It should be arranged to have the same students for two or more semesters so as to establish more conclusive evidence. The author realized that, due to college scheduling and curricular demands, to have the same group for more than one semester is very difficult.

The data gathered for this research, and the findings reached, indicated a need for continued research in this field. Suggested studies are:

1. an investigation of the relationships between college method classes and successful teaching in the music education field.
2. the formulation of study guides in innovative methods and techniques for the inservice training of teachers.
3. an investigation of the relationship of the omnibus approach to achievement in other subject areas.
4. an investigation into the relationship between background and training of elementary education majors and their musical attitudes.
5. an investigation to determine if either men or women learn more readily through the omnibus approach.
6. an investigation to determine whether one age level can learn by the omnibus approach more readily than another.
7. an investigation to ascertain how dependent the effectiveness of the omnibus approach is on the ability, skill and personality of the teacher,
8. an investigation to determine if experienced teachers, who have experienced needs for new methods, learn by the omnibus approach more readily than inexperienced teachers.
9. continued investigation into the effectiveness of the omnibus approach and other methods of teaching music education, discovering the relative strengths and weaknesses of each.

For more than a decade, music educators have had a growing awareness of the need for curricular changes and revisions. It has been the hope of the author that this research, in its own small way, has contributed to fulfilling this need.

## A SELECTED BIBLIOGRAPHY

Bacon, Denise. "Kodaly and Orff: Report from Europe," Music Educators Journal, Vol. 55, No. 8, April, 1969.

Benson, Warren. Contemporary Music Project: Creative Projects in Musicianship. Washington, D. C.: Music Educators National Conference, 1967.

Buros, Oscar Kristen. The Sixth Mental Measurements Yearbook. New Jersey: The Gryphon Press, 1965.

Choksy, Lois. "Kodaly: In and Out of Context," Music Educators Journal, Vol. 55, No. 8, April, 1969, pp. 57-59.

Colwell, Richard. "Music Education and Experimental Research." Journal of Research in Music Education, Vo1. XV, No. 1, Spring 1967, pp. 73-84.

Evans, C. H. "A Study of Factors Affecting the Attitudes of Elementary Classroom Teachers Toward Teaching Music," Unpublished Doctoral Dissertation, Northwestern University, Chicago, Illinois, 1958.

Gary, Charles L. "Music Education." Curriculum Handbook for Music Administrators. Ed, Forrest E. Conner and William J. Ellena. Washington, D. C.: American Association of School Administrators. 1967, pp. 189-204.

Goodlad, John I. "Education Is Mankind's Salvation," Seattle Times, March 17, 1968, p. 11.

Goodlad, John I. "Music's Place in Education," Creative Approaches to School Music: A Compendium of Viewpoints and Innovative Solutions. Chicago: American Music Conference, 1967.

Goodlad, John I. "Our Education System Corrupts the Human Spirit," Music Educators Journal, Vol. 55, No. 4, Dec., 1968, pp. 28-32.

Gordon, Edwin. "Implications for the Use of the Musical Aptitude Profile with College and University Freshmen Music Students," Journal of Research in Music Education, Vo1. XV, No, 1, Spring 1967, pp. 32-40.

Gordon, Edwin. Musical Aptitude Profile. Boston, Mass.: Houghton Mifflin Co., 1965, p. 1.

Hamm, Ruth Pollock, "Orff Defended," Music Educators Journal, AprilMay, 1965, pp. 90-92.

Hartsell, 0. M. Teaching Music in the Elementary School. Washington, D. C.: National Education Association, 1963.

Hartshorn, William C. "The Teaching of Music," Perspectives in Music Education: Source Book III. Washington, D. C.: Music Educators National Conference, 1964.

Hevner, Kate, "Appreciation of Music and Tests for Appreciation of Music," Studies in Appreciating Art, Studies in College Teaching, Vol. 1, Bulletin 3, University of Oregon Publications, Vol. 4, No. 6, p. 138.

Hewson, Alfred T. "Music Reading in the Classroom," Journal of Research in Music Education, Vol. XVI, No. 4, Winter 1966.

Holger, Hyden et al. "The Chemistry of Learning." An IDEA Occasional Paper. The Charles F. Kettering Foundation, Melbourne, Fla., 1968.

Jones, Axchie N. Music Education In Action: Basic Principles and Practical Methods. Dubuque, Iowa: Wm. C. Brown Co., Inc., 1964.

Knuth, Alice Snyder. Snyder Knuth Music Achievement Test. San Francisco, Calif.: Creative Arts Research Associates, Inc., 1968, p. 2.

Kyme, George H. "A Study of the Development of Musicality in the Junior High School and the Contributions of Musical Composition to this Development." Council for Research in Music Education. Bulletin No. 10, Summer 1967. Curriculum Laboratory, College of Education, School of Music, University of IIlinois, pp. 15-23.

Lehman, Paul R. "Music for Nonperformers Needed, Says Educator Here." Seattle Times, March 11, 1968, p. 18
, Tests and Measurements in Music. Englewood Cliffs, New Jersey: Prentic-Hall Inc., 1968.

Levarie, Siegmund and Ernst Levy. Tone: A Study in Musical Acoustics. Ohio: Kent State University Press, 1968:

Maslow, Abraham H. "Music Education and Peak Experience." Music Educators Journal, Vol. 54, No. 6, Feb. 1968, pp. 72-76.

McMillan, Eileen. Guiding Children's Growth Through Music. Boston: Ginn and Company, 1959.

Murphy, Howard A. Teaching Musicianship: A Manual of Methods and Materials. New York: Coleman-Ross Company, Inc. 1950.

Murphy, Judith and George Sullivan. Music in American Society: An Interpretive Report of the Tanglewood Symposium. Washington, D. C.: Music Educators National Conference, 1968, pp. 1-72.

Mursell, James L. Education for Musical Growth. New York: Ginn and Co., 1948.
$\qquad$ - Music Education, Principles and Programs. New York: Silver Burdett Co., 1956.

Nash, Grace C. "The Orff Schulewerk in the Classroom." Music Educators Journal, April-May 1964, pp. 92-93.

Nove1lo, Joseph W. Final Report, Guiding the Development of Musicality In Elementary School Children. Madero, Calif. Madero County Schools Office and Title III, Elementary and Secondary Education Act of 1965, Project No. 66-1418, Grant No. OEG-6-001418-01916, pp. 1-11.

Orff, Carl. "Orff-Schulwerk: Past and Future." Perspectives In Music Education: Source Book III. Washington, D. C.: Music Educators National Conference, 1966. pp. 387-394.
$\qquad$ - Tr. Arnold Walter. "The SchulwerkwoIts Origin and Aims." Music Educators Journal, April-May, 1963.

Palisca, Claude V. Music In Our Schools: A Search for Improvement. Washington, D. C.: U. S. Department of Health Education, OE33033, Bulletin 1964, No. 28, 1964.

Schwadon, Abraham A...Aesthetics: Dimensions Eor Music Education, Washington, D. C.: Music Educators National Conference, 1967.

Stark, Charles John. "Creativịty: Its Application to the Theory and Practices of Music Teaching," Prospectives in Music Education: Source Book III. Washington, D. C.: Music Educators National Conference, 1966 .

Swanson, Bessie R. Music in the Education of Children. San Francisco, California: Wadsworth Publishing Company, Inc. 1961.

Thresher, Janic M. "The Contributions of Carl Orff to Elementary Music Education." Music Educators Journal, Jan. 1964, pp. 43-48.

Wilson, Harry Robert. "On Following Yonder Star." Music Educators Journal, Vo1. 54, No. 9, May 1968, p. 4.

Whybrew, William E. Measurement and Evaluation in Music. Dubuque, Iowa: Wm。C. Brown Co. 1962 .

## APPENDIX A

DATA REGARDING THE GORDON MUSICAL APTITUDE PROFILE OF THE EXPERIMENTAL CLASS, CONTROL CLASS I, AND CONTROL CLASS II

TABLE XXII
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR MELODY FACTOR OF TONAL IMAGERY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | Raw Score | Standard Score | Percentile Rank |
| :---: | :---: | :---: | :---: |
| 1 | 32 | 59 | 59 |
| 2 | 37 | 66 | 85 |
| 3 | 31 | 57 | 51 |
| 4 | 36 | 65 | 82 |
| 5 | 26 | 49 | 24 |
| 6 | 38 | 68 | 90 |
| 7 | 33 | 60 | 63 |
| 8 | 30 | 55 | 43 |
| 9 | 30 | 55 | 43 |
| 10 | 23 | 44 | 11 |
| 11 | 31 | 57 | 51 |
| 12 | 37 | 67 | 88 |
| 13 | 34 | 61 | 67 |
| 14 | 28 | 52 | 33 |
| 15 | 26 | 49 | 24 |
| 16 | 26 | 49 | 24 |
| 17 | 38 | 68 | 90 |
| 18 | 39 | 71 | 95 |
| 19 | 38 | 68 | 90 |
| 20 | 37 | 66 | 85 |
| 21 | 27 | 50 | 27 |
| 22 | 28 | 52 | 33 |
| 23 | 37 | 66 | 85 |
| 24 | 23 | 44 | 11 |
| 25 | 38 | 68 | 90 |
| 26 | 23 | 44 | 11 |
| 27 | 35 | 63 | 75 |
| 28 | 31 | 57 | 51 |
| 29 | 26 | 49 | 24 |
| 30 | 36 | 65 | 82 |
| 31 | 28 | 52 | 33 |
| 32 | 28 | 52 | 33 |
| 33 | 32 | 59 | 59 |
| 34 | 26 | 49 | 24 |
| 35 | 36 | 65 | 82 |
| 36 | 32 | 59 | 59 |
| 37 | 32 | 59 | 59 |
| 38 | 40 | 77 | 99 |
| 39 | 29 | 54 | 39 |
| 40 | 19 | 37 | 3 |
| 41 | 30 | 55 | 43 |
| 42 | 28 | 52 | 33 |

Standard Scores Range: 37-77 Mean Score: 57.48

## TABLE XXIII

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR MELODY FACTOR OF TONAL IMAGERY FOR STUDENTS OF CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 35 | 65 | 75 |
| 2 | 28 | 52 | 33 |
| 3 | 33 | 60 | 63 |
| 4 | 34 | 61 | 67 |
| 5 | 28 | 52 | 33 |
| 6 | 25 | 47 | 16 |
| 7 | 31 | 57 | 51 |
| 8 | 35 | 63 | 75 |
| 9 | 36 | 65 | 82 |
| 10 | 40 | 77 | 99 |
| 11 | 29 | 54 | 39 |
| 12 | 36 | 65 | 82 |
| 13 | 28 | 52 | 33 |
| 14 | 35 | 63 | 75 |
| 15 | 69 | 37 | 2 |
| 16 | 29 | 54 | 39 |
| 17 | 36 | 65 | 82 |
| 18 | 36 | 65 | 82 |
| 19 | 27 | 50 | 27 |
| 20 | 36 | 65 | 82 |
| 21 | 33 | 60 | 63 |
| 22 | 26 | 49 | 24 |
| 23 | 28 | 52 | 33 |
| 24 | 23 | 44 | 11 |
| 25 | 37 | 66 | 85 |
| 26 | 27 | 50 | 27 |
| 27 | 28 | 52 | 33 |
| 28 | 21 | 41 | 6 |
| 29 | 22 | 46 | 13 |
| 30 | 36 | 65 | 82 |
| 31 | 37 | 66 | 85 |
| 32 | 26 | 49 | 24 |
| 33 | 39 | 71 | 95 |
| 34 | 30 | 55 | 43 |
| 35 | 38 | 68 | 90 |
| 36 | 33 | 60 | 63 |
| 37 | 25 | 47 | 18 |
| 38 | 24 | 45 | 13 |
| 39 | 19 | 37 | 2 |
| 40 | 23 | 44 | 11 |
| 41 | 32 | 59 | 59 |
| Standard | 37 | Mean S |  |

TABLE XXIV
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR MELODY FACTOR OF TONAL IMAGERY FOR STUDENTS OF CONTROL CLASS II

| Student | Raw <br> Score | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 39 | 71 | 95 |
| 2 | 36 | 65 | 82 |
| 3 | 34 | 61 | 67 |
| 4 | 30 | 55 | 43 |
| 5 | 33 | 60 | 63 |
| 6 | 28 | 52 | 33 |
| 7 | 31 | 65 | 51 |
| 8 | 34 | 61 | 85 |
| 10 | 34 | 15 | 50 |

TABLE XXV

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR HARMONY FACTOR OF TONAL IMAGERY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | $\begin{aligned} & \text { Raw } \\ & \text { Score } \end{aligned}$ | $\begin{aligned} & \text { Standard } \\ & \text { Score } \end{aligned}$ | $\begin{gathered} \text { Percentile } \\ \text { Rank } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 33 | 62 | 65 |
| 2 | 34 | 63 | 69 |
| 3 | 27 | 55 | 39 |
| 4 | 39 | 73 | 97 |
| 5 | 30 | 59 | 53 |
| 6 | 34 | 63 | 69 |
| 7 | 37 | 68 | 89 |
| 8 | 30 | 59 | 53 |
| 9 | 28 | 56 | 42 |
| 10 | 26 | 53 | 31 |
| 11 | 23 | 48 | 17 |
| 12 | 39 | 73 | 97 |
| 13 | 32 | 61 | 61 |
| 14 | 28 | 56 | 42 |
| 15 | 12 | 28 | 0 |
| 16 | 29 | 58 | 49 |
| 17 | 38 | 70 | 94 |
| 18 | 36 | 66 | 81 |
| 19 | 35 | 64 | 73 |
| 20 | 36 | 66 | 81 |
| 21 | 33 | 62 | 65 |
| 22 | 22 | 46 | 13 |
| 23 | 39 | 73 | 91 |
| 24 | 27 | 55 | 39 |
| 25 | 29 | 58 | 49 |
| 26 | 36 | 66 | 81 |
| 27 | 35 | 64 | 73 |
| 28 | 36 | 66 | 81 |
| 29 | 29 | 58 | 49 |
| 30 | 18 | 38 | 4 |
| 31 | 30 | 59 | 53 |
| 32 | 28 | 56 | 42 |
| 33 | 34 | 63 | 69 |
| 34 | 28 | 56 | 42 |
| 35 | 33 | 62 | 65 |
| 36 | 35 | 64 | 73 |
| 37 | 25 | 51 | 25 |
| 38 | 25 | 51 | 25 |
| 39 | 22 | 46 | 13 |
| 40 | 23 | 48 | 17 |
| 41 | 38 | 70 | 94 |
| 42 | 32 | 61 | 61 |

TABLE XXVI

## GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR HARMONY FACTOR OF TONAL IMAGERY FOR STUDENTS OF CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 37 | 68 | 89 |
| 2 | 26 | 53 | 31 |
| 3 | 18 | 38 | 4 |
| 4 | 24 | 49 | 19 |
| 5 | 26 | 53 | 31 |
| 6 | 20 | 42 | 7 |
| 7 | 19 | 40 | 5 |
| 8 | 38 | 70 | 94 |
| 9 | 38 | 70 | 94 |
| 10 | 40 | 77 | 99 |
| 11 | 24 | 49 | 19 |
| 12 | 37 | 68 | 89 |
| 13 | 25 | 51 | 25 |
| 14 | 23 | 48 | 17 |
| 15 | 18 | 38 | 4 |
| 16 | 22 | 46 | 13 |
| 17 | 29 | 58 | 49 |
| 18 | 35 | 64 | 73 |
| 19 | 31 | 60 | 57 |
| 20 | 34 | 63 | 69 |
| 21 | 35 | 64 | 73 |
| 22 | 34 | 63 | 69 |
| 23 | 18 | 38 | 4 |
| 24 | 23 | 48 | 17 |
| 25 | 37 | 68 | 89 |
| 26 | 25 | 51 | 25 |
| 27 | 26 | 53 | . 31 |
| 28 | 28 | 56 | 42 |
| 29 | 22 | 46 | 13 |
| 30 | 33 | 62 | 65 |
| 31 | 30 | 59 | 53 |
| 32 | 28 | 56 | 42 |
| 33 | 36 | 66 | 81 |
| 34 | 28 | 56 | 42 |
| 35 | 31 | 60 | 57 |
| 36 | 30 | 59 | 53 |
| 37 | 27 | 55 | 39 |
| 38 | 23 | 48 | 17 |
| 39 | 15 | 33 | 1 |
| 40 | 20 | 42 | 7 |
| 41 | 28 | 56 | 42 |

TABLE XXVII
GORDON MUS ICAL APTITUDE PROFILE TEST SCORES FOR HARMONY FACTOR OF TONAL IMAGERY FOR STUDENTS OF CONTROL CLASS II

| Student | $\begin{aligned} & \text { Raw } \\ & \text { Score } \end{aligned}$ | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 40 | 77 | 99 |
| 2 | 22 | 46 | 13 |
| 3 | 39 | 73 | 97 |
| 4 | 24 | 49 | 19 |
| 5 | 37 | 68 | 89 |
| 6 | 26 | 53 | 31 |
| 7 | 25 | 51 | 25 |
| 8 | 39 | 73 | 97 |
| 9 | 36 | 66 | 81 |
| 10 | 29 | 58 | 49 |
| 11 | 20 | 42 | 7 |
| 12 | 32 | 61 | 61 |
| Standard | : 42 | Mean |  |

## TABLE XXVIII

GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR TONAL IMAGERY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: |
| 1 | 61 | 62 |
| 2 | 65 | 78 |
| 3 | 57 | 47 |
| 4 | 69 | 91 |
| 5 | 54 | 38 |
| 6 | 66 | 82 |
| 7 | 64 | 74 |
| 8 | 57 | 47 |
| 9 | 56 | 44 |
| 10 | 49 | 20 |
| 11 | 53 | 35 |
| 12 | 70 | 93 |
| 13 | 60 | 58 |
| 14 | 54 | 38 |
| 15 | 39 | 2 |
| 16 | 54 | 38 |
| 17 | 74 | 98 |
| 18 | 69 | 91 |
| 19 | 66 | 82 |
| 20 | 66 | 82 |
| 21 | 56 | 44 |
| 22 | 49 | 20 |
| 23 | 70 | 93 |
| 24 | 50 | 23 |
| 25 | 63 | 70 |
| 26 | 55 | 41 |
| 27 | 64 | 74 |
| 28 | 62 | 66 |
| 29 | 54 | 38 |
| 30 | 52 | 31 |
| 31 | 56 | 44 |
| 32 | 54 | 38 |
| 33 | 61 | 62 |
| 34 | 53 | 35 |
| 35 | 64 | 74 |
| 36 | 62 | 66 |
| 37 | 55 | 41 |
| 38 | 64 | 74 |
| 39 | 50 | 23 |
| 40 | 43 | 6 |
| 41 | 63 | 70 |
| 42 | 57 | 44 |

Standard Score Range: 39-74
Mean Score: 58.57

TABLE XXIX

GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR TONAL IMAGERY FOR STUDENTS OF CONTROL CLASS I

| Student | Standard Score | Percentile Rank |
| :---: | :---: | :---: |
| 1 | 66 | 82 |
| 2 | 53 | 35 |
| 3 | 49 | 20 |
| 4 | 55 | 41 |
| 5 | 53 | 35 |
| 6 | 45 | 9 |
| 7 | 49 | 20 |
| 8 | 67 | 86 |
| 9 | 67 | 86 |
| 10 | 77 | 99 |
| 11 | 52 | 31 |
| 12 | 67 | 86 |
| 13 | 52 | 31 |
| 14 | 56 | 44 |
| 15 | 38 | 2 |
| 16 | 50 | 23 |
| 17 | 62 | 66 |
| 18 | 65 | 78 |
| 19 | 55 | 41 |
| 20 | 64 | 74 |
| 21 | 62 | 66 |
| 22 | 56 | 44 |
| 23 | 45 | 9 |
| 24 | 46 | 11 |
| 25 | 67 | 86 |
| 26 | 51 | 27 |
| 27 | 53 | 35 |
| 28 | 49 | 20 |
| 29 | 45 | 9 |
| 30 | 63 | 70 |
| 31 | 63 | 70 |
| 32 | 53 | 35 |
| 33 | 69 | 91 |
| 34 | 56 | 44 |
| 35 | 64 | 74 |
| 36 | 60 | 58 |
| 37 | 55 | 41 |
| 38 | 47 | 14 |
| 39 | 35 | 0 |
| 40 | 43 | 6 |
| 41 | 57 | 45 |

TABLE XXX

GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR TONAL IMAGERY FOR STUDENTS OF CONTROL CLASS II

| Student | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: |
| 1 | 74 | 98 |
| 2 | 56 | 44 |
| 3 | 67 | 86 |
| 4 | 52 | 31 |
| 5 | 64 | 74 |
| 6 | 53 | 35 |
| 7 | 54 | 38 |
| 8 | 72 | 66 |
| 10 | 60 | 42 |
| 11 | 56 | 58 |
| 12 |  | Mean Score: |
| Standard Score Range | 42 | -74 |

TABLE XXXI
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR TEMPO FACTOR OF RHYTHM IMAGERY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 39 | 65 | 83 |
| 2 | 37 | 60 | 62 |
| 3 | 38 | 62 | 71 |
| 4 | 39 | 65 | 83 |
| 5 | 37 | 60 | 62 |
| 6 | 38 | 62 | 71 |
| 7 | 38 | 62 | 71 |
| 8 | 37 | 60 | 62 |
| 9 | 34 | 53 | 27 |
| 10 | 32 | 50 | 18 |
| 11 | 40 | 72 | 95 |
| 12 | 39 | 65 | 83 |
| 13 | 38 | 62 | 66 |
| 14 | 37 | 60 | 58 |
| 15 | 36 | 57 | 47 |
| 16 | 32 | 50 | 23 |
| 17 | 38 | 62 | 66 |
| 18 | 40 | 72 | 95 |
| 19 | 39 | 65 | 83 |
| 20 | 36 | 57 | 49 |
| 21 | 39 | 65 | 83 |
| 22 | 36 | 57 | 49 |
| 23 | 38 | 62 | 66 |
| 24 | 40 | 72 | 95 |
| 25 | 40 | 72 | 95 |
| 26 | 37 | 60 | 62 |
| 27 | 38 | 62 | 71 |
| 28 | 39 | 65 | 83 |
| 29 | 34 | 53 | 33 |
| 30 | 31 | 48 | 16 |
| 31 | 35 | 55 | 41 |
| 32 | 34 | 53 | 33 |
| 33 | 38 | 62 | 71 |
| 34 | 35 | 55 | 41 |
| 35 | 39 | 65 | 83 |
| 36 | 38 | 62 | 61 |
| 37 | 25 | 41 | 4 |
| 38 | 40 | 72 | 95 |
| 39 | 33 | 52 | 29 |
| 40 | 39 | 65 | 83 |
| 41 | 36 | 57 | 49 |
| 42 | 40 | 72 | 95 |

Standard Score Range: 41-72 Mean Score: 60.67

TABLE XXXII
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR TEMPO FACTOR OF RHYTHM IMAGERY FOR STUDENTS OF CONTROL GLASS I

| Student | $\begin{aligned} & \text { Raw } \\ & \text { Score } \end{aligned}$ | Standard Score | $\begin{aligned} & \text { Percentile } \\ & \text { Rank } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 1 | 37 | 60 | 62 |
| 2 | 35 | 55 | 41 |
| 3 | 36 | 57 | 49 |
| 4 | 33 | 52 | 29 |
| 5 | 36 | 37 | 49 |
| 6 | 26 | 42 | 5 |
| 7 | 32 | 50 | 22 |
| 8 | 38 | 62 | 71 |
| 9 | 38 | 62 | 71 |
| 10 | 39 | 65 | 83 |
| 11 | 40 | 72 | 95 |
| 12 | 36 | 57 | 49 |
| 13 | 36 | 57 | 49 |
| 14 | 36 | 57 | 49 |
| 15 | 28 | 45 | 9 |
| 16 | 34 | 53 | 33 |
| 17 | 32 | 50 | 22 |
| 18 | 40 | 72 | 95 |
| 19 | 37 | 60 | 62 |
| 20 | 40 | 72 | 95 |
| 21 | 35 | 55 | 41 |
| 22 | 40 | 72 | 95 |
| 23 | 31 | 48 | 16 |
| 24 | 36 | 57 | 49 |
| 25 | 39 | 65 | 83 |
| 26 | 34 | 53 | 33 |
| 27 | 40 | 72 | 95 |
| 28 | 37 | 60 | 62 |
| 29 | 38 | 62 | 71 |
| 30 | 37 | 60 | 62 |
| 31 | 39 | 65 | 83 |
| 32 | 35 | 55 | 41 |
| 33 | 37 | 60 | 62 |
| 34 | 36 | 57 | 49 |
| 35 | 35 | 55 | 41 |
| 36 | 36 | 57 | 49 |
| 37 | 39 | 65 | 83 |
| 38 | 41 | 48 | 16 |
| 39 | 16 | 30 | 0 |
| 40 | 33 | 52 | 29 |
| 41 | 39 | 65 | 83 |
| Standard | $30-$ | Mean S |  |

TABLE XXXIII
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR TEMPO FACTOR OF RHYTHM IMAGERY FOR STUDENTS OF CONTROL CLASS II

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 38 | 62 | 75 |
| 2 | 39 | 65 | 83 |
| 3 | 39 | 65 | 83 |
| 4 | 21 | 36 | 1 |
| 5 | 33 | 52 | 29 |
| 6 | 40 | 72 | 95 |
| 7 | 26 | 42 | 5 |
| 8 | 39 | 65 | 83 |
| 9 | 36 | 57 | 49 |
| 10 | 35 | 55 | 41 |
| 11 | 32 | 50 | 22 |
| 12 | 33 | 52. | 29 |
| Standard | 36 | Mean |  |

TABLE XXXIV

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR METER FACTOR OF RHYTHM IMAGERY FOR STUDENTS OF THE EXPERIMENTAL CLASS


TABLE XXXV
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR METER FAGTOR OF RHYTHM IMAGERY FOR STUDENTS OF CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 37 | 64 | 74 |
| 2 | 31 | 54 | 30 |
| 3 | 32 | 55 | 34 |
| 4 | 33 | 57 | 42 |
| 5 | 33 | 57 | 42 |
| 6 | 26 | 47 | 11 |
| 7 | 36 | 62 | 65 |
| 8 | 33 | 57 | 42 |
| 9 | 40 | 75 | 97 |
| 10 | 40 | 75 | 97 |
| 11 | 40 | 75 | 97 |
| 12 | 39 | 70 | 90 |
| 13 | 35 | 60 | 55 |
| 14 | 33 | 57 | 43 |
| 15 | 19 | 37 | 1 |
| 16 | 33 | 57 | 42 |
| 17 | 28 | 50 | 18 |
| 18 | 35 | 60 | 55 |
| 19 | 36 | 62 | 65 |
| 20 | 39 | 70 | 90 |
| 21 | 31 | 54 | 30 |
| 22 | 40 | 75 | 97 |
| 23 | 32 | 55 | 34 |
| 24 | 39 | 70 | 90 |
| 25 | 40 | 75 | 97 |
| 26 | 35 | 60 | 55 |
| 27 | 35 | 60 | 55 |
| 28 | 35 | 60 | 55 |
| 29 | 38 | 67 | 84 |
| 30 | 40 | 75 | 97 |
| 31 | 39 | 70 | 90 |
| 32 | 34 | 59 | 50 |
| 33 | 39 | 70 | 90 |
| 34 | 36 | 62 | 65 |
| 35 | 37 | 64 | 74 |
| 36 | 37 | 64 | 74 |
| 37 | 39 | 70 | 90 |
| 38 | 25 | 46 | 9 |
| 39 | 31 | 54 | 30 |
| 40 | 32 | 55 | 34 |
| 41 | 35 | 60 | 55 |

TABLE XXXVI

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR METER FACTOR OF RHYTHM IMAGERY FOR STUDENTS OF CONTROL CLASS II

| Student | Raw <br> Score | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 36 | 66 | 65 |
| 2 | 29 | 51 | 21 |
| 3 | 34 | 59 | 50 |
| 4 | 21 | 40 | 3 |
| 5 | 34 | 59 | 50 |
| 6 | 35 | 60 | 55 |
| 7 | 34 | 59 | 50 |
| 8 | 36 | 62 | 65 |
| 10 | 37 | 62 | 65 |
| 11 | 31 | 54 | 74 |
| 12 | 29 | 40 | 66 |

## TABLE XXXVII

GORDON MUS ICAL APTITUDE PROFILE TOTALED TEST SCORES FOR RHYTHM IMAGERY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | Standard Score | Percentile Rank |
| :---: | :---: | :---: |
| 1 | 65 | 80 |
| 2 | 58 | 47 |
| 3 | 61 | 62 |
| 4 | 64 | 76 |
| 5 | 59 | 51 |
| 6 | 65 | 80 |
| 7 | 63 | 72 |
| 8 | 64 | 76 |
| 9 | 54 | 31 |
| 10 | 41 | 2 |
| 11 | 66 | 83 |
| 12 | 68 | 89 |
| 13 | 65 | 66 |
| 14 | 58 | 47 |
| 15 | 56 | 39 |
| 16 | 50 | 32 |
| 17 | 63 | 72 |
| 18 | 68 | 89 |
| 19 | 56 | 39 |
| 20 | 60 | 56 |
| 21 | 63 | 72 |
| 22 | 58 | 47 |
| 23 | 62 | 67 |
| 24 | 66 | 83 |
| 25 | 68 | 89 |
| 26 | 61 | 62 |
| 27 | 65 | 80 |
| 28 | 68 | 89 |
| 29 | 48 | 11 |
| 30 | 40 | 2 |
| 31 | 55 | 35 |
| 32 | 59 | 51 |
| 33 | 62 | 67 |
| 34 | 45 | 6 |
| 35 | 63 | 72 |
| 36 | 59 | 51 |
| 37 | 50 | 17 |
| 38 | 66 | 83 |
| 39 | 56 | 39 |
| 40 | 60 | 57 |
| 41 | 64 | 76 |
| 42 | 71 | 96 |

Standard Score Range: 40-71 Mean Score: 59.83

TABLE XXXVIII
GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR RHYTHM IMAGERY FOR STUDENTS OF CONTROL CLASS I

| Student | Standard Score | Percentile Rank |
| :---: | :---: | :---: |
| 1 | 62 | 67 |
| 2 | 55 | 35 |
| 3 | 56 | 39 |
| 4 | 55 | 35 |
| 5 | 57 | 43 |
| 6 | 45 | 6 |
| 7 | 56 | 39 |
| 8 | 60 | 56 |
| 9 | 69 | 92 |
| 10 | 70 | 94 |
| 11 | 74 | 99 |
| 12 | 64 | 76 |
| 13 | 59 | 51 |
| 14 | 57 | 43 |
| 15 | 41 | 2 |
| 16 | 55 | 35 |
| 17 | 50 | 17 |
| 18 | 66 | 83 |
| 19 | 61 | 62 |
| 20 | 71 | 96 |
| 21 | 55 | 35 |
| 22 | 74 | 99 |
| 23 | 52 | 23 |
| 24 | 64 | 76 |
| 25 | 70 | 94 |
| 26 | 56 | 39 |
| 27 | 66 | 83 |
| 28 | 60 | 56 |
| 29 | 65 | 80 |
| 30 | 68 | 89 |
| 31 | 68 | 89 |
| 32 | 57 | 43 |
| 33 | 65 | 80 |
| 34 | 60 | 56 |
| 35 | 60 | 56 |
| 36 | 61 | 62 |
| 37 | 68 | 89 |
| 38 | 47 | 9 |
| 39 | 42 | 3 |
| 40 | 54 | 31 |
| 41 | 63 | 72 |

Standard Score Range: 41-74 Mean Score: 59.95

TABLE XXXIX

GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR RHYTHM IMAGERY FOR STUDENTS OF CONTROL CLASS II

| Student | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: |
| 1 | 62 | 67 |
| 2 | 58 | 47 |
| 3 | 62 | 67 |
| 4 | 38 | 1 |
| 5 | 56 | 39 |
| 7 | 66 | 83 |
| 8 | 63 | 20 |
| 9 | 60 | 72 |
| 10 | 60 | 56 |
| 11 | 52 | 23 |

Standard Score Range: 38-62 Mean Score: 56.67

TABLE XL
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR PHRASING FACTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | $\begin{aligned} & \text { Raw } \\ & \text { Score } \end{aligned}$ | Standard Score | Percentile Rank |
| :---: | :---: | :---: | :---: |
| 1 | 30 | 80 | 99 |
| 2 | 21 | 51 | 28 |
| 3 | 28 | 70 | 93 |
| 4 | 22 | 53 | 36 |
| 5 | 22 | 53 | 36 |
| 6 | 26 | 63 | 80 |
| 7 | 21 | 51 | 28 |
| 8 | 26 | 63 | 80 |
| 9 | 25 | 60 | 66 |
| 10 | 21 | 51 | 28 |
| 11 | 23 | 55 | 44 |
| 12 | 25 | 60 | 66 |
| 13 | 27 | 66 | 88 |
| 14 | 25 | 60 | 66 |
| 15 | 27 | 66 | 88 |
| 16 | 19 | 47 | 13 |
| 17 | 30 | 80 | 99 |
| 18 | 26 | 63 | 80 |
| 19 | 24 | 58 | 57 |
| 20 | 30 | 80 | 99 |
| 21 | 26 | 63 | 80 |
| 22 | 22 | 53 | 36 |
| 23 | 25 | 75 | 98 |
| 24 | 25 | 60 | 66 |
| 25 | 27 | 63 | 80 |
| 26 | 25 | 75 | 98 |
| 27 | 23 | 55 | 44 |
| 28 | 28 | 70 | 93 |
| 29 | 21 | 51 | 28 |
| 30 | 21 | 51 | 19 |
| 31 | 22 | 53 | 36 |
| 32 | 24 | 58 | 57 |
| 33 | 20 | 49 | 22 |
| 34 | 28 | 70 | 93 |
| 35 | 25 | 60 | 66 |
| 36 | 22 | 53 | 36 |
| 37 | 18 | 45 | 11 |
| 38 | 20 | 49 | 22 |
| 39 | 27 | 66 | 88 |
| 40 | 23 | 55 | 44 |
| 41 | 28 | 70 | 93 |
| 42 | 30 | 80 | 99 |

TABLE XLI
gordon musical aptitude profile test scores for phrasing factor OF MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | Percentile Rank |
| :---: | :---: | :---: | :---: |
| 1 | 24 | 58 | 57 |
| 2 | 27 | 88 | 66 |
| 3 | 22 | 53 | 36 |
| 4 | 23 | 55 | 44 |
| 5 | 24 | 58 | 57 |
| 6 | 20 | 49 | 22 |
| 7 | 28 | 70 | 93 |
| 8 | 21 | 51 | 27 |
| 9 | 20 | 49 | 22 |
| 10 | 27 | 66 | 88 |
| 11 | 30 | 80 | 99 |
| 12 | 20 | 49 | 22 |
| 13 | 27 | 66 | 88 |
| 14 | 23 | 55 | 44 |
| 15 | 18 | 45 | 11 |
| 16 | 25 | 60 | 66 |
| 17 | 20 | 49 | 22 |
| 18 | 24 | 58 | 57 |
| 19 | 25 | 60 | 66 |
| 20 | 24 | 58 | 57 |
| 21 | 27 | 66 | 88 |
| 22 | 24 | 58 | 57 |
| 23 | 24 | 58 | 57 |
| 24 | 17 | 43 | 8 |
| 25 | 29 | 75 | 98 |
| 26 | 19 | 47 | 16 |
| 27 | 25 | 60 | 66 |
| 28 | 28 | 70 | 92 |
| 29 | 20 | 49 | 23 |
| 30 | 26 | 63 | 80 |
| 31 | 25 | 60 | 66 |
| 32 | 20 | 49 | 22 |
| 33 | 22 | 53 | 36 |
| 34 | 29 | 75 | 98 |
| 35 | 23 | 55 | 44 |
| 36 | 25 | 60 | 66 |
| 37 | 16 | 42 | 7 |
| 38 | 22 | 53 | 36 |
| 39 | 26 | 63 | 80 |
| 40 | 21 | 51 | 28 |
| 41 | 22 | 53 | 36 |

Standard Score Range: 42 - 75 Mean Score: 58.05

TABLE XLII
GORDON MUSICAL APTITUDE PROF ILE TEST SCORES FOR PHRASING FACTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS II

| Student | Raw <br> Score | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 25 | 60 | 66 |
| 2 | 19 | 47 | 16 |
| 3 | 27 | 66 | 88 |
| 4 | 11 | 33 | 0 |
| 5 | 23 | 55 | 44 |
| 6 | 25 | 60 | 66 |
| 7 | 16 | 42 | 7 |
| 8 | 25 | 60 | 66 |
| 9 | 26 | 63 | 80 |
| 10 | 28 | 70 | 93 |
| 11 | 26 | 63 | 80 |

Standard Score Range: 42-70 Mean Score: 56.83

TABLE XLIII
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR BALANCE FACTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | Percentile Rank |
| :---: | :---: | :---: | :---: |
| 1 | 28 | 69 | 92 |
| 2 | 25 | 60 | 64 |
| 3 | 24 | 57 | 50 |
| 4 | 23 | 55 | 40 |
| 5 | 22 | 53 | 33 |
| 6 | 27 | 65 | 84 |
| 7 | 23 | 55 | 40 |
| 8 | 23 | 55 | 40 |
| 9 | 26 | 62 | 72 |
| 10 | 18 | 46 | 13 |
| 11 | 25 | 60 | 64 |
| 12 | 27 | 65 | 84 |
| 13 | 27 | 65 | 84 |
| 14 | 23 | 55 | 40 |
| 15 | 21 | 51 | 27 |
| 16 | 20 | 49 | 19 |
| 17 | 27 | 65 | 84 |
| 18 | 24 | 57 | 50 |
| 19 | 26 | 62 | 72 |
| 20 | 29 | 73 | 96 |
| 21 | 28 | 69 | 92 |
| 22 | 23 | 55 | 40 |
| 23 | 25 | 60 | 64 |
| 24 | 25 | 60 | 64 |
| 25 | 25 | 60 | 64 |
| 26 | 26 | 62 | 72 |
| 27 | 22 | 53 | 33 |
| 28 | 28 | 69 | 92 |
| 29 | 21 | 51 | 27 |
| 30 | 21 | 51 | 27 |
| 31 | 21 | 51 | 27 |
| 32 | 25 | 60 | 64 |
| 33 | 26 | 62 | 72 |
| 34 | 27 | 65 | 84 |
| 35 | 22 | 53 | 33 |
| 36 | 24 | 57 | 50 |
| 37 | 20 | 49 | 21 |
| 38 | 27 | 65 | 84 |
| 39 | 28 | 69 | 92 |
| 40 | 20 | 49 | 21 |
| 41 | 22 | 53 | 33 |
| 42 | 27 | 65 | 84 |
| Standard | 46 | Mean |  |

TABLE XLIV

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR BALANCE FACTOR OF 'MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 1 | 27 | 65 | 84 |
| 2 | 25 | 60 | 64 |
| 3 | 23 | 55 | 40 |
| 4 | 27 | 65 | 84 |
| 5 | 27 | 65 | 84 |
| 6 | 16 | 42 | 7 |
| 7 | 24 | 57 | 50 |
| 8 | 22 | 53 | 33 |
| 9 | 19 | 47 | 15 |
| 10 | 25 | 60 | 64 |
| 11 | 27 | 65 | 84 |
| 12 | 27 | 65 | 84 |
| 13 | 19 | 47 | 15 |
| 14 | 21 | 51 | 27 |
| 15 | 15 | 41 | 6 |
| 16 | 25 | 60 | 64 |
| 17 | 20 | 49 | 21 |
| 18 | 23 | 55 | 40 |
| 19 | 18 | 46 | 13 |
| 20 | 23 | 55 | 40 |
| 21 | 26 | 62 | 72 |
| 22 | 20 | 49 | 20 |
| 23 | 22 | 53 | 30 |
| 24 | 22 | 53 | 30 |
| 25 | 29 | 73 | 96 |
| 26 | 35 | 60 | 55 |
| 27 | 28 | 69 | 92 |
| 28 | 27 | 65 | 84 |
| 29 | 18 | 46 | 14 |
| 30 | 21 | 51 | 27 |
| 31 | 27 | 65 | 84 |
| 32 | 24 | 57 | 50 |
| 33 | 23 | 55 | 40 |
| 34 | 19 | 47 | 15 |
| 35 | 23 | 55 | 40 |
| 36 | 25 | 60 | 64 |
| 37 | 24 | 57 | 50 |
| 38 | 22 | 53 | 33 |
| 39 | 21 | 51 | 27 |
| 40 | 22 | 53 | 33 |
| 41 | 23 | 55 | 40 |

Standard Score Range: $41-73$ Mean Score: 55.90

## TABLE XLV

## GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR BALANCE FACTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS II

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | Standard Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 28 | 69 | 92 |
| 2 | 27 | 65 | 84 |
| 3 | 27 | 65 | 84 |
| 4 | 15 | 41 | 6 |
| 5 | 26 | 62 | 72 |
| 6 | 28 | 69 | 92 |
| 7 | 29 | 73 | 96 |
| 8 | 27 | 65 | 84 |
| 9 | 29 | 73 | 96 |
| 10 | 27 | 65 | 84 |
| 11 | 24 | 57 | 50 |
| 12 | 27 | 65 | 84 |
| Standard | 41 | Mean |  |

TABLE XIVI

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR STYLE FACTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF THE EXPERIMENTAL CLASS


TABLE XLVII

GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR STYLE FAGTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \\ \hline \end{gathered}$ | Standard Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 25 | 60 | 63 |
| 2 | 27 | 63 | 73 |
| 3 | 26 | 63 | 73 |
| 4 | 24 | 58 | 53 |
| 5 | 24 | 58 | 53 |
| 6 | 14 | 39 | 4 |
| 7 | 27 | 66 | 82 |
| 8 | 27 | 66 | 82 |
| 9 | 19 | 49 | 20 |
| 10 | 27 | 66 | 82 |
| 11 | 27 | 66 | 82 |
| 12 | 28 | 69 | 91 |
| 13 | 19 | 49 | 20 |
| 14 | 26 | 63 | 73 |
| 15 | 14 | 39 | 4 |
| 16 | 27 | 66 | 82 |
| 17 | 23 | 56 | 44 |
| 18 | 26 | 63 | 73 |
| 19 | 20 | 50 | 23 |
| 20 | 29 | 73 | 96 |
| 21 | 28 | 69 | 91 |
| 22 | 25 | 60 | 63 |
| 23 | 27 | 66 | 82 |
| 24 | 23 | 56 | 44 |
| 25 | 30 | 80 | 99 |
| 26 | 28 | 50 | 23 |
| 27 | 29 | 73 | 96 |
| 28 | 25 | 60 | 63 |
| 29 | 20 | 50 | 20 |
| 30 | 29 | 73 | 96 |
| 31 | 24 | 58 | 53 |
| 32 | 26 | 63 | 76 |
| 33 | 27 | 66 | 82 |
| 34 | 29 | 51 | 30 |
| 35 | 27 | 66 | 82 |
| 36 | 28 | 69 | 91 |
| 37 | 19 | 49 | 21 |
| 38 | 25 | 60 | 63 |
| 39 | 24 | 58 | 53 |
| 40 | 22 | 54 | 36 |
| 41 | 22 | 54 | 34 |

TABLE XLVIII
GORDON MUSICAL APTITUDE PROFILE TEST SCORES FOR STYLE FACTOR OF MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS II

| Student | Raw <br> Score | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: | :---: |
| 1 | 28 | 69 | 91 |
| 2 | 28 | 69 | 91 |
| 3 | 25 | 60 | 63 |
| 4 | 9 | 30 | 0 |
| 5 | 26 | 63 | 73 |
| 6 | 29 | 73 | 96 |
| 7 | 24 | 58 | 53 |
| 9 | 26 | 63 | 73 |
| 10 | 28 | 69 | 91 |
| 11 | 24 | 63 | 53 |
| 12 | 28 | 69 | 73 |

Standard Score Range: . 30-73 Mean Score: 62.00

TABLE XLIX
GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR MUSICAL SENSITIVITY FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | Standard Score | Percentile Rank |
| :---: | :---: | :---: |
| 1 | 70 | 98 |
| 2 | 56 | 43 |
| 3 | 69 | 97 |
| 4 | 53 | 30 |
| 5 | 54 | 34 |
| 6 | 63 | 81 |
| 7 | 52 | 26 |
| 8 | 63 | 81 |
| 9 | 57 | 48 |
| 10 | 52 | 26 |
| 11 | 58 | 53 |
| 12 | 65 | 90 |
| 13 | 65 | 90 |
| 14 | 59 | 53 |
| 15 | 58 | 53 |
| 16 | 46 | 13 |
| 17 | 68 | 95 |
| 18 | 64 | 86 |
| 19 | 58 | 53 |
| 20 | 72 | 79 |
| 21 | 62 | 76 |
| 22 | 53 | 30 |
| 23 | 70 | 97 |
| 24 | 59 | 58 |
| 25 | 65 | 90 |
| 26 | 68 | 96 |
| 27 | 53 | 30 |
| 28 | 71 | 98 |
| 29 | 51 | 22 |
| 30 | 46 | 9 |
| 31 | 51 | 19 |
| 32 | 55 | 38 |
| 33 | 57 | 48 |
| 34 | 65 | 90 |
| 35 | 56 | 43 |
| 36 | 58 | 53 |
| 37 | 45 | 7 |
| 38 | 57 | 48 |
| 39 | 72 | 99 |
| 40 | 55 | 38 |
| 41 | 63 | 81 |
| 42 | 69 | 99 |

Standard Score Range: 45-72 Mean Score: 59.60

TABLE L

GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CIASS I

| Student | Standard Score | Percentile Rank |
| :---: | :---: | :---: |
| 1 | 61 | 70 |
| 2 | 63 | 81 |
| 3 | 57 | 49 |
| 4 | 59 | 58 |
| 5 | 60 | 76 |
| 6 | 43 | 5 |
| 7 | 64 | 86 |
| 8 | 57 | 47 |
| 9 | 49 | 16 |
| 10 | 64 | 86 |
| 11 | 70 | 98 |
| 12 | 64 | 82 |
| 13 | 56 | 42 |
| 14 | 56 | 43 |
| 15 | 42 | 4 |
| 16 | 62 | 76 |
| 17 | 51 | 22 |
| 18 | 59 | 58 |
| 19 | 52 | 29 |
| 20 | 62 | 76 |
| 21 | 46 | 93 |
| 22 | 56 | 48 |
| 23 | 60 | 76 |
| 24 | 50 | 19 |
| 25 | 76 | 99 |
| 26 | 50 | 19 |
| 27 | 67 | 95 |
| 28 | 65 | 90 |
| 29 | 48 | 14 |
| 30 | 63 | 81 |
| 31 | 61 | 70 |
| 32 | 56 | 43 |
| 33 | 65 | 90 |
| 34 | 58 | 53 |
| 35 | 59 | 57 |
| 36 | 63 | 81 |
| 37 | 49 | 16 |
| 38 | 56 | 43 |
| 39 | 58 | 53 |
| 40 | 53 | 30 |
| 41 | 54 | 34 |

Standard Score Range: 42 - 76 Mean Score: 56.93

TABLE LI

GORDON MUSICAL APTITUDE PROFILE TOTALED TEST SCORES FOR MUSICAL SENSITIVITY FOR STUDENTS OF CONTROL CLASS II.

| Student | Standard Score | $\begin{gathered} \text { Percentile } \\ \text { Rank } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: |
| 1 | 66 | 93 |
| 2 | 60 | 64 |
| 3 | 64 | 86 |
| 4 | 35 | 0 |
| 5 | 60 | 64 |
| 6 | 67 | 95 |
| 7 | 58 | 53 |
| 8 | 63 | 81 |
| 9 | 68 | 96 |
| 10 | 64 | 86 |
| 11 | 61 | 70 |
| 12 | 66 | 93 |
| Standar | - 68 |  |

TABLE LII
GORDON MUSICAL APTITUDE COMPOSITE TEST SCORES FOR STUDENTS OF THE EXPERIMENTAL CLASS

| Student | Standard Score | Percentile <br> Rank |
| :---: | :---: | :---: |
| 1 | 65 | 86 |
| 2 | 56 | 42 |
| 3 | 63 | 77 |
| 4 | 62 | 72 |
| 5 | 56 | 42 |
| 6 | 64 | 82 |
| 7 | 60 | 62 |
| 8 | 61 | 67 |
| 9 | 56 | 42 |
| 10 | 47 | 9 |
| 11 | 59 | 57 |
| 12 | 67 | 93 |
| 13 | 63 | 77 |
| 14 | 57 | 47 |
| 15 | 51 | 21 |
| 16 | 50 | 17 |
| 17 | 69 | 95 |
| 18 | 67 | 93 |
| 19 | 60 | 62 |
| 20 | 66 | 90 |
| 21 | 60 | 62 |
| 22 | 53 | 29 |
| 23 | 67 | 93 |
| 24 | 58 | 52 |
| 25 | 65 | 86 |
| 26 | 61 | 67 |
| 27 | 61 | 62 |
| 28 | 67 | 93 |
| 29 | 51 | 21 |
| 30 | 45 | 7 |
| 31 | 54 | 33 |
| 32 | 55 | 42 |
| 33 | 60 | 62 |
| 34 | 54 | 33 |
| 35 | 61 | 67 |
| 36 | 59 | 57 |
| 37 | 57 | 17 |
| 38 | 62 | 72 |
| 39 | 59 | 57 |
| 40 | 52 | 55 |
| 41 | 63 | 77 |
| 42 | 66 | 90 |

Standard Score Range: 45 - 69 Mean Score: 59.26

TABLE LIII

GORDON MUSICAL APTITUDE COMPOSITE TEST SCORES FOR STUDENTS OF CONTROL CLASS I


TABLE LIV
GORDON MUSICAL. APTITUDE COMPOSITE TEST SCORES FOR STUDENTS OF CONTROL CLASS II

| Student | Standard <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: |
| 1 | 67 | 93 |
| 2 | 58 | 52 |
| 3 | 65 | 86 |
| 4 | 41 | 1 |
| 5 | 60 | 62 |
| 6 | 62 | 72 |
| 7 | 54 | 33 |
| 8 | 66 | 90 |
| 9 | 64 | 81 |
| 10 | 52 | 67 |
| 11 | 61 | 25 |

Standard Score Range: 41-67 Mean Score: 59.25

## APPENDIX B

DATA REGARDING THE PRE-TEST OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST OF THE EXPERIMENTAL CLASS, CONTROL CLASS I, AND CONTROL CLASS II

TABLE LV
PRE-TEST SNYDER KNUTH MUSIC ACHIEVEMENT TEST SCORES FOR STUDENTS IN THE EXPERIMENTAL CLASS

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: |
| 1 | 70 | - 87 |
| 2 | 74 | 42 |
| 3 | 55 | 10 |
| 4 | 99 | 88 |
| 5 | 40 | 2 |
| 6 | 72 | 38 |
| 7 | 61 | 17 |
| 8 | 74 | 42 |
| 9 | 47 | 4 |
| 10 | 54 | 9 |
| 11 | 51 | 7 |
| 12 | 75 | 44 |
| 13 | 56 | 13 |
| 14 | 44 | 3 |
| 15 | 46 | 4 |
| 16 | 52 | 8 |
| 17 | 69 | 30 |
| 18 | 64 | 22 |
| 19 | 56 | 13 |
| 20 | 87 | 70 |
| 21 | 44 | 3 |
| 22 | 42 | 2 |
| 23 | 60 | 16 |
| 24 | 35 | 1 |
| 25 | 87 | 70 |
| 26 | 44 | 3 |
| 27 | 58 | 14 |
| 28 | 65 | 24 |
| 29 | 57 | 12 |
| 30 | 57 | 12 |
| 31 | 80 | 55 |
| 32 | 60 | 16 |
| 33 | 39 | 1 |
| 34 | 61 | 17 |
| 35 | 52 | 8 |
| 36 | 71 | 35 |
| 37 | 63 | 20 |
| 38 | 81 | 57 |
| 39 | 45 | 3 |
| 40 | 42 | 2 |
| 41 | 55 | 10 |
| 42 | 42 | 2 |

TABLE LVI
PRE-TEST SNYDER KNUTH MUSIC ACHIEVEMENT TEST SCORES FOR STUDENTS IN CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | $\begin{gathered} \text { Percentile } \\ \text { Rank } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: |
| 1 | 80 | 55 |
| 2 | 42 | 2 |
| 3 | 48 | 5 |
| 4 | 71 | 35 |
| 5 | 41 | 2 |
| 6 | 34 | 1 |
| 7 | 52 | 8 |
| 8 | 100 | 89 |
| 9 | 76 | 45 |
| 10 | 100 | 89 |
| 11 | 48 | 5 |
| 12 | 74 | 42 |
| 13 | 46 | 4 |
| 14 | 50 | 6 |
| 15 | 66 | 25 |
| 16 | 43 | 2 |
| 17 | 54 | 9 |
| 18 | 96 | 34 |
| 19 | 70 | 32 |
| 20 | 65 | 24 |
| 21 | 88 | 72 |
| 22 | 87 | 70 |
| 23 | 42 | 2 |
| 24 | 46 | 4 |
| 25 | 113 | 98 |
| 26 | 60 | 16 |
| 27 | 56 | 13 |
| 28 | 46 | 4 |
| 29 | 86 | 68 |
| 30 | 60 | 16 |
| 31 | 78 | 50 |
| 32 | 56 | 13 |
| 33 | 94 | 81 |
| 34 | 53 | 9 |
| 35 | 43 | 2 |
| 36 | 62 | 19 |
| 37 | 60 | 16 |
| 38 | 43 | 2 |
| 39 | 44 | 3 |
| 40 | 25 | 1 |
| 41 | 62 | 19 |

Score Range: 25-113
Mean Score: 62.44

TABLE LVII

PRE-TEST SNYDER KNUTH MUSIC ACHIEVEMENT TEST SCORES FOR STUDENTS IN CONTROL CLASS II

| Student | Raw <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: |
| 1 | 95 | 83 |
| 2 | 49 | 5 |
| 3 | 85 | 65 |
| 4 | 38 | 1 |
| 5 | 75 | 44 |
| 7 | 55 | 10 |
| 8 | 49 | 29 |
| 9 | 80 | 5 |
| 10 | 48 | 5 |
| 11 | 45 | 2 |
| 12 |  | 5 |

Score Range: 38 - 95 Mean.Score: 61.50

## APPENDIX C

[^7]
## TABLE LVIII

PRE-TEST OF SCALE TO MEASURE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC. OF STUDENTS IN THE EXPERIMENTAL CLASS

| Student | Score | Student | Score |
| :---: | :---: | :---: | :---: |
| 1 | 110 | 22 | 110 |
| 2 | 81 | 23 | 104 |
| 3 | 87 | 24 | 84 |
| 4 | 115 | 25 | 113 |
| 5 | 106 | 26 | 82 |
| 6 | 116 | 27 | 93 |
| 7 | 106 | 28 | 120 |
| 8 | 100 | 29 | 83 |
| 9 | 104 | 30 | 102 |
| 10 | 99 | 31 | 102 |
| 11 | 97 | 32 | 112 |
| 12 | 100 | 33 | 108 |
| 13 | 107 | 34 | 81 |
| 14 | 97 | 35 | 113 |
| 15 | 99 | 36 | 107 |
| 16 | 97 | 37 | 100 |
| 17 | 106 | 38 | 85 |
| 18 | 98 | 39 | 110 |
| 19 | 104 | 40 | 92 |
| 20 | 109 | 41 | 98 |
| 21 | 91 | 42 | 112 |

Score Range: 81-115
Mean Score: 100.95
table LIX
PRE-TEST OF SCALE TO MEASURE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC OF STUDENTS IN CONTROL CLASS I

| Student | Score | Student | Score |
| :---: | ---: | :---: | :---: |
| 1 | 98 | 22 | 107 |
| 2 | 101 | 23 | 96 |
| 3 | 104 | 24 | 99 |
| 4 | 105 | 25 | 124 |
| 5 | 108 | 26 | 106 |
| 6 | 77 | 27 | 106 |
| 7 | 102 | 28 | 120 |
| 8 | 113 | 29 | 105 |
| 9 | 103 | 30 | 114 |
| 10 | 99 | 31 | 113 |
| 11 | 118 | 32 | 107 |
| 12 | 118 | 33 | 124 |
| 13 | 116 | 34 | 103 |
| 14 | 103 | 35 | 113 |
| 15 | 99 | 36 | 105 |
| 16 | 103 | 37 | 104 |
| 17 | 97 | 38 | 103 |
| 18 | 107 | 39 | 80 |
| 19 | 103 | 40 | 110 |
| 20 | 121 |  | 105 |
| 21 |  |  |  |

Score Range: 77-124
Mean Score: 106.32

PRE-TEST OF SCALE TO MEASURE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC OF STUDENTS IN CONTROL CLASS II

| Student |  | Score |
| :---: | :---: | :---: |
| 1 |  | 100 |
| 2 |  | 107 |
| 3 |  | 104 |
| 4 |  | 106 |
| 5 |  | 97 |
| 6 |  | 98 |
| 7 |  | 96 |
| 8 |  | 110 |
| 9 |  | 115 |
| 10 |  | 96 |
| 11 |  | 115 |
| 12 |  | 102 |
| Score Range: 96-115 | Mean Score: | 3.83 |

## APPENDIX D

DATA REGARDING THE CUMULATIVE COLLEGE GRADE AVERAGES OF THE EXPERIMENTAL CLASS, CONTROL CLASS I, AND CONTROL CLASS II

## TABLE LXI

## COLLEGE GRADE POINT AVERAGE OF STUDENTS <br> IN THE EXPERIMENTAL CLASS

| Student | Grade Point | Student | Grade Point |
| :---: | :---: | :---: | :---: |
| 1 | 2.79 | 22 | 3.04 |
| 2 | 2.31 | 23 | 1.80 |
| 3 | 3.00 | 24 | 1.70 |
| 4 | 3.07 | 25 | 3.28 |
| 5 | 2.37 | 26 | 4.00 |
| 6 | 2.46 | 27 | 2.15 |
| 7 | 3.28 | 28 | 1.90 |
| 8 | 2.32 | 29 | 1.70 |
| 9 | 2.57 | 30 | 1.65 |
| 10 | 2.09 | 31 | 2.57 |
| 11 | 3.08 | 32 | 3.54 |
| 12 | 3.07 | 33 | 1.40 |
| 13 | 2.84 | 34 | 2.56 |
| 14 | 2.20 | 35 | 3.19 |
| 15 | 2.74 | 36 | 1.83 |
| 16 | 2.66 | 37 | 2.89 |
| 17 | 2.95 | 38 | 2.48 |
| 18 | 3.50 | 39 | 2.60 |
| 19 | 2.13 | 40 | 2.33 |
| 20 | 2.22 | 41 | 3.00 |
| 21 |  | 42 | 3.63 |
| Grade Point Range : | $1.40-4.00$ | 2.627 |  |

TABLE LXII
COLLEGE GRADE POINT AVERAGE OF STUDENTS IN CONTROL CLASS I

| Student | Grade Point | Student | Grade Point |
| :---: | :---: | :---: | :---: |
| 1 | 2.48 | 22 | 3.28 |
| 2 | 1.40 | 23 | 1.88 |
| 3 | 2.74 | 24 | 3.09 |
| 4 | 3.03 | 25 | 3.71 |
| 5 | 2.54 | 26 | 1.95 |
| 6 | 2.00 | 27 | 2.62 |
| 7 | 3.13 | 28 | 3.00 |
| 8 | 3.12 | 29 | 2.99 |
| 9 | 2.08 | 30 | 3.29 |
| 10 | 3.91 | 31 | 2.30 |
| 11 | 3.44 | 32 | 2.30 |
| 12 | Dropped | 33 | 2.56 |
| 13 | 1.96 | 34 | 2.87 |
| 14 | 2.25 | 35 | 3.39 |
| 15 | 3.00 | 36 | 2.67 |
| 16 | 1.86 | 37 | Dropped |
| 17 | 2.90 | 38 | 2.90 |
| 18 | 3.09 | 39 | 2.91 |
| 19 | 3.38 | 40 | 2.72 |
| 20 | 2.33 | 41 | 2.46 |
| 21 | 2.06 |  |  |
| Grade P | 1.40-3.91 | Mean: |  |

## TABLE LXIII

COLLEGE GRADE POINT AVERAGE OF STUDENTS IN CONTROL CLASS II

| Student | Grade Point |
| :---: | :---: |
| 1 | 3.73 |
| 2 | 2.60 |
| 3 | Dropped |
| 4 | 3.13 |
| 5 | 2.38 |
| 6 | 2.81 |
| 7 | 2.18 |
| 9 | 2.64 |
| 10 | 2.91 |
| 11 | 2.97 |
| 12 | 1.98 |

Grade Point Range: 1.98 Mean: 2.67

APPENDIX E

DATA REGARDING THE POST-TEST OF SNYDER KNUTH MUSIC ACHIEVEMENT TEST OF THE EXPERIMENTAL CLASS, CONTROL CLASS I, AND CONTROL CLASS II

TABLE LXIV

POST-TEST SNYDER KNUTH MUSIC ACHIEVEMENT TEST SCORES FOR STUDENTS IN THE EXPERIMENTAL CLASS

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | $\begin{gathered} \text { Percentile } \\ \text { Rank } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: |
| 1 | 95 | 83 |
| 2 | 102 | 91 |
| 3 | 66 | 25 |
| 4 | 115 | 98 |
| 5 | 76 | 45 |
| 6 | 104 | 93 |
| 7 | 87 | 70 |
| 8 | 96 | 84 |
| 9 | 66 | 25 |
| 10 | 72 | 38 |
| 11 | 69 | 30 |
| 12 | 97 | 85 |
| 13 | 82 | 59 |
| 14 | 76 | 45 |
| 15 | 69 | 30 |
| 16 | 74 | 42 |
| 17 | 96 | 84 |
| 18 | 87 | 70 |
| 19 | 90 | 75 |
| 20 | 105 | 93 |
| 21 | 92 | 79 |
| 22 | 74 | 42 |
| 23 | 83 | 60 |
| 24 | 61 | 17 |
| 25 | 101 | 90 |
| 26 | 81 | 57 |
| 27 | 94 | 81 |
| 28 | 90 | 75 |
| 29 | 83 | 60 |
| 30 | 69 | 30 |
| 31 | 99 | 88 |
| 32 | 79 | 53 |
| 33 | 76 | 45 |
| 34 | 82 | 59 |
| 35 | 84 | 62 |
| 36 | 88 | 72 |
| 37 | 83 | 60 |
| 38 | 106 | 94 |
| 39 | 72 | 38 |
| 40 | 69 | 30 |
| 41 | 79 | 53 |
| 42 | 80 | 55 |

TABLE LXV
POST-TEST SNYDER KNUTH MUSIC ACHIEVEMENT TEST SCORES FOR STUDENTS IN CONTROL CLASS I

| Student | $\begin{gathered} \text { Raw } \\ \text { Score } \end{gathered}$ | $\begin{gathered} \text { Percentile } \\ \text { Rank } \end{gathered}$ |
| :---: | :---: | :---: |
| 1 | 81 | 57 |
| 2 | 64 | 22 |
| 3 | 60 | 16 |
| 4 | 85 | 65 |
| 5 | 58 | 14 |
| 6 | 45 | 3 |
| 7 | 57 | 12 |
| 8 | 102 | 91 |
| 9 | 86 | 68 |
| 10 | 111 | 97 |
| 11 | 73 | 40 |
| 12 | 84 | 62 |
| 13 | Dropped | Dropped |
| 14 | 57 | 12 |
| 15 | 75 | 44 |
| 16 | 65 | 24 |
| 17 | 62 | 19 |
| 18 | 104 | 93 |
| 19 | 79 | 53 |
| 20 | 81 | 57 |
| 21 | 98 | 86 |
| 22 | 101 | 90 |
| 23 | 59 | 15 |
| 24 | 70 | 32 |
| 25 | 116 | 98 |
| 26 | 62 | 19 |
| 27 | 65 | 24 |
| 28 | 66 | 25 |
| 29 | 96 | 84 |
| 30 | 82 | 59 |
| 31 | 83 | 60 |
| 32 | 58 | 14 |
| 33 | 87 | 70 |
| 34 | 62 | 19 |
| 35 | 48 | 5 |
| 36 | 73 | 40 |
| 37 | Dropped | Dropped |
| 38 | 52 | 8 |
| 39 | 54 | 9 |
| 40 | 70 | 32 |
| 41 | 70 | 32 |

## TABLE LXVI

POST-TEST SNYDER KNUTH MUSIC ACHIEVEMENT TEST SCORES FOR STUDENTS IN CONTROL CLASS II

| Student | Raw <br> Score | Percentile <br> Rank |
| :---: | :---: | :---: |
| 1 | 103 | 92 |
| 2 | 64 | 22 |
| 3 | Dropped | Dropped |
| 4 | 49 | 5 |
| 5 | 93 | 80 |
| 6 | 59 | 15 |
| 7 | 59 | 15 |
| 8 | 80 | 56 |
| 10 | 62 | 68 |
| 11 | 45 | 19 |
| 12 | 58 | Mean Score: 68.91 |
| Score Range: 45-103 |  | 14 |

## APPENDIX F

DATA REGARDING THE POST-TEST OF THE SCALE TO MEASURE THE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC.OF THE EXPERIMENTAL CTASS, CONTROL CLASS I, AND CONTROL CLASS II

TABLE LXVII
POST-TEST OF SCALE TO MEASURE ATTITUDES OF ELEMENTARY EDUCATION
MAJORS TOWARD MUSIC OF STUDENTS IN THE EXPERIMENTAL CLASS
Student Score
1 ..... 114
2 ..... 105
3 ..... 81
4 ..... 123
5 ..... 107
6 ..... 115
7 ..... 106
8 ..... 114
9 ..... 111
10 ..... 99
11 ..... 109
12 ..... 109
13 ..... 117
14 ..... 105
15 ..... 96
16 ..... 113
17 ..... 117
18 ..... 119
19 ..... 1.07
20 ..... 117
21 ..... 122
22 ..... 115
23 ..... 112
24 ..... 110
25 ..... 116
26 ..... 97
27 ..... 112
28 ..... 119
29 ..... 103
30 ..... 112
31 ..... 112
32 ..... 115
33 ..... 108
34 ..... 121
35 ..... 113
36 ..... 114
37 ..... 99
38 ..... 112
39 ..... 119
40 ..... 102
41 ..... 110
42 ..... 124
Score Range: 81-124 Mean Score: 110.74

TABLE LXVIII
POST-TEST OF SCALE TO MEASURE ATTITUDES OF ELEMENTARY EDUC̣ATION MAJORS TOWARD MUSIC OF STUDENTS IN CONTROL CLASS I

| Student | Score |
| :---: | :---: |
| 1 | 102 |
| 2 | 97 |
| 3 | 96 |
| 4 | 106 |
| 5 | 119 |
| 6 | 91 |
| 7 | 97 |
| 8 | 116 |
| 9 | 102 |
| 10 | 89 |
| 11 | 115 |
| 12 | 121 |
| 13 | Dropped |
| 14 | 109 |
| 15 | 97 |
| 16 | 107 |
| 17 | 105 |
| 18 | 118 |
| 19 | 97 |
| 20 | 123 |
| 21 | 116 |
| 22 | 120 |
| 23 | 99 |
| 24 | 106 |
| 25 | 122 |
| 26 | 121 |
| 27 | 129 |
| 28 | 123 |
| 29 | 98 |
| 30 | 113 |
| 31 | 117 |
| 32 | 106 |
| 33 | 131 |
| 34 | 102 |
| 35 | 106 |
| 36 | 112 |
| 37 | Dropped |
| 38 | 102 |
| 39 | 80 |
| 40 | 91 |
| 41 | 94 |

Score Range: 80-131
Mean Score: : 107.56

## TABLE LXIX

POST-TEST OF SGALE TO MEASURE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC OF STUDENTS IN.CONTROL CLASS II

| Student | Score |
| :---: | :---: |
| 1 | 103 |
| 2 | 123 |
| 3 | Dropped |
| 4 | 107 |
| 5 | 99 |
| 6 | 93 |
| 7 | 113 |
| 8 | 108 |
| 9 | 115 |
| 10 | 105 |
| 11 | 108 |
| 12 | 103 |

Score Range: 93-123 Mean Score: 106.82

## APPENDIX G

A COPY OF SCALE TO MEASURE THE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC AND A REPORT OF TESTING FORM FOR STUDENTS

NAME : $\qquad$ CLASS SECTION: $\qquad$

# SCALE TO MEASURE ATTITUDES OF COLLEGE ELEMENTARY <br> EDUCATION MAJORS TOWARD MUSIC 

## DIRECTIONS:

In this scale you will find statements regarding your attitudes toward music. With some of these statements you will agree, while with others you will have no strong feelings. There will be other statements with which you will disagree. As you read each statement, you may indicate your feeling from five choices: (1) STRONGLY AGREE. This category is reserved for those statements about which you hold strong feelings, statements with which you agree strongly. (2) AGREE. This category indicates that you agree with the statement. (3) UNCERTAIN. As you read some statements, you will neither agree nor disagree. In other words, you are not strongly committed one way or the other. (4) DISAGREE. This category indicates that you disagree but not as strongly as the fifth category. (5) STRONGLY DISAGREE. This category is reserved for those statements with which you strongly disagree. Read each statement carefully and when you are sure of the meaning, circle the letter or letters which indicate your honest, sincere feeling about the statement.

## STRONGLY AGREE AGREE UNCERTAIN DISAGREE STRONGLY DISAGREE

SA
A
U
D
SD

## EXAMPLE:

Music is a good avocation.
(SA) A U D SD
This example indicates that a student "strongly agrees" that the statement is correct.

Work as rapidly as you can, but be sure you understand each statement before marking it.

1. Listening to music is enjoyable to me. $\mathrm{SA} A \mathrm{U} \quad \mathrm{D}$ SD
2. Music teaches discipline.

SA A U D SD
3. Participation in a musical group is not a

SA A U D SD source of pleasure to me.
4. Music as a part of the school curriculum is

SA A U D SD not a waste of time.
5. College students do not take music class seriously.
6. Music groups permit little expression of personal feelings.
7. The minds of students are not kept active in music.
8. Music gives one a feeling of accomplishment.
9. Music is not a challenging experience.
10. Music is a good use of leisure time.
11. Music does not help one overcome shyness.
12. Music teaches me to be accurate。
13. Music is not primarily for musicians.
14. I am not interested in music.
15. In general, music is of great value.
16. Attending concerts is not enjoyable to: me.
17. Classical music is boring.
18. I like folk music.
19. I do not like jazz.
20. I do not like rock.
21. I like modern symphonic music.
22. Rhythmic body motions are not easy for me.
23. I can play music "by ear。"
24. I do not enjoy dancing.
25. My record collection is important to me.
26. Musical competency is not necessary for the elementary teacher.
27. My parents do not consider music in the home important.
28. Either one or both of my parents sing or play an instrument.

SA A U D SD

SA A U D SD

SA A U D SD

SA A U D SD
SA A U D SD
SA A. U D SD
SA A U D SD

SA A U D SD
SA A U D SD

SA A U D SD

SA A U D SD
SA A U D SD
SA A U D SD
SA A U D SD
SA A U D SD
SA A U D SD
SA A U D SD

SA A U D SD

SA A U D SD

SA A U D SD
SA A U D SD
SA A U D SD

SA A U D SD

SA A U D SD

Student: $\qquad$
Section: $\qquad$

STUDENT TEST REPORT FORM

FUNDAMENTALS OF MUSIC
I. Gordon Musical Aptitude Profile

| Tonal Imagery | Standard Score | Percentile Rank |
| :---: | :---: | :---: |
| T 1: Melody |  |  |
| T 2: Harmony |  |  |
| Composite of T. I. |  |  |
| Rhythm Imagery |  |  |
| R 1: Tempo |  |  |
| R 2: Meter |  |  |
| Composite of R.I. |  |  |
| Musical Sensitivity |  |  |
| S 1: Phrasing |  |  |
| S 2: Balance |  |  |
| S. 3: Style |  |  |
| Composite of S 。 |  |  |
| Total Composite Scores |  |  |

II. Snyder Knuth Music Achievement Test
(136 possible points)
Pre-test Score $\qquad$
Post-test Score $\qquad$
III. Scale to Measure the Attitudes of Elementary Education Majors Toward Music (140 possible points)

Pre-test Score

Post-test Score

VITA $x$
Barbara Work Garder
Candidate for the Degree of
Doctor of Education
Thesis: A COMPARISON OF THE TEACHTNG OF MUSIC FUNDAMENTALS BY THE TRADITIONAL METHOD WITH THE OMNIBUS APPROACH
Major Field: Higher Education
Biographical:
Personal Data: Born in Denison, Texas, September 21, 1932, thedaughter of Mr. and Mrs. Roy L. Work.
Education: Graduated from Warner High School, Warner, Oklahoma,in May, 1948; received the Bachelor of Music Education fromthe University of Oklahoma in 1952; received the Master ofMusic Education from the University of Oklahoma in 1953;attended Teachers College, Columbia University; Brigham YoungUniversity; Royal Conservatory of Music, University ofToronto, Canada; completed the requirements for the Doctorof Education degree in August, 1969.
Professional Experience: Taught music in the elementary schoolsand served as high school vocal director, Cushing, Oklahoma,1952w 55\% served as Assistant Professor of Music, CentralState College, Edmond, Oklahoma, 1955w69.
Professional Organizations: Member of Sigma Alpha Iota, Profes:sional Music Fraternity for Women: Member of Delta KappaGamna: Member of Music Educators National Conference;Member of National Guild of Piano Teachers.


[^0]:    ${ }^{7}$ Louis G. Wersen is President of the Music Educators National Conference, and Supervisor of Music for the Public School System in Philadelphia.

[^1]:    6
    Yale Seminar in Music Education, Cooperative Research Project No. G-013, supported by the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education, and Welfare.
    ${ }^{7}$ Hewson, op. cit., p. 289.

[^2]:    21
    Samuel B. Gould, "The Arts in Higher Education: Valid or or Valueless?" Documentary Report of the Tang1ewood Symposium, ed. Robert A. Choate, Washington, D. C.: Music Educators National Conference, 1968, p. 53.

[^3]:    ${ }^{1}$ Edwin Gordon, Musical Aptitude Profile (Boston: Houghton Mifflin Company, 1965).
    ${ }^{2}$ Alice Snyder Knuth, Snyder Knuth Music Achievement Test (San Francisco: Creative Arts Research Associates, Inc., 1968).

[^4]:    ${ }^{3}$ Gordon, op. cit., p. 50.

[^5]:    ${ }^{5}$ A copy of the questionnaire, Scale to Measure Attitudes of College Elementary Education Majors Toward Music, is included in the Appendix, p. 118.
    ${ }^{6}$ Rensis Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology, No. 140, 1932.

[^6]:    ${ }^{12}$ Richard P. Runyon and Audrey Haben, Fundamentals of Behavioral Statistics (Massachusetts, 1967), p. 85.

[^7]:    DATA REGARDING THE PRE-TEST OF THE SCALE TO MEASURE THE ATTITUDES OF ELEMENTARY EDUCATION MAJORS TOWARD MUSIC OF THE EXPERIMENTAL CLASS, CONTROL CLASS I, AND CONTROL CLASS II

