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COMPARATIVE STUDY OF TWO METHODS OF BAND INSTRUCTION
AT THE MIDDLE SCHOOL LEVEL

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Richard Allan Parker, B.S.Ed.(Music), M.A.

* * * * *

The Ohio State University
1974

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ACKNOWLEDGEMENTS

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Finally, the writer extends gratitude to his wife, Sharon, for the patience and understanding shown throughout the writing of this paper.
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CHAPTER I

INTRODUCTION

Instrumental music education, as commonly found in the public schools of today, includes the teaching of basic skills for playing instruments within a group setting. Rarely can one find a junior high school or a high school that does not provide opportunities for students to develop performance skills on an instrument.

While the existence and phenomenal development of performance groups within school settings has been viewed by some as one of the outstanding achievements of public school music during the present century, an increasing concern is being expressed that the specialization of performing groups has been carried too far. In evaluating the outcomes of instrumental music education, many general educators and music education specialists have levied numerous criticisms. Such criticisms seem to center around the premise that performance-dominated programs are inadequately related to general education in music as well

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as to the needs and interests of the participants.

Contributors of Section I of *Basic Concepts in Music Education* for example, have expressed concerns relative to the topic of performance in music education. Foster McMurray states in this yearbook that "to realize the aims of general education in music, we cannot rely upon instruction in performance skills per se as a means to full understanding of musical content. To teach sensitivity to esthetic content, we must rely upon other educational experiences than those of performance."^3

James Mursell, in a more direct criticism of performance specialization, writes:

"The acquisition of manipulative technique is a formidable and ever-present problem in music education. Very often the acquisition of technique is set up as a separate type of learning, more or less completely divorced from the actual making of music, and technique itself is regarded merely as gymnastic skills."^4

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Numerous other workers in the field of music education have thrust criticisms on the performance-centered curriculum which currently dominates the area of instrumental music education. Manley Whitcomb has classified these criticisms into several headings.  

1. **Purpose** - "...emphasis in performing groups seems to be on entertainment, public relations, and money raising rather than the musical education of students."

2. **Repertoire** - "...much of the music performed is trivial and is picked for audience entertainment rather than for its educational values...there is a haphazard choice of literature without the careful planning which would allow the student a varied experience of style and periods."

3. **Focus** - "There is too much emphasis on training in the technical aspects of performance without attention to musical facets such as an understanding of music as an art, music in its historical perspective, and music as a driving cultural force in the development of man."

Research findings also exist which reinforce many of the criticisms. Roberts' investigation, for example, found that band programs are mainly structured for extrinsic presentations. His twofold conclusion was that

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(1) graduates of high school band programs are not able to adequately demonstrate developed sensory abilities in music and (2) band directors do not teach concepts relative to the categories of theory, timbre, form, aesthetic sensitivity, and literature, although they often believe that they were teaching such concepts. Jones found that with respect to musical style, auditory-visual discrimination, chord recognition, and cadence recognition that sample scores obtained from students in band organizations were not significantly higher than scores of students in the general population. The survey data obtained in a study by Carlson revealed the following concerning band directors: (1) less than one per cent have a written course of study, (2) they spend about five to ten per cent of band rehearsal time providing information about the compositions played, (3) the aspects of composer, dates, period and style are taught with at least fifty per cent

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of the compositions rehearsed, and (4) the aspects of key signature, time signature, note values, and rest values receive instructional emphasis frequently with the compositions rehearsed. Finally, information provided by the studies conducted by Tate, Kruth, and Martignetti revealed that the failure of instrumental music education to provide interesting and challenging content as well as continuity of musical study is a significant cause for the high number of student dropouts in instrumental music programs.

THE NEED FOR THIS STUDY

In light of the above discussion, the music profession has directed some attention toward providing revitalized, more diversified, and more interesting approaches to the teaching of instrumental music. The

9 Elizabeth C. Tate, "A Study to Determine the Factors that Influence the Drop Outs in the Instrumental Music Programs in Selected Elementary Schools in Omaha, Nebraska" (unpublished doctoral dissertation, University of Nebraska Teachers College, 1962).


Contemporary Music Project (CMP), a nationwide program launched under the auspices of the Music Educators National Conference through funds from the Ford Foundation, was designed "to bring about conditions favorable to the creation, study and performance of contemporary music." At the core of the various programs implemented in the project was the integration and synthesis of the components of music. As a result, the CMP in its fourteen year existence (1959-1973) developed many ideas and implemented many programs which have modernized and broadened the quality and scope of music education on several levels. These ideas include the following: a broader repertory for music study; a stress on the elements and the structure of music; the importance of balance among compositional, analytical and performing processes in learning music; and others.


Another project which has dealt with the issue of improving instrumental music education is the Manhattanville Music Curriculum Program (MMCP). This government sponsored program, which originated in 1966, allotted most of the learning time to activities in which the student functions as a musician. His learning was to be generated by his own needs in accomplishing both interim and long term musical goals of performance, composition, and interpretation. As a result of the new insights and techniques reflected in the MMCP, recommendations have resulted which have influenced instruction in music throughout the country at all levels.

While the Contemporary Music Project, the Manhattanville Music Curriculum Program, and other similar projects have directed attention and efforts toward the designing and implementation of curricula based on principles of comprehensive musicianship and student interests, it seems that a need remains for the comparing of respectable and challenging programs of instrumental music education. By making specific comparisons between exploratory programs which have been implemented, findings and

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implications can then be realized. In turn, the need for feasible and acceptable programs of instrumental music education which relate to general education in music can be promoted.

The need cited above seems to be especially pronounced at the middle school level, a level which has been badly neglected by researchers. Middle school aged youngsters (ages 10-14) are growing and developing; they are amenable to change, and they are eminently teachable.\textsuperscript{16} "...it is here where the metamorphosis from a childhood to adulthood must be started."\textsuperscript{17} Students entering the middle school age period have been primarily directed from without. With specific reference to instrumental music education, they have received instruction during their beginning band lessons which emphasizes fundamental rhythms, basic fingerings, proper playing position, and other performance principles. However, at the middle school level, students need to be given additional opportunities for the cultivation of


their undeveloped multi-dimensional talents and interests. Then, once the pattern has been established, these self-directed participants will be more apt to expect and thus acquire greater varieties of performance and learning experiences as they enter the high school level of instrumental music participation.

PURPOSE OF THE STUDY

In light of the current concern for improving instrumental music education, especially at the middle school level, this pilot study has as its purpose the designing, implementation, and comparing of two restructured programs of instrumental music education. Specifically, the study is an attempt:

1. To design quasi-dichotomous curricular approaches to band instruction at the middle school level: a "Comprehensive" program in which emphasis is placed on academic challenges as well as on technical skills and a "performance-oriented" program in which emphasis is placed on musical performance and diversified technical challenges.

2. To implement the designed programs of instruction in population and physical settings conducive to experimentation.
3. To obtain evaluative data with respect to participants of the two programs of instruction and to compare these data in relation to specific hypotheses and sub- hypotheses.

QUESTIONS

Specifically, the pilot study sought to answer the following major questions:

1. Does a significant difference exist between the post-program musical performance skills of students who participate in a comprehensive program of band instruction and the post-program musical performance skills of comparable students who participate in a performance-oriented program of band instruction?

2. Does a significant difference exist between the program evaluations of students who participate in a comprehensive program of band instruction and the program evaluations of comparable students who participate in a performance-oriented program of band instruction?

In addition, answers were sought for the following secondary questions:

a. What pairs of background and performance variables, if any, correlate significantly with respect to the students (Population A) who attended the comprehensive program of instruction (Program A)?
b. What pairs of background and performance variables, if any, correlate significantly with respect to the students (Population B) who attended the performance-oriented program of instruction (Program B)?

c. What variables or combination of variables, if any, can be viewed as significant contributors to post-program performance skills with respect to Population A?

d. What variables or combination of variables, if any, can be viewed as significant contributors to post-program skills with respect to Population B?

e. What variables or combination of variables, if any, can be viewed as significant contributors to program evaluations with respect to Population A?

f. What variables or combination of variables, if any, can be viewed as significant contributors to program evaluations with respect to Population B?

g. Which band performed better after the termination of the instructional programs: the band associated with Program A or the band associated with Program B?

Null Hypotheses and Sub-Null Hypotheses

The following null hypotheses were formulated for purposes of directing the investigative and testing procedures.
Null Hypothesis 1.-- Using scores obtained by means of the Post-test of Musical Performance Skills (Post-TMPS) as criteria, there is no significant difference between subjects who participated in the comprehensive program of instruction (Program A) and subjects who participated in the performance-oriented program of instruction (Program B) with respect to mastery of music rehearsed.

Null Hypothesis 2.-- Using scores obtained by means of the Evaluation of the Program Index (EPI) as criteria, there is no significant difference in attitudes toward their respective programs between subjects who participated in Program A and subjects who participated in Program B.

In addition, several subordinate null hypotheses were formulated.

Sub-Null Hypothesis 1.-- No significant correlation values exist at the .05 level among selected background and performance variable pairings relative to students who attended the comprehensive program of instruction (Population A).
Sub-Null Hypothesis 2.-- No significant correlation values exist at the .05 level among selected background and performance variable pairings relative to students who attended the performance-oriented program of instruction (Population B).

Sub-Null Hypothesis 3.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to Post-TMPS scores with respect to Population A.

Sub-Null Hypothesis 4.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to Post-TMPS scores with respect to Population B.

Sub-Null Hypothesis 5.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to the evaluation indexes of Population A concerning their comprehensive program of instruction.

Sub-Null Hypothesis 6.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to the evaluation indexes of Population B concerning their performance-oriented program of instruction.
ASSUMPTIONS

The following assumptions were made.

1. It is possible to obtain an accurate evaluation of students' ability to perform the music rehearsed in the implemented programs of instruction through the administration and reliable scoring of the performance test developed in this study.

2. It is possible to obtain an accurate evaluation of students' attitudes toward the program of instruction in which they were a participant through the administration and scoring of the evaluative instrument developed in this study.

3. The student populations who voluntarily participated in the programs of instruction implemented in this study were comparable with respect to background, performance ability, and instrumentation.

4. Six weeks, with two 150-minute sessions being offered per week, is a sufficient instructional time allotment for gathering data upon which realistic and valid comparisons can be made.
DELIMITATIONS

1. Evaluative criteria for comparing the two populations of this study included post-program performance skills and post-program evaluations. The area of post-program cognitive learnings was not a basis for comparing the two populations since only one of the groups received instructional emphasis in this area.

2. This study included a population of students who had completed the fifth or sixth grade in one of the various schools located in or near the city of Springfield, Ohio. The findings and conclusions of this study cannot be generalized to other populations.

DEFINITIONS

1. Comprehensive program (Program A), for purposes of this study, refers to a structured curriculum which brings to bear upon middle school aged students a variety of experiences relative to the learning about and the rehearsing of music. Emphasis is placed upon the acquisition of knowledges for purposes of enabling participants to gain a more complete understanding of the music being rehearsed in the full band settings. The content areas (and their
approximate time allotments) include mini-study sessions in music theory (10%), class electronic piano (10%), fundamentals of popular music (10%), guided listening (10%), and music and related areas (e.g., poetry, art, science—10%) as they relate to the music being played in full band rehearsals (50%).

2. **Performance-oriented program** (Program B) refers to structured performance activities which are brought to bear upon middle school aged students. Emphasis is placed on the technical challenges involved in performing a variety of music, both in full band and in small ensemble settings. The activities (and their approximate time allotments) include full band rehearsals (75%) as well as mini-performance sessions in fundamentals of marching (10%), small ensembles (stage band, woodwind choir, brass choir, and/or percussion ensemble—10%), and care and repair of instruments (05%).

3. **Middle school** refers to the administration unit following the elementary and preceding the high school; it is designed for those in the ten to fourteen years old age group.
4. **Middle school aged band students**, as the category is used in this study, refers to boys and girls who had completed the fifth or sixth year of school; these students had played a woodwind, brass, or percussion instrument for a minimum of six months and maximum of three years.

5. **Performance skills** refers to playing accuracy on one's chosen band instrument as measured via a performance test containing selected portions (melodic and harmonic) of specially arranged music rehearsed in the full band setting. Bases for measuring playing accuracy include correct notes, correct rhythms, correct interpretation of printed dynamic and articulation markings, correct intonation, correct horn position and posture, and correct embouchure.

6. **Program evaluations** refers to positive and negative opinions of students toward the respective program of instruction in which they participated.

7. **Background and performance variables** refers to those aspects selected by the writer which might relate to student performance. They include the following: attendance (number of days attended), chronological age, number of years studied on chosen band instrument, musicality, attitude toward elementary school music, sex,
sight-reading ability, piano experience (yes or no, three months or more), private lessons (yes or no, three months or more), participation in the 1970 exploratory program (yes or no), socioeconomic status (as determined by occupation of supporting parent), and pre-test score on the test of musical performance skills designed for this study.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This chapter will survey the literature related specifically to the topic of restructuring programs of instrumental music education with respect to any or all levels (elementary, middle school, and high school). In the first portion of the chapter, a survey will be made of both published and unpublished curricular materials which involve the restructuring of goals and contents of instrumental performance classes. In the latter portion of the chapter, experimental research studies which involve comparative analyses of implemented programs of instruction will be identified and their findings presented.

SELECTED CURRICULAR PLANS WHICH INVOLVE THE RESTRUCTURING OF THE GOALS AND CONTENTS OF CLASS INSTRUCTION IN INSTRUMENTAL MUSIC

Several plans exist that propose programs which more or less restructure the goals and contents of the instrumental performance class (band and/or orchestra).
These works are theoretical and do not make any attempt to test or evaluate the suggested programs. However, the proposed plans, if implemented, would purportedly result in more effective ways of teaching class instrumental music to young people.

Published Plans and Programs

Four published items were found which provide organized curricular materials to be used for the promotion of musical understandings in connection with actual performance. These materials are identified and described below.

The first of the published plans is Music In Perspective, an enrichment curriculum by Berger and Clark.¹

¹Numerous discursive articles have been published in organs such as Music Educators Journal, Music in Education, The Instrumentalist, and The School Musician. These articles, while not actual research, present vital information relative to the development and/or improvement of instrumental music instruction within school settings. These publications are not reviewed in this chapter since their contents are either summarized in the introduction found in Chapter I or incorporated in the literature presented in this chapter.

The eleven units of this booklet provide material (textual and musical) for an entire school year. The units are: Science and Sound, Textures, Chorale, Baroque, Classical, Romantic, Contemporary, March, Waltz, Jazz, and Latin American Music. The compositions, seven of which are original works, are intended to illustrate ideas of the text. The book is designed for usage by students in intermediate school bands and orchestras. It also contains questions, listening guides, and a list of recordings related to the material covered in each unit.

The second plan is found in chapters III and IV of the book *Music in General Education*, edited by Ernst and Gary.³ Included in the instrumental portions of the chapters are suggested experiences relating to rhythm, melody, harmony, and timbre to be used as part of the regular course of study. In addition, various films, book, and graded performance selections are recommended.

The third published plan is *Comprehensive Musicianship Through Band Performance* by Heisinger.⁴ This series


of books was designed as part of the Hawaii Music Program. Of specific concern is Book A (Zone 4) for usage at the junior high level. It is divided into six units, each having as its core for study a published composition for full band. (The six pieces, which must be purchased separately, are Scarborough Fair, Two Chorales, Hogan's Heroes March, Towers, Seventeenth Century Suite, and The New Explosion.) The units are considered to be models for the study of musical concepts—viz., tone, melody, harmony, tonality, rhythm, texture, and form. Each unit includes the following: (1) student objectives stated in behavioral terms; (2) activities for full band and small ensembles which are correlated for developing comprehensive musicianship; and (3) evaluation guides for assessing student musical growth. Also included for use are score excerpts for analysis, homework assignments, and ensemble exercises. For basic reference, six appendices are provided: Elements of Music Theory, Conducting Patterns, Rudiments of Orchestration, Bibliography and Discography, Sources for Chamber Music, and Mapping Procedures. The final publication is the ASBDA Curriculum Guide, a reference book for school band directors compiled by the American School Band Directors Association. This book was

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designed to provide guidelines for the band director as to goals, objectives, procedures, and materials. Included in the book are the following:

1) A listing of major topic areas---e.g., music reading, tone production, care of instruments---with "emphasis" and "outcomes" as they may be applied to a two-year elementary program.

2) Teaching procedures and techniques applicable for instrumental music programs (elementary, intermediate, and advanced).

3) Procedural activities which are "new" or innovative in nature.

4) Information and guidelines relative to a variety of related areas for band development---e.g., private instruction, marching band, stage band, facilities, and equipment.

Unpublished Plans and Programs

Numerous studies exist which suggest "new" or innovative approaches to instrumental music instruction.6

This literature is concerned with improving the objectives, the procedures, the results, and/or the status of teaching instrumental music within school settings. It should be stressed, however, that the studies make no attempt to test or evaluate their respective recommended plans.

The studies done by Ashenfelter,\textsuperscript{7} Porter,\textsuperscript{8} and Desiderio\textsuperscript{9} were designed to assist instrumental music teachers in providing more academic content for developing the musicianship and musical knowledges of secondary students enrolled in ensemble performance classes. The focus of these studies is primarily on the historical and stylistic aspects of the art of music. Areas included for study, especially in relation to recommended music for rehearsal, are the following: (1) introductions to the various historical periods, (2) information concerning correct performance practices for each specific historical period, and


(3) material—information, recordings, and music—relative to those characteristics of art, architecture, history, philosophy, literature, and science which parallel or influence the respective stylistic eras.

Three additional studies were found which provide designed programs for secondary performance groups; however, emphasis in these works was placed primarily on music theory, i.e., as it directly relates to music history and musical style. The plan developed by Singer and the plan designed by Hartsell provide structured content as well as cores of compositions which can serve as bases for instruction related to the elements of music (melody, harmony, rhythm, and form), the development of musical elements, and the effect of period and style on the manipulation of musical elements. The plan by Madsen includes


five original pieces and supplemental material for developing an understanding of various aspects of contemporary music through performance—e.g., quartet harmony, cluster harmonies, bitonality, and the twelve-tone technique.

An additional study, done by La Rosa,\(^{13}\) involves proposals that purportedly can assist enrolled instrumental participants in the improvement of technical skills as well as in an accumulation of desirable musical understandings. The approach includes a fundamental approach toward acquiring a consummate background in musicianship during the rehearsal in terms of: (1) music theory, as related to orchestral literature, (2) guided listening designed to evoke aesthetic responses by cultivating taste and discrimination in listening habits, (3) improved technical skills, by means of group practices, and (4) challenging musical performance through concerts, solo and ensemble recitals.

Three studies were surveyed which represent pedagogical proposals for enhancing the musical growth of instrumental music participants. In the plan by Overby,\(^ {14}\)


various positive steps are recommended for promoting the organization, improvement, and continuation of small ensembles. The underlying premise for the proposals is that the use of chamber music, whether such study be for performance or non-performance, not only provides for increased interest in musical appreciation but offers opportunities for psychological, sociological, and educational growth. The plan designed by Barnard\textsuperscript{15} discusses several methods in which the tape recorder can be used in effective teaching of instrumental music: the "spot check methods" (i.e., recording only those sections which prove to be difficult to students), the "complete check method" (i.e., recording the entire lesson), and the "pre-recorded method" (i.e., recording material to be used prior to the instruction period). As such, the tape recorder can be an instructional aid with respect to the following problems: rhythm, phrasing, tone quality, intonation, and practice interest. Finally, the play by Fogt\textsuperscript{16} presents information for teaching beginning instrumentalists in view of organismis psychology.

\textsuperscript{15}Clair V. Barnard, "The Use of the Tape Recorder as a Teaching Aid in Instrumental Music" (unpublished master's thesis, Ohio State University, 1956).

The plan stresses the usage of expressive bodily movements which may serve to aid in the development of musicianship in beginning instrumental students. Examples include the creative and interpretative usage of the arms and trunk to the general character of the music being rehearsed and the usage of foot movements—walking, running, and skipping—to experience the kinesthetic response to various rhythmic patterns.

**Experimental Research: A Presentation of Findings from Studies Which Involve Comparative Analyses of Implemented Programs of Instruction**

Research has accumulated over the past twenty to thirty years which relates in one way or another to experimental programs of instruction in instrumental music. The studies often involve the comparing of two or more instructional approaches. The findings of these research studies will be presented below with respect to five areas:

1. Studies which relate to beginning programs of instrumental music education.
2. Studies which compare integrated programs of vocal and instrumental instruction with non-integrated programs.
3. Studies which involve selected managerial aspects of instrumental music instruction.
(4) Studies which involve specific usage of programmed instruction in instrumental music education.

(5) Comparative studies which involve miscellaneous programs of instruction of a variety not incorporated in the four preceding categories.

**Studies Which Relate to Beginning Programs of Instrumental Music Education**

Six studies of an experimental nature were found which involved group teaching techniques and materials relative to beginning instrumental students. The first three studies relate to pre-band instruction while the latter three studies deal with instructional approaches for beginning band.

The study by Anastasiow and Shambaugh concluded that students who were instructed in a song flute program preceding their instrumental music instruction had statistically higher mean scores in recognition of syllable and pitch names, recognition of familiar melodies, and total score (Kwalwasser-Ruch *Test of Musical Accomplishment*) than did a comparable group of students who did not have song flute instruction prior to their instrumental training.

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In another study designed to determine the effect of pre-band melody and rhythm instruments on the musical learning of beginning fourth grade instrumental students, Tietze concluded that his experimental training approach was superior to the control group with respect to musical accomplishment (as measured by the Kwalwasser-Ruch Test of Musical Accomplishment), playing (as measured by the Practical Playing Test constructed by the writer), and musical attitudes and interests. Kersey found that his experimental group (i.e., fourth graders who participated in a short, "fun-type" exploratory program which provided participants with an opportunity to explore various instruments of the orchestra) scored significantly higher on the constructed Test of Aural Perception of Instrumental Timbre than did his control group (i.e., a comparable group which had no exploratory experiences).

In the earliest of the works concerned with instructional approaches, two methods of teaching instrumental

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music to beginners were compared by Reimer. The "known-melody method" (i.e., devoting time to rehearsing familiar melodies) proved to be more effective with respect to mastery of music materials and interest in music than did the "formal drill method" (i.e., practicing single notes, scales, intervals, and related exercises). However, the latter method of instruction was found to be the more effective approach with respect to producing the best music readers. In the study done by Miller, an instructional approach was implemented in which students were taught to play their instruments by rote until they had developed certain physical coordination, after which they were introduced to written music. After a five month instructional period, the participants of this program were compared to a group of students who were taught in the accepted standard ways. It was found that the experimental rote method (1) led to more manual dexterity and knowledge of the mechanics of the instruments, (2) facilitated better playing with respect to tone quality and the playing of


intervals and scales, and (3) resulted in greater interest with respect to continuing the study of an instrument. Froseth\textsuperscript{22} investigated the use of the MAP\textsuperscript{23} in the instruction of beginning students in instrumental music. The conclusion reached was that various MAP test scores can serve as practical, objective, diagnostic tools for adapting instruction to meet the individual musical needs and abilities of elementary instrumental students. As a result of this individualizing of instruction, musical achievement was facilitated.

Studies Which Compare Integrated Programs of Vocal and Instrumental Instruction with Non-integrated Programs

Three studies were found which pertain to instrumental music program comparisons in which one of the programs involves vocalization and/or vocal instruction. Two of these studies were efforts to determine the effect of vocalization upon the sense of pitch of students in


selected beginning band classes (George\textsuperscript{24} and Elliott\textsuperscript{25}). Both studies revealed that bandsmen who participated in a program of daily vocalization which was integrated into the regular class procedure developed a keener sense of pitch than did bandsmen who received no instruction in vocalization. The other study, done by McGarry,\textsuperscript{26} was similar in design, only the participants were junior high school bandsmen and the criterion was performance skills. Using the Watkins-Farnum Performance Scale as the basis for making comparative analyses, vocalization as a teaching procedure was found to be significantly effective in developing performance skills for instrumental music students of below average ability. However, an analysis of post-test scores between the vocalization and non-vocalization groups did not reveal a statistically significant difference.

\textsuperscript{24}Warren E. George, "The Effect of Vocalization Upon the Sense of Pitch of the Students in Selected Beginning Band Classes" (unpublished doctoral dissertation, The University of Texas at Austin, 1972).


Five additional studies were found which make comparisons between regular vocal/general music classes and vocal/general music classes which incorporate the exploratory study of an instrument. The studies by Hoffer, Nelson, and Keiser revealed similar findings, viz., students exposed to integrated instrumental-vocal treatments, when compared to students who receive only choral instruction, tend to acquire a fuller understanding of music as well as a greater interest in and/or preference for music. However, studies by Fred and Pittsburgh Schools found that the differences in gains with respect to musical abilities and appreciations were not in favor of either group, despite the contrasting approaches.


31 Pittsburgh Pennsylvania Public Schools, Dept. of Curriculum and Research, "An Experimental Study of the Value of Instrumental Training in Public School Music" (Pittsburgh Schools, 11, 2, pp. 49-58).
Several studies were found which deal with selected managerial aspects of instrumental music instruction---e.g., class vs. private methodologies, long vs. short periods of instructional time. The studies by Waa and Shugert evaluated the effects of class and private methods of instruction on musical achievement. It was determined in both studies that private instruction did apparently facilitate higher levels of musical achievement than did heterogeneous or like-instrument class instruction; however, a lower dropout rate was found to exist in class instruction than in private study. In a related study done by McCarthy, an "ensemble method" of instruction (i.e., a repetitious drill approach in which the rate of unit progression is governed for all students by the teacher) was compared to a tutorial method (i.e., a set up in which

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34 James Frances McCarthy, "The Effects of Selected Factors and Individual Instruction Within the Music Classroom on the Performance Achievement of Seventh Grade Beginning Instrumentalists" (unpublished doctoral dissertation, Michigan State University, 1972).
students are dispersed about the classroom for purposes of self-drill and tutorial instruction/evaluation). The results indicated that the beginning instrumentalists who received individual instruction were statistically superior, in terms of performance achievement, to students receiving ensemble instruction. Finally, an investigation by Childs found that beginning instrumental music students who receive two thirty-minute class lessons each week during the winter academic school year generally perform better with respect to sight-reading than do comparable beginners who attend one-hour-per-day classes during the summer.

Studies Which Involve Specific Usage of Programmed Instruction in Instrumental Music Education

Four studies were found which center around the topic of systemized training which utilizes the principles of programmed instruction.

Two of the studies involved programmed learning for beginning instrumentalists. The first, conducted by Drushler, 36


was an effort to develop a more individualized and time-saving curriculum. The writer found that pitch notation and correct instrument fingerings can be learned as well by selected beginning instrumentalists by means of a program of independent study which utilized programmed materials as by means of the conventional form of instruction. However, the differences between approaches with reference to mean scores of the subjects were not found to be significant. A similar investigation, conducted by Puopolo, compared a programmed-practice approach with a traditional non-programmed practice approach. Using beginning instrumentalists as subjects, it was concluded that a highly significant difference did exist in favor of programmed practice (i.e., using recorded tapes of programmed materials which included model performances of assigned lessons, simple piano accompaniments, and verbal explanations) with respect to performance achievement and student interest.

The remaining two studies focused attention on self-instructional methods for high-school aged instrumentalists. In the study by Andrews, secondary students in selected


performing groups were provided music theory using self-instructional materials—viz., a programmed textbook, an accompanying album of records, and a teacher's guide. These subjects were compared with student instrumentalists receiving only the usual instruction without supplementary materials. The improvement in scores made by the former group was significantly more than the improvement made by the latter group. The study by Tromblee\textsuperscript{39} also revealed superior results in favor of programmed instruction, only intonation discrimination skills was the basis upon which the comparison was made.

Comparative Studies Which Involve Miscellaneous Programs of Instruction of a Diversified Nature

Numerous comparative studies were found which pertain to specific instructional programs that do not fall into any one specific category. These studies are diversified in content and center around categories other than the four presented above. For organizational purposes, the studies shall be presented within three date categories: early 1960's, late 1960's, and early 1970's.

Three miscellaneous studies were found which were

completed during the early 1960's. The first was an exploratory study conducted by Silverman concerning the feasibility of incorporating ensemble improvisation as a creative technique in the secondary instrumental music program. Among the conclusions reached in this study was the following: experience in improvisation tends to lead participants to see the need for greater knowledge of harmony and the basic elements of music as well as to understand the function of the individual player in relation to the total performance of music. The second study, conducted by Johnson, involved a comparison of two method of practice of band instruments: "negative" practice (i.e., the practice of an incorrect rhythmic or notational response) and "positive" practice (i.e., the practice of correct responses). The writer concluded that while some high school band students profitted more from the use of negative training than did other students, positive practice seemed to be of more value. The third study involved a comparison of three methods for

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improving intonation in the performance of instrumental music. Lester, the researcher, found each method—an aural method involving pitch referents from an organ, a visual method which utilized the Stroboconn, and a conventional method based on cognitive understandings—to be significantly effective, with none of the methods being consistently superior to the others.

Four studies were surveyed which were completed during the latter 1960’s. Each involved a different area of instructional emphasis. The study by Di Fronzo was a comparison of tachistoscopic and conventional methods in teaching sight-playing on a melody wind instrument. The tachistoscopic training used in this study was found to be significantly more effective in teaching melodic-rhythmic sight-playing than was the conventional training

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technique. Middleton's study[^44] was an effort to determine the effectiveness of an innovative technique known as BRIM (breath impulse techniques in which the beginning wind student is taught to make connected divisions with a natural body mechanism). His investigation yielded the following finding: in all areas tested (intonation, tone quality, rhythm, sight-singing, and sight-reading), the BRIM technique experimental groups scored significantly higher than did control groups in all respects. The study by Boyle[^45] tested the effects of prescribed rhythmical movements on the ability of junior high band-persons to sight read music. Boyle concluded that the experimental method of rhythm training utilizing bodily movement in the forms of foot tapping and hand clapping was significantly more effective with respect to the reading of rhythms than was the control method which did not employ bodily movement. In another study, the effectiveness


of chamber music ensemble experience for members of a ninth grade band was investigated in terms of three different bases. Zorn, the writer, determined that students who performed in experimental chamber music groups (i.e., ensembles who performed ensemble music) did not differ significantly from students who performed in control chamber groups (i.e., ensembles who performed only band parts) with respect to test scores on performance ability or to test scores on the learning of cognitive information. However, the students in the experimental chamber music ensembles did achieve statistically different from the control students with respect to positive attitude changes.

Six studies completed during the early 1970's were found in the literature which pertain to comparisons involving miscellaneous programs of instruction. Croft's study was based on the premise that the possibility for aesthetic growth can be measurably improved by relating


the various arts within the bands' performing context. The results of this experimental study indicated that significantly greater gains were made in style recognition by the bands subjected to special treatment (model lessons involving analyses) over the band which did not receive this treatment. There was not, however, a significant difference in attitudes as a result of treatment. The experimental investigation conducted by Sperti\(^4\) tested the comparative effectiveness of two different methodologies of clarinet instruction. The experimental treatment group was taught by adaptations of certain aspects of the Suzuki Method (viz., use of rote teaching, assignment of the parent to a supervisory role during the home study of the child, and implementation of a comprehensive listening program as an integral part of the child's learning experience). The control group received instruction by widely accepted practices of teaching the clarinet. Sorensen's study\(^4\) like the research conducted by Zorn,


\(^4\)James Merlin Sorensen, "The Effects of Small Ensemble Experience on Achievement and Attitude of Selected Junior High School Instrumental Music Students" (unpublished doctoral dissertation, University of Illinois at Urbana-Champaign, 1971).
involved an investigation of the effects of small ensemble experience on achievement and attitudes of instrumental music students. In this study, the groups that underwent small ensemble experience scored significantly higher on the selected measures of achievement than did their control counterpart who received no small ensemble experiences. However, the former group did not score higher than the latter group on the test for attitude toward music in general (although higher scores were evidenced in measures dealing with their attitudes toward their school music program).

The next comparative study found was done by Whaley.\(^{49}\) In this study, the writer designed a training method, *Studies in Contemporary Idioms*, for usage in the experimental group. This method used sonorities and rhythms found in current contemporary band music in a series of progressive drills, exercises, and etudes. A test was administered to both the experimental group and the traditionally taught control group to determine if specific training contained in the book had a significant

effect with respect to the following areas: (1) melodic interval accuracy, (2) vertical intervallic accuracy and intonation, (3) dissonant sonority intonation, (4) polymetric accuracy, and (5) polyrhythmic accuracy. No significant differences were evidenced between the groups except with respect to polymetric accuracy. The study by Noble\(^{50}\) investigated the effects of a concept teaching curriculum on performance achievement in beginning bands. The writer found that the concept approach (i.e., instruction in which pupils were given a conceptual orientation to class objectives before they were exposed to the actual learning experiences) was superior to traditional teaching methods in the development of performance skills for all pupils as a whole. However, it was also noted that there is no apparent advantage to either method in the development of aural discrimination skills. The final study surveyed in the literature was an investigation conducted by Anderson.\(^{51}\) This study sought to determine


the effect of the musical literature of two contrasting instrumental organizations, stage band and concert band, on the development of musicality and aesthetic sensitivity. Anderson concluded that neither musicality nor aesthetic sensitivity increased significantly more through concert band participation than through stage band participation; however, there was a pervasive superiority in favor of the concert band with respect to aesthetic sensitivity.

**SUMMARY**

Literature available relating to the topic of restructuring and/or comparing instructional processes in instrumental music education is both abundant and diversified.

Part one of this chapter presented several plans, both published and unpublished, which restructure the goals and contents of instrumental teaching at various levels. Underlying premises which permeate these plans seem to relate in one way or another to one basic premise, viz., learnings and skills, whether related to music theory, to music history, to supplementary performance activities, or to a combination of these facets, will purportedly facilitate musical growth, development, and independence.
The plans vary in some respects, yet most represent the mainstreams of thought in improving instruction in instrumental music in the United States.

Part two of the chapter identified various experimental research studies which represent enlightened efforts to develop group teaching techniques and/or materials which result in useful alternatives to traditional modes of group instrumental instruction. The data revealed in the first four categories of this section offers strong evidence that results superior to those achieved be present widely accepted practices of teaching may be anticipated through usage of pedagogical programs which (1) utilize pre-instrumental music instruction, (2) integrate vocal instruction with instrumental instruction, (3) individualize instruction, or (4) utilize programmed instruction. In addition, the studies surveyed in the final portion of the chapter indicate that numerous other formats of instruction can be utilized if one is seriously concerned with implementing viable and well-engineered programs of instruction for the improved development of instructional products.
CHAPTER III

PROCEDURES AND MATERIALS

INTRODUCTION

This chapter presents the elements which are important to this study. These elements include (1) exploratory efforts, (2) the program of instruction, (3) the instructional materials, (4) subjects and group equivalency findings, and (5) evaluation instruments and procedures.

EXPLORATORY EFFORTS

Prior to the actual implementation of the two programs for this pilot study, several exploratory programs were conducted with middle school aged band students. These forerunner programs were held during the summers of 1968, 1969, and 1970 at the Wittenberg University School of Music in Springfield, Ohio. Numerous ideas were introduced and developed. These ideas were both administrative (e.g., holding bi-weekly sessions of two-and-one-half hours in length) and curricular (e.g.,
relating other aspects of musical study such as music theory, guided listening, marching, class electronic piano, and fundamentals of popular music to the instructional content of the full band rehearsals.

A study was made of the program of instruction implemented during the summer of 1970.¹ Data involved in this study was gathered from the eighty-one member population with respect to the following: (1) test scores on a paper-and-pencil test covering selected musical knowledges and understandings, (2) attitudinal responses to the experimental program of instruction, (3) test of musicality scores as measured by the Gaston Test of Musicality,² (4) sight reading ability as measured by the Watkins-Farnum Performance Scale,³ (5) socio-economic status as determined from indexes of the Nam and

¹Richard A. Parker, "A Comprehensive Program of Instrumental Music Education at the Middle School Level: A Descriptive and Statistical Study" (unpublished term paper, Ohio State University, 1970).


Powers' Status Level of Workers Scale,\(^4\) and (6) chronological age/grade level.

Using \(t\) tests for testing differences between portions of the population with respect to musical knowledges and program evaluations, the following findings were revealed: (1) the more capable students (i.e., the upper third with respect to musicality and sight reading ability scores) did significantly better at the .05 level on the paper-and-pencil test of musical knowledges than did the less capable students (i.e., the lower third), but (2) the more capable students did not evaluate the comprehensive program of instruction significantly differently than did the less capable students. Secondary findings, determined by means of correlational analyses, were that neither scores on the test of musical knowledges and understandings nor scores on the attitudinal response form were related significantly to musicality scores, socioeconomic indexes, or chronological age/grade level.

THE PROGRAMS OF INSTRUCTION

Two programs of instruction were designed and implemented by the writer for this study. Both programs incorporated the same amount of instructional time and both were housed in the same facilities. In addition, the same professionally trained instructor was employed to direct both programs. The instructional content and the full band rehearsal time allotments for the two programs, however, was markedly different.

Program A: The Comprehensive Program of Instruction

Based upon the assumption that the aims of general education in music can be realized only through educational experiences which complement those of performance, a comprehensive program of instruction was designed and implemented. Basically, an emphasis in this program was placed equally on two aspects: full band performance (50% of the instructional time) and related academic activities (50% of the instructional time).

5The instructor (both programs) was Jon Crosse, a 1968 music education graduate of The Ohio State University with two years teaching experience. (Two college-aged teaching assistants were also employed to guide selected mini-classes.)
This program had three instructional objectives. These were stated behaviorally as follows.\(^6\)

1. Given twenty-four full band rehearsals of 40-minute length, participating subjects will be able to perform their respective musical assignments with reasonable accuracy as well as demonstrate reasonable improvement (e.g., 20%).

2. Given instruction in five areas relating to the music rehearsed in the full band settings, participating subjects will be able to:
   a. Listen to selected compositions of recorded music with an understanding of the melodic, harmonic, rhythmical, and tonal components which underlay the musical compositions;
   b. Play basic melodies, rhythms, and chords on an electronic piano;
   c. Categorize the various styles of popular music and trace the historical roots of each respective style;
   d. Construct and identify various selected intervals, scales, and triads in keys up to two flats and two sharps;
   e. Relate elementary yet fundamental ideas relative to the areas of poetry, painting, architecture, and sound production (science) to the elementary principles which underlay the compositional, performing, and listening aspects of the art of music.

3. Given a comprehensive program of educational experiences in music instruction, participating subjects will indicate positive feelings toward these varied experiences.

\(^6\)The behavioral objectives stated for the two programs of instruction were designed to facilitate the implementation of the respective programs of instruction. No formal efforts were made to measure their outcomes, since this was not a primary purpose of the comparative study.
Program B: The Performance-Oriented Program of Instruction

Based upon the assumption that varied small and large group experiences in musical performance are necessary to facilitate the development of technique as well as student interest, a performance-oriented program was designed and implemented. Basically, this program placed an emphasis on ensemble participation (25%) as well as on full band performance (75%). The objectives for the program are stated behaviorally as follows.

1. Given twenty-four full band rehearsals of 60-minute length, participating subjects will be able to perform their respective musical assignments with reasonable accuracy as well as demonstrate reasonable improvement (e.g., 20%).

2. Given instruction in three related areas of performance in music, participating subjects will be able to:
   a. Perform and critique selected compositions scored for one of the following: stage band, woodwind ensemble, brass ensemble, or percussion ensemble;
   b. Understand and physically realize basic voice commands, whistle commands, and drill maneuvers related to marching band performance;
   c. Care for and properly maintain their respective musical instrument.

3. Given a performance-oriented program of educational experiences in music, participating subjects will indicate positive feelings toward these varied experiences.
Facilities and Class Schedules

Both Program A and Program B were implemented in the facilities of the Wittenberg University School of Music in Springfield, Ohio. Various rooms of this newly constructed, air-conditioned building were made available for the programs: the large rehearsal room, a regular class room, small rooms for conducting small group rehearsals, and an electronic piano laboratory.7

With respect to time allotments, both programs were six weeks in length (June-July). Sessions were held twice a week for two-and-one-half hours. The comprehensive program (Program A) was offered on Monday and Thursday mornings from 9:00 to 11:30 A.M. while the performance-oriented program (Program B) was offered on Tuesdays and Fridays from 9:00 to 11:30 A.M.

The activities and time schedules for the respective programs of instruction are listed in Table 1.

7Sponsorship of the programs was provided by the Springfield City Recreation Department under the direction of Ray Purdin. The facilities were made available through the courtesy of the Wittenberg University School of Music, L. David Miller, dean.
### TABLE 1

**ACTIVITIES AND TIME SCHEDULES:**
**PROGRAM A AND PROGRAM B**

<table>
<thead>
<tr>
<th></th>
<th>MONDAY (PROGRAM A)</th>
<th>TUESDAY (PROGRAM B)</th>
<th>THURSDAY (PROGRAM A)</th>
<th>FRIDAY (PROGRAM B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 - 9:40</td>
<td>Full Band</td>
<td>9:00 - 10:00</td>
<td>9:00 - 9:40</td>
<td>9:00 - 10:00</td>
</tr>
<tr>
<td>9:40 - 10:15</td>
<td>Music Theory</td>
<td>10:00 - 10:30</td>
<td>9:40 - 10:15</td>
<td>10:00 - 10:30</td>
</tr>
<tr>
<td></td>
<td>(or) Guid. List.</td>
<td>(or) Marching Fund.</td>
<td>(or) Elec. Piano</td>
<td>(or) Marching Fund.</td>
</tr>
<tr>
<td>10:50 - 11:30</td>
<td>Full Band</td>
<td>10:30 - 11:30</td>
<td>10:30 - 11:30</td>
<td>Full Band</td>
</tr>
</tbody>
</table>

Full Band
INSTRUCTIONAL MATERIALS

The instructional materials used in this study were of three varieties: (1) musical selections rehearsed in full band settings by both populations, (2) materials chosen or developed for exclusive usage in the mini-classes of Program A, and (3) materials chosen or developed for exclusive usage in the mini-performance classes of Program B.

Musical Selections: Program A and Program B

The musical selections rehearsed in full band settings were identical for both the comprehensive program and the performance-oriented program. 8

1. Chant - A renaissance chorale ("Adoremus Te") written by G.P. da Palestrina and arranged for band by Eric Osterling. 9

2. Royal Fireworks Music - Excerpts of Baroque court music written by G. F. Handel and arranged for band by Acton Ostling. 10

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8Program A devoted 50% of the total instruction time to the rehearsing of these selections while Program B devoted 75% of the total instruction time.


3. **Campfire Suite** - A medley of four folksongs arranged by Norman Ward: "In the Evening by the Moonlight," "Land of the Silver Birch," "John Jacob Jingleheimer Schmidt," and "Comin' Round the Mountain."\(^{11}\)

4. **Abdul, the Bulbul Ameer** - A march-like selection in 3/4 time by Percy French that was used as background music during the late 1960's for a television commercial.\(^{12}\)

5. **Everything Is Beautiful** - A popular selection by Ray Stevens that was arranged by John Edmundson.\(^{13}\)

Because of the necessity for having each instrumentalist rehearse the exact melodic and harmonic parts incorporated in the post-test constructed to measure performance skills, the writer rearranged selections one, three, four, and five.

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Materials: Program A Mini-classes

Materials used exclusively in the comprehensive program (Program A) are listed below in connection with their respective "mini-class" of utilization. (Appendix A contains samples of these materials.)

Guided Listening.— (1) A crossword puzzle and two study guides for assisting students in learning selected musical concepts; (2) a cartoon film which presents various principles and elementary historical information relative to the various families of musical instruments; (3) a film on the elements of composition; and (4) various recordings (e.g., Nutcracker Suite) selected to assist students in becoming better educated listeners of music.

Class Electronic Piano.— Exercises, specially prepared by the writer, which incorporate selected melodies, rhythms, and harmonies found in the musical selections rehearsed in the full band setting.

Fundamentals of Popular Music.— (1) A work sheet designed by the writer to help students make categorical analyses of current music being aired on the radio; (2) an AM-FM radio; (3) a film which demonstrated the development of American popular music from folk to jazz
to pop; and (4) a tape recorder and several sound
track tapes used to make analyses of selected examples
of popular music. In addition, various musical instru-
ments were used by the instructor to demonstrate various
concepts being studied (e.g., improvisation).

Fundamentals of Music Theory. — Programmed work-
sheets, selected from books one and two of Theory and
Musicianship by Edith McIntosh, served as bases for
instruction relating to notation, rhythm, intervals,
terms, and elementary chords. In addition, the writer
designed additional worksheets which relate the content
of the printed worksheets to the music rehearsed in the
full band setting.

Music and Related Areas. — (1) A crossword puzzle
of terms used in the various arts; (2) selected poems and
painting reproductions; (3) a film which related concepts
of science to sounds produced by orchestral instruments;
and (4) tape recorders, tapes, and various musical and
non-musical devices used in the creating of electronic music.

14 Edith McIntosh, Theory and Musicianship — Book
Materials: Program B Mini-Performance Classes

Materials used exclusively in the performance-oriented program of instruction are indicated below in connection with their respective mini-performance class of utilization. (Appendix B contains samples of these materials.)

Ensemble Performance.-- Students participating in the woodwind choir rehearsed Whodunit???, a specially arranged novelty medley with narrative.\(^{15}\) Brass players rehearsed Mother Goofs, a novelty medley of familiar Mother Goose tunes specially arranged by the writer for brass choir.\(^{16}\) Percussion players rehearsed specially designed multiple-percussion exercises requiring three to five players for performance. Stage band participants rehearsed All About the Blues,\(^{17}\) a blues chart by Carl Strommen, and Torrey Pines,\(^{18}\) a rock chart by Russ Martino.


\(^{16}\)Acton Ostling (arranger), Mother Goofs (Rockville Centre, L.I., N.Y.: First Division Publishing Co., 1964).


In addition, an adjudication form was designed and utilized in the various ensembles to assist participants in becoming critical listeners of their respective groups' recorded performance.

Care and Repair. — Instruction and laboratory work was based on a set of slides which demonstrated proper procedures for maintaining woodwind and brass instruments.  

Fundamentals of Marching. — Instruction was based on a list of marching band terms, prepared by the writer, which included verbal commands, whistle commands, and simple marching maneuvers.

SUBJECTS AND GROUP EQUIVALENCY

Prior to the implementation of the two programs of instruction, enrollment registrations were conducted. Fifth and sixth grade boys and girls who had band experience as an enrollee of a school within the Springfield City Schools, Clark County Local Schools, or Springfield Parochial Schools were designated as eligible to attend.

19Ziggy Coyle, "Care of Woodwind and Brass Instruments" (Columbus, Ohio: Coyle Music Center, 1965).
A total of 128 voluntary registrants were received. Those students who were attending an elementary or middle school beginning with names A-L were assigned to participate in Program A (the comprehensive program of instruction). Students who were attending an elementary or middle school beginning with names M-Z were assigned to participate in Program B (the performance-oriented program of instruction). After minimal adjustments were made for purposes of swimming lesson conflicts, transportation conflicts, etc., sixty-three students from thirteen different schools were enrolled in Program A while sixty-five students from fifteen different schools were enrolled in Program B. However, by the end of the first week of the programs, a dropout was experienced. Nine students who had registered for Program A discontinued while eight participants who had registered for Program B discontinued. As a result, fifty-four students from a total of thirteen different schools participated in the comprehensive program of instruction while fifty-seven students from fifteen different schools participated in the performance-oriented program. These figures are presented in Table 2.
TABLE 2
ENROLLMENT FIGURES OF TREATMENT GROUPS

<table>
<thead>
<tr>
<th></th>
<th>Program A</th>
<th>Program B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students who enrolled at onset of program</td>
<td>63</td>
<td>65</td>
</tr>
<tr>
<td>Dropouts</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Actual participants</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td>Number of schools represented</td>
<td>13</td>
<td>15</td>
</tr>
</tbody>
</table>

After enrollments had been completed, the two resultant populations were examined with respect to seven variables to determine group equivalency. These variables, and the means and times of their obtainment, were:

1. Chronological age, obtained by means of the registration form completed by students prior to the opening of the programs.

2. Years studied on chosen band instrument, obtained by means of the registration form completed by students prior to the opening of the programs.

3. A musical aptitude index, based on pages two and three of the Gaston Test of Musicality\(^{20}\) administered to students collectively during the fourth week of the program.

\(^{20}\)Gaston, op. cit.
4. An attitude toward elementary school music experiences index based on Younkman's "Attitude Toward School Music" scale, administered to students collectively on their last day of attendance.

5. A sight reading ability index, measured by the Watkins-Farnum Performance Scale administered to students individually during the third and fourth weeks of the program.

6. A socioeconomic status index, based on the supporting parent's occupation (obtained by means of the registration form) and the 1960 set of occupational status scores compiled by Nam and Powers.

7. A pre-test score of musical performance skills, as measured by a test (constructed by the writer) administered to students individually during the week immediately prior to the opening of the programs.

Appendix C contains supplementary information on four of the instruments chosen for making determinations of group equivalency--A Test of Musicality, Watkins-Farnum Performance Scale (Form A), Attitude Toward School Music Scale, and Status Level of Workers Indexes.

---


22Watkins and Farnum, op. cit.

23Nam and Powers, op. cit.

24Richard A. Parker, "Test of Musical Performance Skills" (Columbus, Ohio, By the writer, 1971). This test is explained on page 70. Appendix D contains the complete test.
A $t$-ratio for independent (non-correlated) samples was used to determine significant differences between the groups' means. These results are presented in Table 3 (page 66). The .05 level of significance was established for evaluating the $t$-ratios.

An examination of Table 3 shows that no significant differences existed between the mean scores of Population A and Population B with respect to the seven selected variables. Therefore, it can be concluded that the groups involved in this study were not statistically different.

In similar fashion, minimal differences were found to exist between the two populations with respect to four additional variables: sex (male or female), piano experience (three months or more, yes or no), private lessons on chosen band instrument (three months or more, yes or no), and attendance in the 1970 exploratory program (yes or no). Table 4 presents these results.
### TABLE 3
INDEPENDENT VARIABLES: RANGES, MEANS, STANDARD DEVIATIONS, AND t RATIOS (POPULATION A AND POPULATION B)

<table>
<thead>
<tr>
<th>VARIABLE (SOURCE OF MEANS)</th>
<th>POPULATION A</th>
<th>POPULATION B</th>
<th>t-RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RANGE</td>
<td>MEAN</td>
<td>S.D.</td>
</tr>
<tr>
<td>Chronological Age</td>
<td>10.0- 12.5</td>
<td>11.35</td>
<td>0.604</td>
</tr>
<tr>
<td>Years Studied on Band Instrument</td>
<td>0.5- 3.0</td>
<td>1.16</td>
<td>0.621</td>
</tr>
<tr>
<td>Test of Musicality Score</td>
<td>17.0- 54.0</td>
<td>35.10</td>
<td>7.739</td>
</tr>
<tr>
<td>Attitude Toward Elem. Music</td>
<td>41.0-100.0</td>
<td>82.20</td>
<td>11.972</td>
</tr>
<tr>
<td>Sight Reading Ability</td>
<td>01.0- 76.0</td>
<td>31.43</td>
<td>17.195</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>26.0- 96.0</td>
<td>62.81</td>
<td>20.820</td>
</tr>
<tr>
<td>Pre-TMPS Score</td>
<td>14.0-148.7</td>
<td>70.72</td>
<td>27.553</td>
</tr>
</tbody>
</table>
### TABLE 4
ADDITIONAL INDEPENDENT BASES FOR DETERMINING GROUP EQUIVALENCY: NUMBERS AND PERCENTAGES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Population A</th>
<th>Population B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>Sex: Female</td>
<td>32</td>
<td>59%</td>
</tr>
<tr>
<td>Sex: Male</td>
<td>22</td>
<td>41%</td>
</tr>
<tr>
<td>Piano Experience (Yes)</td>
<td>18</td>
<td>33%</td>
</tr>
<tr>
<td>Private Lessons (Yes)</td>
<td>18</td>
<td>33%</td>
</tr>
<tr>
<td>Attendance: Exploratory Program (Yes)</td>
<td>10</td>
<td>19%</td>
</tr>
</tbody>
</table>

As a final check on the groups' equivalency, a comparative survey was made of the instrumentation of the respective treatment groups. An instrumentation distribution for each population is presented in Table 5.
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Population A</th>
<th>Population B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flute</td>
<td>8 (15%)</td>
<td>11 (19%)</td>
</tr>
<tr>
<td>Clarinet</td>
<td>17 (31%)</td>
<td>18 (32%)</td>
</tr>
<tr>
<td>Oboe</td>
<td>1 (02%)</td>
<td>1 (02%)</td>
</tr>
<tr>
<td>Alto Saxophone</td>
<td>6 (11%)</td>
<td>2 (3.5%)</td>
</tr>
<tr>
<td>Cornet/Trumpet</td>
<td>11 (20%)</td>
<td>15 (26%)</td>
</tr>
<tr>
<td>French Horn</td>
<td>2 (04%)</td>
<td>2 (3.5%)</td>
</tr>
<tr>
<td>Trombone</td>
<td>6 (11%)</td>
<td>4 (07%)</td>
</tr>
<tr>
<td>Snare Drum</td>
<td>3 (06%)</td>
<td>4 (07%)</td>
</tr>
<tr>
<td><strong>TOTAL (N)</strong></td>
<td>54</td>
<td>57</td>
</tr>
</tbody>
</table>

Based on the raw figures and percentages presented above in tables four and five, the two populations once again appear to be quite similar.
INSTRUMENTS AND PROCEDURES INVOLVED IN
THE MAKING OF PROGRAM COMPARISONS

In order to make a comparative evaluation of the
two methods of instruction, bases for comparisons had
to be identified and measurement instruments had to be
chosen and/or developed. These bases and instruments
are described below.

Bases for Making Comparisons

Two related domains\textsuperscript{25} were identified as having a
definite relationship to the instructional objectives
and content of both programs of instruction implemented
for this study: the performance or motor skill area and
the affective or attitudinal area. A third domain, viz.,
the related cognitive or intellectual abilities area, was
not treated directly since only one of the populations
received direct instruction relative to this domain. Its
exclusion was deemed necessary for reasons of fairness.

\textsuperscript{25}The domain categorization is based on ideas
found in Benjamin S. Bloom (ed.), \textit{Taxonomy of Educational
Objectives, Handbook I: Cognitive Domain} (New York:
Longmans, Green, and Co., 1956).
Measurement Instruments

Two instruments were developed by the writer for purposes of gathering data relative to the performance skills and program attitudes of the participants in the programs of instruction. A third instrument, viz., an adjudication form, was designed in order that comparative evaluations might be made between the achievements of the respective groups on full band performance.

1.— **Test of Musical Performance Skills (TMPS).** An achievement test designed to measure (1) a subject's ability to perform musical exercises extracted from the melodic and harmonic passages rehearsed in the full band settings of both treatment groups, and (2) subjective elements of performance (intonation, tonal quality, musicianly feeling, embouchure, posture and playing position, and breathing and breath control) which received instructional emphasis during the rehearsals of both treatment groups. (Appendix D contains instructions for administering and scoring the TMPS, sample score sheets, and a complete battery of test exercises for the nine instruments for which the TMPS was scored.)
The test proper was administered to students as a "pre-test" during the week immediately preceding the programs of instruction and again as a "post-test" during the week immediately following the termination of the programs. It consists of twelve exercises (170 measures) which were extracted from two warm-up scale routines used daily in the full band rehearsals of both groups and four specially arranged band compositions which were rehearsed daily by students of both groups: Chant, Campfire Suite, Abdul the Bulbul Ameer, and Everything Is Beautiful.

Melodic passages constituted 75% of the measures while harmonic/rhythmic accompanimental passages comprised the remaining 25% of the test. The series of exercises was specifically designed to measure the performer's playing accuracy with respect to the following: notation (35%), rhythm (30%), musical markings (15%), and tempo (5%).

The remaining portion of the test incorporated a measurement of six subjective characteristics of student performance: intonation, tonal quality, musicianly feeling, embouchure, posture and playing position, and breathing and breath control. (For the snare drum test, handgrip was substituted for embouchure and evenness and roll control was substituted for breathing and breath control.)
The visual aspects of the TMPS (embouchure, posture and playing position, and breathing and breath control) were photographed on super 8 Kodak color film using a Sankyo movie camera. The aural aspects were recorded on Memorex brand tapes, using Voice of Music brand tape recorders. The photography work was done by the writer. Administrators of the TMPS were four college students who had training in instrumental music.26

Prior to the actual administering of the TMPS to subjects of the comparative study, studies were conducted to determine the reliability and validity of the instrument. Using the test-retest technique (two days apart), a reliability coefficient of .92 was yielded on the basis of scores obtained from thirty middle school aged students in six selected Columbus Public Schools. A validity coefficient of .84 was found to exist when students' TMPS scores were correlated with performance evaluation scores obtained from their instrumental music teacher (five teachers).

26The administrators of the TMPS (and the school which they were enrolled) include: James Howell (Case Western Reserve University), Mary Power (Edgecliff College), Robert Schultz (Wittenberg University), and Eric Wagner (Cincinnati Conservatory of Music).
After the TMPS (pre and post) has been administered to all students of the respective treatment groups, the tapes and films were sent to three professional music educators for scoring. A grand score for each administration (pre and post) was then determined for each subject by averaging the test scores assigned by the three judges. (Appendix G contains a composite listing of pre-TMPS and post-TMPS grand scores for all subjects.)

2. -- Evaluation of the Program Index (EPI). A twenty-item rating scale, adapted from the "Attitude Toward School Music Scale" by Younkenman, was administered to measure each student's attitudes toward his/her experiences in the program of instruction which he/she attended.

27 The three professional music educators (and their positions of employment) who scored the TMPS (post and pre) were: Robert Hartwell (assistant professor in the school of music at Eastern Kentucky State College), Lawrence Pye (assistant band director in the Delaware, Ohio City Schools), and Julie Anderson (student teacher practicing in the Springfield, Ohio City Schools in conjunction with the B.S. Music Education program at Wittenberg University).

28 An inter-judge reliability index of .93 was found to exist for the three scorers of the TMPS.

29 Younkenman, op. cit.
A total of ten positive items were incorporated in the EPI along with ten negative items. The following is an example of a positive statement to which subjects were supposed to respond (strong agree, agree, undecided, disagree, or strongly disagree):

"I liked the musical experiences I had in the 1971 Summer Music School very much."

A sample negative item is item number eight:

"Attending the 1971 Summer Music School was my least favorite activity during the summer."

For scoring the items, the following point system was established:

"Dislike very strongly:" 1 quality point per positive item, 5 points per negative item.

"Dislike:" 2 quality points per positive item, 4 points per negative item.

"Undecided:" 3 quality points per item.

"Like:" 4 quality points per positive item, 2 points per negative item.

"Like very strongly:" 5 quality points per positive item, 1 point per negative item.

The possible range for the EPI would thus be 20 points (absolutely negative evaluation of the program) to 100 points (absolutely positive evaluation of the program).
In order to gain the most honest evaluation of the items, students filled in a coded version of the EPI. The instrument was administered to the treatment groups on their final day of attendance. A split-half correlation was then performed and an .89 correlation was evidenced between the odd and even items. After being corrected by the Spearman-Brown formula, the estimated reliability of the complete EPI was .94. 
(Appendix E contains a sample copy of the EPI.)

3.—Adjudication Form. The final instrument used for making comparisons between the two populations was an adjudication form for evaluating full band performance. (Appendix F contains a sample adjudication form.) This form, an adaptation of the form used by adjudicators in contest events sponsored by the Ohio Music Education Association, allows for comments relative to four general categories: tone, intonation, interpretation, and technique. In addition, adjudicators are to indicate a numerical rating (1,2,3,4,5) for each selection judged.
Recordings were made of the final rehearsal of each of the treatment groups. These recordings and the adjudication forms were then sent to the panel of OMEA-sanctioned adjudicators\(^{30}\) for their evaluations. The numerical ratings and comments were then synthesized by the writer.

The findings obtained by means of the three instruments described above—TMPs, EPI, and Adjudication Form—are reported in Chapter 4.

\(^{30}\)The three adjudicators were: Richard D. Butts (associate professor of music education at Wittenberg University), Charles Temple (instructor of music education, The Ohio State University), and Robert Martin (instrumental music teacher in the Princeton Public Schools, Cincinnati, Ohio).
CHAPTER IV
PRESENTATION AND ANALYSIS OF DATA

Introduction

Following the designing and implementation of the two programs of instrumental music education described in Chapter III, the final procedures of this study involved the making of various analyses of the obtained data. These analyses will be presented in detail in this chapter.

First, data obtained from subjects who participated in the comprehensive program of instruction (Program A) will be compared to data obtained from subjects who participated in the performance-oriented program (Program B) with respect to two main null hypotheses. Second, intercorrelation coefficients for fourteen selected variables will be projected onto two matrices (one for each population). These correlation figures will then be analyzed in order to determine which variables are significantly related. Next, the results of four multiple regression analyses will be identified and examined in order to determine which variables are significantly
contributing to the respective dependent variables (post-TMPS scores and EPI scores). Finally, a comparative synthesis will be presented of evaluative ratings and comments made by a panel of three professional adjudicators about the full band performances of each population.

The Treatment Groups: A Comparison of Post-test Performance Skills

Null Hypothesis 1

Using scores obtained by means of the post-Test of Musical Performance Skills (post-TMPS) as criteria, there is no significant difference between subjects who participated in the comprehensive program of instruction (Program A) and subjects who participated in the performance-oriented program of instruction (Program B) with respect to mastery of music rehearsed.

Procedures.— A post-TMPS grand score was determined for each subject by averaging the post-test scores assigned by the three judges. Means and standard deviations were compiled for the respective populations. A t-test was then computed to determine if a significant
difference did indeed exist between the post-TMPS means of the two populations. The .05 level of confidence was established as the criterion level, with a t value of 2.006 being required for retaining the null hypothesis. Table 6 presents the obtained results.

TABLE 6
POST-TEST OF MUSICAL PERFORMANCE SKILLS: A COMPARISON OF THE POPULATIONS

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>POST-TMPS MEAN</th>
<th>RANGE</th>
<th>STANDARD DEVIATION</th>
<th>MEAN DIFFERENCE</th>
<th>t</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>110.05</td>
<td>21-192</td>
<td>35.19</td>
<td>-.2099</td>
<td>8.55</td>
<td>N.S. (4.275%)</td>
</tr>
<tr>
<td>B</td>
<td>118.60</td>
<td>33-179</td>
<td>32.11</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*2.006 = required (.05 level)

Conclusion.— Population B (i.e., those students who attended the performance-oriented program in which the music was rehearsed for 75% of the instructional time) performed slightly better (4%) on the post-Test of Musical Performance Skills than did Population A (i.e., those students who attended the comprehensive program in
which only 50% of the instructional time was devoted to rehearsing the music). However, the $t$ value indicates that this difference is not significant at the .05 level. Thus, null hypothesis number one was retained.

A supplementary test based on pre-TMPS/post-TMPS improvement scores was conducted which yielded results similar to the above finding. This test of significance, computed between the improvement means of the respective populations (43.9 points or a 22% gain for Population B and 40.1 points or a 20% gain for Population A), revealed that the two populations did not differ significantly at the .05 level. These supplementary findings are presented in Table 7.

**TABLE 7**

PRE-TEST/POST-TEST IMPROVEMENT SCORES:
A COMPARISON OF THE POPULATIONS

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>N</th>
<th>RANGE (Points)</th>
<th>$\bar{X}$ GAIN (%)</th>
<th>$\bar{X}$ GAIN</th>
<th>S.D.</th>
<th>Diff. $t$</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>54</td>
<td>-8.3-82.3</td>
<td>40.1</td>
<td>20%</td>
<td>23.6</td>
<td>3.8</td>
<td>-1.061 N.S.</td>
</tr>
<tr>
<td>B</td>
<td>57</td>
<td>1.7-81.7</td>
<td>43.9</td>
<td>22%</td>
<td>24.0</td>
<td>(1.9%)</td>
<td></td>
</tr>
</tbody>
</table>

*2.006 = required (.05 level)
Null Hypothesis 2

Using scores obtained by means of the Evaluation of the Program Index (EPI) as criteria, there is no significant difference in attitudes toward their respective programs between subjects who participated in Program A and subjects who participated in Program B.

Procedures.-- An EPI was determined for each subject who participated in the study. Means and standard deviations were compiled for each population. A $t$-test was then computed to determine if a significant difference did indeed exist between the EPI means of the two populations. Again, the .05 level of significance was established with a $t$ value of 2.006 being required for retaining the null hypothesis. The resultant findings are shown in Table 8.

**TABLE 8**

**EVALUATION OF THE PROGRAM INDEXES: A COMPARISON OF THE POPULATIONS**

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>N</th>
<th>RANGE</th>
<th>STANDARD DEVIATION</th>
<th>MEAN DIFFERENCE</th>
<th>$t$</th>
<th>$P^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>54</td>
<td>49-100</td>
<td>10.47</td>
<td>1.78</td>
<td>1.095</td>
<td>N.S.</td>
</tr>
<tr>
<td>B</td>
<td>57</td>
<td>49-100</td>
<td>10.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$*2.006 = required ( .05 level)$
Conclusion. — Using the following score averages and assigned meanings as bases:

- 20 - Dislike very strongly
- 40 - Dislike
- 60 - Undecided
- 80 - Like
- 100 - Like very strongly

Both populations indicated a "liking" for their programs. More specifically, students who participated in the performance-oriented program of instruction (Program B) seemed to indicate slightly more favorable reactions to their experiences (mean: 85.35) than did students who participated in the comprehensive program of instruction (Program A—mean: 83.57). However, the t value of this difference indicates that it was not significant. Thus, null hypothesis number two was retained.

INTERCORRELATIONS AMONG SELECTED BACKGROUND AND PERFORMANCE VARIABLES

Sub-Null Hypothesis 1

No significant correlation values exist at the .05 level among selected background and performance variable pairings relative to students who attended the comprehensive program of instruction (Population A).

Page 74 contains a more detailed explanation of the five categories as they relate to assigned quality points.
The variables (and their abbreviations) include:

1. Attendance or number of days attended (Att'd)
2. Chronological age (Age)
3. Number of years studied on chosen band instrument (YrsSt)
4. Musicality as measured by pages two and three of the Gaston Test of Musicality (Mscal)
5. Attitude Toward Elementary School Music as measured by the Younken ATSMS (ATSMS)
6. Sight Reading Ability as measured by the Watkins-Farnum Performance Scale (S-R)
7. Sex (Sex)
8. Piano Experience—three months or more, yes or no (Piano)
9. Private Lessons—three months or more, yes or no (PrLsn)
11. Socioeconomic Status as determined by the status level of workers index of Nam and Powers (S-E)
12. Pre-test score on the Test of Musical Performance Skills (Pre-TMPS)
13. Evaluation of the Program Index (EPI)
**Procedures.**— Scores for the fourteen variables were obtained from each of the fifty-four students who attended the comprehensive program of instruction. Correlations were then computed by means of the BMD02R program. The determined coefficients for Population A are shown in Table 9 (page 85). Correlation coefficients which met or exceeded the required r value of .268 necessary for significance at the .05 level are so indicated by an asterisk.

**Conclusion.**— Twenty three variable pairings, out of a possible total of ninety one pairings, yielded significant positive r values at the .05 level. Thus, sub-null hypothesis 1 was rejected.

In order to gain a better perspective of these correlational findings, a check was made to determine which of the twenty-three pairings were also significantly related at the .001 level. Table 10 (page 86) lists these paired variables in an order of highest to lowest correlation. Of particular interest are the three pairings which involve an independent background or performance variable and a dependent post-program variable (Post-TMPS or EPI). These three pairings are so indicated.
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>ATT'D</th>
<th>AGE</th>
<th>YrSt</th>
<th>MscAl</th>
<th>AtsMs</th>
<th>S-R</th>
<th>Sex</th>
<th>PianO</th>
<th>PrLsn</th>
<th>1970</th>
<th>S-E</th>
<th>Pre-TMPS</th>
<th>EPI</th>
<th>Post-TMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT'D</td>
<td>.063</td>
<td>.178</td>
<td>.005</td>
<td>.193</td>
<td>.156</td>
<td>.082</td>
<td>.135</td>
<td>.065</td>
<td>-.019</td>
<td>-.327*</td>
<td>.209</td>
<td>.369*</td>
<td>.212</td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>1.66*</td>
<td>.298*</td>
<td>.041</td>
<td>.391*</td>
<td>.078</td>
<td>.105*</td>
<td>-.022</td>
<td>.137</td>
<td>.113</td>
<td>.319*</td>
<td>-.009</td>
<td>.231*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YrSt</td>
<td>.219</td>
<td>.250</td>
<td>.265</td>
<td>-.125</td>
<td>.170</td>
<td>-.053</td>
<td>.615*</td>
<td>.168</td>
<td>.300*</td>
<td>.175</td>
<td>.227</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MscAl</td>
<td>.070</td>
<td>.457*</td>
<td>-.118</td>
<td>.212</td>
<td>-.091</td>
<td>.361*</td>
<td>.138*</td>
<td>.113</td>
<td>-.017</td>
<td>.378*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AtsMs</td>
<td>.073</td>
<td>.075</td>
<td>.097</td>
<td>.017</td>
<td>.137</td>
<td>-.017</td>
<td>.206</td>
<td>.146*</td>
<td>.163</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-R</td>
<td>.061</td>
<td>.303*</td>
<td>.070</td>
<td>.363*</td>
<td>.203</td>
<td>.827*</td>
<td>.075</td>
<td>.853*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.027</td>
<td>-.133</td>
<td>-.090</td>
<td>-.095</td>
<td>.693</td>
<td>-.150</td>
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<td>.000</td>
<td>.067</td>
<td>.115</td>
<td>.229</td>
<td>-.013</td>
<td>.273*</td>
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<td>-.095</td>
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<td>.006</td>
<td>.074</td>
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<td>1970</td>
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<td></td>
<td></td>
<td>.217</td>
<td>.347*</td>
<td>-.019</td>
<td>.225</td>
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<tr>
<td>S-E</td>
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<td>.124</td>
<td>.191</td>
<td>.115</td>
<td></td>
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</tr>
<tr>
<td>Pre-TMPS</td>
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<td></td>
<td></td>
<td></td>
<td>.153</td>
<td>.827*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.725</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Post-TMPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Significant at the .05 level (.268 - required)
TABLE 10

VARIABLES HAVING A HIGHLY SIGNIFICANT CORRELATION (.001 LEVEL): POPULATION A

<table>
<thead>
<tr>
<th>Value of r</th>
<th>Variable</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>.853**</td>
<td>Sight Reading</td>
<td>Post-TMPS</td>
</tr>
<tr>
<td>.827**</td>
<td>Pre-TMPS</td>
<td>Post-TMPS</td>
</tr>
<tr>
<td>.827</td>
<td>Pre-TMPS</td>
<td>Sight Reading</td>
</tr>
<tr>
<td>.616</td>
<td>Years Studied</td>
<td>Att'd: Explor. Pro.</td>
</tr>
<tr>
<td>.466</td>
<td>Age</td>
<td>Years Studied</td>
</tr>
<tr>
<td>.452**</td>
<td>Musicality</td>
<td>Sight Reading</td>
</tr>
<tr>
<td>.448</td>
<td>ATSMS</td>
<td>EPI</td>
</tr>
<tr>
<td>.438</td>
<td>Musicality</td>
<td>Socioeconomic St.</td>
</tr>
</tbody>
</table>

*.435 is needed for null hypothesis retainment at the .001 level of confidence

** Dependent/independent variable pairing

These findings, viz., that twenty-three of the possible ninety-one pairings were found to be positively related (.05 level), eight variable pairings were found to be strongly related (.001 level), and sixty-eight variable pairings were not related significantly, indicates several things which are noteworthy with respect to Population A: (1) the performance skills scores achieved on the three instruments used in this study---
pre-TMPS, sight reading ability test, post-TMPS—are very highly related; (2) the independent variables of age, number of years studied on chosen band instrument, sex, private lessons, attendance in the exploratory program, and socioeconomic status have no significant relationship to either of the dependent post-program variables used in this study (EPI, post-TMPS); (3) the variables of chronological age and number of years studied on chosen band instrument are related significantly to pre-program performance skills (sight reading ability, pre-TMPS); (4) the variable musicality correlates positively with several performance variables (viz., sight reading scores, pre-TMPS scores, post-TMPS scores) as well as with two background variables (viz., socioeconomic status and age); however, there appears to be little if any positive relationship between musicality and the evaluative variables (EPI and ATSMS); and (5) attendance has very little relationship to any of the background and performance variables used in this study with the exception of evaluation of the program indexes.
Sub- Null Hypothesis 2

No significant correlation values exist at the .05 level among selected background and performance variable pairings relative to students who attended the performance-oriented program of instruction (Population B).

Procedures.— Fourteen scores were obtained from each of the fifty-seven students who attended the performance-oriented program of instruction. (These variables are listed on page 83.) Correlations, computed by means of the BMD02R program, are shown in Table 11 (page 89); an r value of .262 was necessary for significance at the .05 level of confidence.

Conclusion.— Twenty-seven pairs of variables, out of a possible total of ninety-one pairs, yielded significant positive r values at the .05 level. In addition, two variable pairings were found to correlate negatively at the .05 level. Thus, sub-null hypothesis 2 was rejected.

Looking more closely, ten variable pairings were found to be positively related at the .001 level of confidence. Table 12 lists these paired variables in an order
### TABLE 11

RELATIONSHIPS OF SELECTED BACKGROUND AND PERFORMANCE VARIABLES
FOR POPULATION B, -- (COEFFICIENTS OF CORRELATION)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>ATT'D</th>
<th>AGE</th>
<th>YrSt</th>
<th>MASCAL</th>
<th>ATHMS</th>
<th>S-R</th>
<th>SEX</th>
<th>PIANO</th>
<th>PrLen</th>
<th>1970</th>
<th>S-E</th>
<th>Pre-TPCS</th>
<th>EPI</th>
<th>Post-TPCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT'D</td>
<td>-0.058</td>
<td>0.013</td>
<td>0.145</td>
<td>-0.033</td>
<td>-0.135</td>
<td>-0.105</td>
<td>0.195</td>
<td>0.019</td>
<td>0.080</td>
<td>-0.115</td>
<td>0.224</td>
<td>-0.060</td>
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<td></td>
</tr>
<tr>
<td>AGE</td>
<td>0.178</td>
<td>0.204</td>
<td>-0.207</td>
<td>0.301*</td>
<td>-0.125</td>
<td>-0.156</td>
<td>0.301*</td>
<td>0.274*</td>
<td>0.012</td>
<td>0.390*</td>
<td>0.051</td>
<td>0.330*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YrSt</td>
<td>0.277*</td>
<td>-0.055</td>
<td>0.413*</td>
<td>-0.731</td>
<td>-0.231</td>
<td>0.331*</td>
<td>0.597*</td>
<td>0.076</td>
<td>0.507*</td>
<td>0.170</td>
<td>0.395*</td>
<td></td>
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</tr>
<tr>
<td>MASCAL</td>
<td>0.089</td>
<td>0.419*</td>
<td>-0.036</td>
<td>0.022</td>
<td>0.039</td>
<td>0.290*</td>
<td>-0.018</td>
<td>0.102*</td>
<td>0.253</td>
<td>0.167*</td>
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<td>ATHMS</td>
<td>0.134</td>
<td>-0.014</td>
<td>0.059</td>
<td>-0.292*</td>
<td>-0.006</td>
<td>-0.148</td>
<td>0.079</td>
<td>0.496*</td>
<td>0.092</td>
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</tr>
<tr>
<td>S-R</td>
<td>-0.091</td>
<td>-0.039</td>
<td>0.222</td>
<td>0.423*</td>
<td>0.206</td>
<td>0.798*</td>
<td>0.188</td>
<td>0.773*</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>SEX</td>
<td>0.296*</td>
<td>-0.302*</td>
<td>0.113</td>
<td>-0.108</td>
<td>-0.028</td>
<td>-0.032</td>
<td>-0.050</td>
<td></td>
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<tr>
<td>PIANO</td>
<td>0.193</td>
<td>0.185</td>
<td>0.074</td>
<td>-0.153</td>
<td>0.104</td>
<td>0.013</td>
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</tr>
<tr>
<td>PrLen</td>
<td>0.261</td>
<td>0.266</td>
<td>0.272*</td>
<td>-0.099</td>
<td>0.318*</td>
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</tr>
<tr>
<td>1970</td>
<td>0.006</td>
<td>0.520*</td>
<td>0.178</td>
<td>0.105*</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>S-E</td>
<td>0.208</td>
<td>0.059</td>
<td>0.072</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Pre-TPCS</td>
<td>0.268</td>
<td>0.824*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>EPI</td>
<td>0.262</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Post-TPCS</td>
<td>1.000</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level (.262 = required)
of highest to lowest correlation. Of particular interest are the four pairings which involve an independent background or performance variable and a dependent post-program variable (post-TMPS or EPI). These four pairings are so indicated.

TABLE 12

VARIABLES HAVING A HIGHLY SIGNIFICANT CORRELATION (.001 LEVEL): POPULATION B

<table>
<thead>
<tr>
<th>Value of r*</th>
<th>Variable</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>.824**</td>
<td>Pre-TMPS</td>
<td>Post-TMPS</td>
</tr>
<tr>
<td>.798**</td>
<td>Pre-TMPS</td>
<td>Sight Reading</td>
</tr>
<tr>
<td>.773**</td>
<td>Sight Reading</td>
<td>Post-TMPS</td>
</tr>
<tr>
<td>.597</td>
<td>Years Studied</td>
<td>Att'd: Exploratory Pro.</td>
</tr>
<tr>
<td>.528</td>
<td>Pre-TMPS</td>
<td>Att'd: Exploratory Pro.</td>
</tr>
<tr>
<td>.507**</td>
<td>Pre-TMPS</td>
<td>Years Studied</td>
</tr>
<tr>
<td>.496</td>
<td>ATSMS</td>
<td>EPI</td>
</tr>
<tr>
<td>.492</td>
<td>Musicality</td>
<td>Pre-TMPS</td>
</tr>
<tr>
<td>.474**</td>
<td>Age</td>
<td>Years Studied</td>
</tr>
<tr>
<td>.467**</td>
<td>Musicality</td>
<td>Post-TMPS</td>
</tr>
</tbody>
</table>

*.425 is needed for null hypothesis retainment at the .001 level of confidence

**Dependent/independent variable pairing
Based upon these findings—viz., that twenty-seven variable pairings were found to be positively correlated at the .05 level, two pairings were related negatively at the .05 level, ten pairings were related positively at the .001 level, and sixty-two pairings were not related significantly—several noteworthy meanings can be identified which relate to Population B: (1) the performance skill scores achieved on the three instruments used in this study—pre-TMPS, sight reading ability test, post-TMPS—are very highly related; (2) the independent variables of attendance, sex, piano, and socioeconomic status have no significant relationships to either of the dependent post-program performance variables used in this study (EPI and post-TMPS); (3) the variables of chronological age and number of years studied on chosen band instrument are related significantly to both pre-program and post-program performance skills; (4) the variable musicality correlates positively with several performance variables (viz., sight reading ability, pre-TMPS, post-TMPS) as well as with two background variables (number of years studied on chosen band instrument and attendance in the exploratory program); however, the
revealed positive correlations between musicality and the evaluation variables (EPI, ATSMS) were not significant; and (5) attendance has very little relationship to any of the background and performance variables used in this study.

**Multiple Regression Analyses**

**Sub- Null Hypothesis 3**

No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to post-TMPS scores with respect to Population A. (A one per cent contribution increase was established for determining a variable's contribution as significant.)

The twelve independent variables include: (1) attendance (number of days attended), (2) chronological age, (3) number of years studied on chosen band instrument, (4) musicality, (5) attitude toward elementary school music, (6) sight-reading ability, (7) sex, (8) piano experience (three months or more, yes or no), (10) participation in the 1970 exploratory program (yes or no), (11) socioeconomic status, and (12) pre-test scores on the Test of Musical Performance Skills (pre-TMPS).
Procedures.-- A multiple regression analysis for Population A was compiled by means of the BMD02R program. A summary of this analysis is presented in Table 13. The cumulative percentages for the amount of variance of the post-TMPS scores, accounted for by the addition of each variable to the regression equation, are given in the RSQ column. The amount of variance added by each variable is shown in the % column. (Only variables which contributed more than one per cent are identified.)

TABLE 13
SUMMARY: CONTRIBUTION OF VARIABLES TO POST-TMPS SCORES (POPULATION A)

<table>
<thead>
<tr>
<th>Variable</th>
<th>RSQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sight Reading Ability</td>
<td>.7276</td>
<td>72.76</td>
</tr>
<tr>
<td>Pre-TMPS</td>
<td>.7746</td>
<td>04.69</td>
</tr>
<tr>
<td>Chronological Age</td>
<td>.7869</td>
<td>01.23</td>
</tr>
<tr>
<td>Others</td>
<td>.8057</td>
<td>01.88</td>
</tr>
</tbody>
</table>

Conclusion.-- Three of the twelve selected variables contributed more than one per cent to post-program performance skills as measured by the post-TMPS: sight
reading ability, pre-TMPS scores, and chronological age. Thus, sub-null hypothesis 3 was rejected.

The entire group of variables accounted for 80.57 per cent of the total variance on the post-TMPS scores of Population A. The remaining variance, or that small amount for which no account was made (less than twenty per cent) was due to either random variation or the failure to include the independent variables that make these contributions.

**Sub-Null Hypothesis 4**

No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to post-TMPS scores with respect to Population B.² (A one per cent contribution increase was established for deeming a variable's contribution as significant.)

**Procedures.**—A multiple regression analysis for Population B was computed in the BMD02R program. A summary of this analysis is presented in Table 14.

²Sub-null hypothesis 3 on page 92 contains a listing of the twelve independent variables.
TABLE 14
SUMMARY: CONTRIBUTION OF VARIABLES TO POST-TMPS SCORES (POPULATION B)

<table>
<thead>
<tr>
<th>Variable</th>
<th>RSQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-TMPS</td>
<td>.6796</td>
<td>67.96</td>
</tr>
<tr>
<td>Sight Reading Ability</td>
<td>.7158</td>
<td>03.62</td>
</tr>
<tr>
<td>Piano Experience (Yes)</td>
<td>.7290</td>
<td>01.32</td>
</tr>
<tr>
<td>Private Lessons (Yes)</td>
<td>.7425</td>
<td>01.35</td>
</tr>
<tr>
<td>Others</td>
<td>.7558</td>
<td>01.33</td>
</tr>
</tbody>
</table>

Conclusion.— Four variables of the complete group of twelve selected variables contributed more than one per cent respectively to post-program performance skills as measured by the post-TMPS: pre-TMPS scores, sight reading ability, the possession of piano experience, and experience in private lessons. Thus, sub-null hypothesis 4 was rejected.

The complete set of variables accounted for 75.58 per cent of the total variance of the post-TMPS scores of Population B. The remaining variance, or that 24.42 per cent for which no account was made, was due to either random variation or the failure to include the independent variables that make these contributions.
Sub- Null Hypothesis 5

No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to the evaluation indexes of Population A concerning their comprehensive program of instruction. (A one per cent contribution increase in RSQ was established for classifying a variable's contribution as significant.) The twelve independent variables include: (1) attendance (number of days attended), (2) chronological age, (3) number of years studied on chosen band instrument, (4) musicality, (5) attitude toward elementary school music (ATSMS), (6) sight reading ability, (7) sex, (8) piano experience (three months or more, yes or no), (9) private lessons (three months or more, yes or no), (10) participation in the 1970 exploratory program (yes or no), (11) socioeconomic status, and (12) pre-test scores on the test of musical performance skills (pre-TMPS).

Procedures.-- A multiple regression analysis for Population A was computed by means of the BMD02R program. A summary of those variables found to be contributing one per cent or more toward the variance of EPI indexes is presented in Table 15.
TABLE 15
SUMMARY: CONTRIBUTION OF VARIABLES TO EVALUATION-OF-THE-PROGRAM INDEXES (POPULATION A)

<table>
<thead>
<tr>
<th>Variable</th>
<th>RSQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATSMS</td>
<td>.2011</td>
<td>20.11</td>
</tr>
<tr>
<td>Attendance</td>
<td>.2838</td>
<td>08.27</td>
</tr>
<tr>
<td>Sex</td>
<td>.3257</td>
<td>04.19</td>
</tr>
<tr>
<td>Piano Experience (yes)</td>
<td>.3400</td>
<td>01.43</td>
</tr>
<tr>
<td>Participation in Exploratory Program (1970)</td>
<td>.3505</td>
<td>01.04</td>
</tr>
<tr>
<td>Others</td>
<td>.3900</td>
<td>03.96</td>
</tr>
</tbody>
</table>

Conclusion. — Five of the twelve selected variables contributed more than one per cent to the evaluations of Population A toward their comprehensive program as measured by the EPI. In descending order they were: attitude toward elementary school music, attendance, sex, the possession of piano experience, and participation in the 1970 exploratory program. Thus, sub-null hypothesis 5 was rejected.

All of the variables involved accounted for only thirty-nine per cent of the total variance of the EPI
indexes of Population A. The remaining variance, or that sixty-one per cent for which no account was made, was due to either random variation or the failure to include the independent variables that make these contributions.

Sub-Null Hypothesis 6

No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to the evaluation indexes of Population B concerning their performance-oriented program of instruction. (A one per cent contribution increase was established for classifying a variable's contribution as significant.) The twelve independent variables are listed in sub-null hypothesis 5 on page 96.

Procedures.—A multiple regression analysis was computed in the BMD02R program for Population B. A summary of those variables which were found to be contributing one per cent or more toward the variance of EPI indexes is presented in Table 16.
TABLE 16
SUMMARY: CONTRIBUTION OF VARIABLES TO EVALUATION-OF-THE-PROGRAM INDEXES (POPULATION B)

<table>
<thead>
<tr>
<th>Variable</th>
<th>RSQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATSMS</td>
<td>.2458</td>
<td>24.58</td>
</tr>
<tr>
<td>Pre-TMPS</td>
<td>.2986</td>
<td>05.28</td>
</tr>
<tr>
<td>Attendance</td>
<td>.3547</td>
<td>05.61</td>
</tr>
<tr>
<td>Piano Experience (Yes)</td>
<td>.3756</td>
<td>02.09</td>
</tr>
<tr>
<td>Others</td>
<td>.4141</td>
<td>03.85</td>
</tr>
</tbody>
</table>

**Conclusion**.-- Four of the twelve selected variables contributed more than one per cent to the performance-oriented program evaluations of Population B as measured by the EPI: attitude toward elementary school music, pre-test scores on the Test of Musical Performance Skills, attendance, and the possession of piano experience. Thus, sub-null hypothesis 6 was rejected.

All of the variables involved accounted for only 41.41 per cent of the total variance of the EPI indexes of Population B. The remaining variance, or the 58.59 per cent for which no account was made, was due to either random variation or the failure to include the independent variables that make these contributions.
GROUP (FULL BAND) PERFORMANCES:
A COMPARATIVE SYNTHESIS OF EVALUATIONS

The findings reported above are all based on scores obtained from students of each population on an individual basis. Attention will now be focused on making comparisons of the two populations with respect to group full band performance. These ancillary findings will not be reported in relation to sub-null hypotheses; rather, they will be synthesized into two areas: numerical ratings and evaluative comments.

**Procedures.**—Using an adjudication form, a panel of three adjudicators evaluated the bands associated with the two programs of instruction upon which this study was based. The assigned numerical ratings and descriptive comments were then synthesized and comparisons were made.

**Conclusions.**—Using a rating scale of 1 - 5 (1 being highest or "outstanding," 5 being lowest or "very poor"), the performance-oriented group received a slightly better overall rating (2.53) on the five recorded selections than did the comprehensive group (2.66).

More specifically, the panel of adjudicators rated the performance-oriented group higher on three of the five
recorded selections: Campfire Suite I (first two folksongs), Campfire Suite II (latter two folksongs), and Everything Is Beautiful. The comprehensive group was judged as having played better than the performance-oriented group on Abdul the Bulbul Ameer. Equal means were received for performances of Royal Fireworks Music.

A listing of ratings assigned and rating averages for the band associated with the comprehensive program of instruction is presented in Table 17. A listing of ratings and averages for the band associated with the performance-oriented program is presented in Table 18.

### TABLE 17

Group Performances and Numerical Ratings:
Treatment Group A (Comprehensive Program)

<table>
<thead>
<tr>
<th>Selection</th>
<th>Judge 1</th>
<th>Judge 2</th>
<th>Judge 3</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campfire Suite I</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Campfire Suite II</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>Abdul the Bulbul Ameer</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Everything Is Beautiful</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Royal Fireworks Music</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Mean of Means                  | 2.66    |
Descriptive Comments: A Synthesis

The panel of judges, using the same adjudicators comment sheet (Appendix F), indicated evaluative comments for each of the five selections with respect to four areas of band performance: tone, intonation, interpretation, and technique. Comments assigned to each population are synthesized below in accordance with these four areas.

Band Associated with Program A

Tone.-- In most of the selections, a lack of control and poor blend tended to prevail as did some harshness (especially in the upper register). These problems were rooted in overblowing and in failure to adequately support the tones.
Intonation. -- Problems prevailed in most of the selections, basically because of poor support and a general failure to center the tones. Specifically, the upper register of the clarinets tended to go flat while the brass tend to sound sharp as overblowing occurred.

Interpretation. -- The tempos sometimes appear to be sluggish. There were noticeable failures to consistently observe contrasting nuances (dynamics, ritards, etc.). Rhythmic accuracy is often lacking. The areas of phrasing and expression are relatively good, although a note-to-note style sometimes prevails.

Technique. -- Poor attacks and releases are frequently heard. There exists a general failure to realize articulation markings, although accents are usually played when indicated. Some good individual performers can be heard although the overall technique of the group tends to be ragged in many places.

Band Associated with Program B

Tone. -- Generally, the tone quality was good except for occasional harshness due to overblowing. Blend and balance, while sometimes good, are real problems on occasions. The high brass tend to overpower the woodwinds.

Intonation. -- Some problems exist, although they are not too severe for the most part. Flutes and low brass tend to sound sharp while the clarinets tend to sound flat.

Interpretation. -- Style is reasonably good and rather expressive for the most part. Adherence to dynamics and staccato markings is sometimes noted, though not always. Phrasing is not always realized, as note-to-note playing often prevails. Tempos are sometimes sluggish.

Technique. -- Starts (attacks) are often poor, but group plays fairly well once it gets going. Rhythmic precision is often a problem as is "blatty" tonguing. Breath support is not always sufficient, especially in the upper register.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was a pilot attempt to design, implement, and compare two methods of band instruction at the middle school level.

The Purposes of the Study

Basically, there were three major purposes of this study:

1. To design quasi-dichotomous curricular approaches to band instruction at the middle school level: a "comprehensive" program in which emphasis was placed on academic challenges as well as on performance development, and a "performance-oriented" approach in which emphasis was placed primarily on diversified performance challenges.

2. To implement the designed programs of instruction in population and physical settings conducive to experimentation.
3. To obtain evaluative data with respect to participants of the two programs of instruction and to compare these data in relation to specific null hypotheses.

Specifically, the study investigated the following questions.

1. Does a significant difference exist between the post-program musical performance skills of students who participate in a comprehensive program of band instruction and the post-program musical performance skills of comparable students who participate in a performance-oriented program of band instruction?

2. Does a significant difference exist between the program evaluations of students who participate in a comprehensive program of band instruction and the program evaluations of comparable students who participate in a performance-oriented program of band instruction?

In addition, six secondary questions were investigated.

a. What pairs of background and performance variables, if any, correlate significantly with respect to the students (Population A) who attended the comprehensive program of instruction (Program A)?
b. What pairs of background and performance variables, if any, correlate significantly with respect to the students (Population B) who attended the performance-oriented program of instruction (Program B)?

c. What variables or combination of variables, if any, can be viewed as significant contributors to post-program performance skills with respect to the students who attended Program A?

d. What variables or combination of variables, if any, can be viewed as significant contributors to post-program performance skills with respect to the students who attended Program B?

e. What variables or combination of variables, if any, can be viewed as significant contributors to program evaluations with respect to Program A?

f. What variables or combination of variables, if any, can be viewed as significant contributors to program evaluations with respect to Program B?

g. Which band performed better at the end of the instructional programs: the band associated with Program A or the band associated with Program B?
Null Hypotheses and Sub-Null Hypotheses

The following null hypotheses were formulated for purposes of directing the investigative and testing processes.

**Null Hypothesis 1.** Using scores obtained by means of the Post-Test of Musical Performance Skills (Post-TMPS) as criteria, there is no significant difference between subjects who participated in the comprehensive program of instruction (Program A) and subjects who participated in the performance-oriented program of instruction (Program B) with respect to mastery of music rehearsed.

**Null Hypothesis 2.** Using scores obtained by means of the Evaluation of the Program Index (EPI) as criteria, there is no significant difference in attitudes toward their respective programs between subjects who participated in Program A and subjects who participated in Program B.

In addition, several subordinate null hypotheses were formulated.
Sub-Null Hypothesis 1.-- No significant correlation values exist at the .05 level among selected background and performance variable pairings relative to students who attended the comprehensive program of instruction.

Sub-Null Hypothesis 2.-- No significant correlation values exist at the .05 level among selected background and performance variable pairings relative to students who attended the performance-oriented program of instruction.

Sub-Null Hypothesis 3.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to Post-TMPS scores with respect to Population A.

Sub-Null Hypothesis 4.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to Post-TMPS scores with respect to Population B.

Sub-Null Hypothesis 5.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to the evaluation indexes of Population A concerning their comprehensive program of instruction.
Sub-Null Hypothesis 6.-- No single variable or combination of variables among the twelve selected background and performance variables can be viewed as making a significant contribution to the evaluation indexes of Population B concerning their performance-oriented program of instruction.

Need for the Study

The status of performance organizations with respect to their role in the total music education program is currently an area of wide concern. A considerable amount of criticism has been projected by many prominent educators with respect to various aspects of the class system of teaching instrumental music---e.g., its purposes; its focus, and its repertoire. Research evidence also exists which reinforces many of the criticisms that have been cited.

Several programs such as the Contemporary Music Project (CMP) and the Manhattanville Music Curriculum Program (MMCP) have been implemented in an effort to bring about conditions and model plans favorable to the realization of revitalized, more diversified, and more interesting methods of instrumental music teaching. While
such projects have provided restructured approaches based on principles of comprehensive musicianship and student interests, it seems that a need remains for designing, implementing, and comparing respectable and challenging programs of instrumental music education. Such a need seems to be especially pronounced at the middle school level, an important level of instruction which has been badly neglected by researchers.

Review of Related Literature

Much literature exists that relates both directly and indirectly to the various concerns of this study. Much of this literature is "theoretical," i.e., written yet untested plans concerned with finding more effective ways of teaching instrumental music to school students. Also to be found in the literature are various "experimental" studies which involve the testing of various plans of instruction.

With respect to the first area, four published plans and ten unpublished plans were selected which represent available curricular ideas and/or materials concerned with restructuring the goals and contents of class instruction in instrumental music. These proposed plans, if implemented, would purportedly result in more varied
and better programs of instruction than now exist. Underlying these plans are such premises as (1) the more a student knows about music, the better he plays his instrument; (2) music is best understood in relation to the world and times that contributed to its creation; and (3) knowledges and understandings foster independent interests, values, and commitments.

In the experimental research category of related literature, numerous studies were found that involve comparative analyses of implemented programs of instruction. The findings of these studies are presented below in relation to several categories.

Six studies were found that relate to beginning programs of instrumental music education. On the basis of findings revealed in three of these studies, it appears that participation in a pre-instrumental music program of instruction—whether it involves song flutes, rhythmic activities, or exploratory experiences—produces positive gains with respect to musical accomplishment in beginning instrumental music. On the basis of methodology data obtained in the other three studies, it appears that (1) a familiar melody method of instruction facilitates early interest and mastery of music materials, (2) a
formal drill method produces the best music readers, (3) a rote method before reading facilitates playing and manual dexterity as well as interest, and (4) usage of the Musical Aptitude Profile by Gordon can provide information which can facilitate individualized instruction which, in turn, will improve musical achievement.

Eight studies were found which compare integrated programs of vocal and instrumental instruction with non-integrated programs. Though not all of the findings from these studies were in total agreement, data revealed tended to indicate that students exposed to integrated instrumental-vocal treatments, when compared to students who received only choral or instrumental instruction, acquire a fuller understanding of music as well as a greater interest in and/or preference for music.

Four studies were identified that involved selected managerial aspects of instrumental music instruction. Findings revealed include the following: (1) private instruction facilitates higher levels of musical achievement than does heterogeneous or like-instrumental class instruction, although the latter formats result in a lower dropout rate; (2) two thirty-minute class lessons per week during the winter months tends to
be better than one-hour-per-day classes during the summer months for beginning instrumentalists.

Of the four studies surveyed that involve specific usage of programmed instruction in instrumental music education, all found the programmed approach to be superior in many respects to the traditional approaches of instruction. These studies involved the following areas: learning pitch notation and correct instrument fingerings, home practice, learning music theory, and the development of intonation discrimination skills.

Finally, various studies completed during the 1960's and early 1970's were identified that center around diversified topics. Some of the general findings revealed in these studies were:

1. Experience in improvisation tends to lead participants to see the need for greater musical understandings;

2. Positive practice tends to be of more value than is negative practice;

3. Various audio and visual methods can be used for improving intonation;

4. Tachistoscopic training is an effective method for teaching melodic-rhythmic sight playing;
5. Breath impulse techniques in which beginning wind students are taught to make connected divisions with natural body mechanisms improve performance progress;

6. Utilizing bodily movement in the forms of foot tapping and hand clapping facilitates rhythm training;

7. Supplemental experience in chamber music facilitates performance skills but it does not necessarily facilitate cognitive understandings.

8. Band instruction which incorporates analyses of the various arts facilitates style recognition but not positive attitudes;

9. Clarinet instruction based on Suzuki method techniques facilitates achievement in performance;

10. Specific training in performing contemporary band music does not necessarily facilitate its performance;

11. Instruction in which pupils are given a conceptual orientation to class objectives before exposure to actual learning experiences facilitates the development of performance skills;

12. Neither musicality nor aesthetic sensitivity increase significantly more through concert band participation than through stage band participation.
In essence, much literature is available that relates to the topic of restructuring instructional processes and content in instrumental music education. The ideas and findings inherent in these studies can facilitate the necessary task of providing useful alternatives to traditional modes of group instrumental instruction.

The Programs of Instruction

Program A, or the "comprehensive" program of instruction, was designed to enable participants to gain a more complete understanding of the art of music, with specific reference to the music rehearsed in the full band settings. It incorporated activities of two varieties: full band performance (50% of the instructional time) and related academic activities (50% of the instructional time). This latter category included guided listening sessions (10%), fundamentals of popular music classes (10%), class electronic piano lessons (10%), music theory lessons (10%), and music and related areas classes (10%).

The two programs of instruction upon which this study is based were rooted in curricular and administrative practices which proved successful in summer exploratory programs implemented by the writer.
Program B, or the "performance-oriented" program of instruction, was designed to improve the full band performance level, with specific reference to the instrumental performance skills of the participants. It also incorporated varied small and large group experiences in musical performance. Emphasis in this program was placed on ensemble participation (25% of the instructional time, in either woodwind choir, brass choir, percussion ensemble, stage band, or marching band) and full band performance (75% of the instructional time).

While the mini-session instructional activities and the full band rehearsal time allotments for the two programs were markedly different, other aspects of the programs were the same. Both of the methods included the same amount of inclusive instructional time (two two-and-one-half hour sessions per week for six weeks) and both were housed in the same facilities (Wittenberg University School of Music, Springfield, Ohio). In addition, the same five musical selections were rehearsed in the full band settings by both populations and the same professionally trained instructor was employed to direct the rehearsals and various mini-classes.
Instructional Materials

The instructional materials used in this study were of three varieties: (1) musical selections rehearsed in full band settings by both populations, (2) materials chosen or developed for exclusive usage in the mini-classes of Program A, and (3) materials chosen or developed for exclusive usage in the mini-performance classes of Program B.

With respect to the first category, five selections were rehearsed by both populations in full band settings. These works were: Chant, a Renaissance chorale by da Palestrina; Royal Fireworks Music, Baroque court music by Handel; Campfire Suite, a medley of four folk tunes arranged by Ward; Abdul the Bulbul Ameer, a 3/4 march-like selection by French; and Everything Is Beautiful, a popular selection by Stevens. Because of the necessity for having each instrumentalist rehearse the exact melodic and harmonic parts incorporated in the post-program test constructed to measure performance skills, the writer rearranged selections one, three, four and five.

Materials used exclusively in the comprehensive program of instruction (Program A) included (1) crossword puzzles, films, and records for the guided listening
classes; (2) specially prepared melodic and harmonic exercises for the class electronic piano classes; (3) a worksheet, radio, film, and tape recorder as well as sound track tapes for the popular music classes; (4) a crossword puzzle, selected poems, painting reproductions, a film, and electronic music equipment for the music and related areas classes; and (5) published programmed worksheets and specially constructed worksheets for the music theory classes.

Materials used exclusively in the performance-oriented program of instruction included (1) Whodunit??, a specially arranged novelty medley specially arranged by the writer for woodwind choir; (2) Mother Goofs, a novelty number for brass choir; (3) specially designed multiple percussion exercises for percussion ensemble; and (4) two stage band charts—All About the Blues by Strommen and Torrey Pines by Martino—for usage in the stage band. In addition, an evaluation adjudication form, a set of care and repair slides, and a sheet listing basic marching band terms were used within rehearsal/laboratory settings.
Subjects and Group Equivalency

Enrollment registration for the pilot summer programs of instruction was open to any fifth or sixth grade band student enrolled in a school within the Springfield City Schools, Clark County Schools, or Springfield Parochial Schools. Students who attended a school beginning with names A-L were instructed to register for Program A while students who attended a school beginning with names M-Z were instructed to register for Program B. (Subjects were not informed that the two programs were different with respect to instructional emphasis.)

A total of sixty-three students registered for Program A while sixty-five registered for Program B. After initial dropouts following the opening of the programs, a total of fifty-four students from thirteen different schools remained as participants in the comprehensive program of instruction (Program A) while a total of fifty-seven students from fifteen different schools remained as participants in the performance-oriented program (Program B).
In order to ascertain group equivalency, the two volunteer populations were examined with respect to seven background and performance variables: chronological age, years studied on chosen band instrument, musicality, attitude toward elementary school music, sight reading ability, socioeconomic status, and pre-program performance skills. Scores for these seven variables were obtained by means of the administration of forms (variables one and two) and reliable standardized instruments (variables three, four, five, six, and seven). A $t$ - ratio for independent (noncorrelated) samples was then used to determine differences between the populations' means with respect to each variable. The results of these tests revealed that there were no significant differences (.05 level of significance) with respect to any of the seven selected variables.

As a supplemental check for group equivalency, the populations were compared percentage-wise with respect to five additional variables: sex, piano experience, private lessons, attendance in the forerunner exploratory program, and instrumentation distribution. Again, the differences were found to be minimal.
On the basis of twelve selected background and performance variables, it was concluded that the groups involved in this study were quite similar. (See Table 3 on page 66 for a statistical overview of comparisons made.)

Collection of Data: Instruments and Procedures

Two bases were chosen upon which to make a comparative evaluation of the two methods of instruction: post-program performance skills and post-program evaluations. In addition, evaluations were made of the treatment groups as a whole with respect to their full band performance at the end of the term of instruction.

The Test of Musical Performance Skills (TMPS) was developed by the writer for purposes of gathering data from each individual participant relative to his/her performance skills. This test, which was administered as both a pre-test and a post-test, was designed to measure (1) each subject's ability to perform musical exercises extracted from the melodic and harmonic passages rehearsed in full band settings of both treatment groups, and (2) subjective elements of performance (intonation, tone quality, musicianly feeling, embouchure, posture and playing position, and breathing and breath control) which
received instructional emphasis during the rehearsals of both treatment groups. The instrument possessed a reliability coefficient of .92 using the test-retest method. In addition, it yielded a validity coefficient of .84 using teacher evaluations of subject performance as comparison criteria. The test (i.e., the tapes and super 8 films) was scored by a panel of three professional music educators, with a grand score being determined for each subject by averaging the test scores assigned. (An interreliability coefficient of .93 was found to exist for the three scorers of the TMPS.)

The Evaluation of the Program Index (EPI), a twenty-item rating scale adapted from the "Attitude Toward School Music Scale" by Younkman, was administered to measure each student's attitude toward his/her experiences in the program of instruction which he/she attended. This instrument, which yielded an estimated odd-even reliability of .94, was administered to students collectively on their final day of attendance.

The final instrument used for making comparisons between the two populations was a devised adjudication form for evaluating full band performance. This form allowed for numerical ratings (1,2,3,4,5) as well as for
comments relative to the areas of tone, intonation, interpretation, and technique. Using this form, three licensed adjudicators evaluated the populations on the basis of recordings made at the final rehearsals. The ratings and comments were then synthesized by the writer.

Findings

Based on data obtained from the subjects who participated in the programs of instruction, various statistical and descriptive analyses were made. These analyses are related to the following areas: (1) a comparison of the treatment groups with respect to post-program performance skills; (2) a comparison of the groups with respect to program evaluations; (3) intercorrelations with respect to selected background and performance variables; (4) four multiple regression analyses relative to the contributive power of selected variables toward post-program indexes; and (5) evaluations of performance by the bands associated with the respective programs of instruction.
The Treatment Groups: A Comparison of Post-Program Performance Skills. — Using the post-Test of Musical Performance Skills (Post-TMPS) grand score obtained for each subject as criteria, a mean of 110.05 was found for students who attended the comprehensive program of instruction (Program A) while a mean of 118.60 was found for students who attended the performance-oriented program of instruction (Program B). A t-test was computed to determine whether or not this difference between the two populations was significant. The resultant coefficient was found to be not significant.¹

The Treatment Groups: A Comparison of Program Evaluations. — Using the combined scores of each respective population on the Evaluation of the Program Index (EPI) as criteria, a mean of 33.57 was found for students who attended the comprehensive program of instruction (Population A) while a mean of 85.35 was found for students who attended the performance-oriented program (Program B). A t-test was computed to determine whether or not this difference between the two means was significant. The resultant coefficient was found to be not significant (.05 level).²

¹Table 6 on page 79 presents a summary of these findings.

²Table 8 on page 81 presents a summary of these findings.
Intercorrelations Among Selected Background and Performances Variables.—Based on data obtained from subjects who attended the comprehensive program of instruction (Program A), correlations computed in the BMD02R program revealed that twenty-three pairs of variables (out of a possible total of ninety-one pairings) were found to be significantly related at the .05 level. Eight of these pairings were found to be highly related at the .001 level of confidence. These eight pairings included sight-reading ability/post-TMPS scores, pre-TMPS scores/post-TMPS scores, pre-TMPS scores/sight reading ability, years studied/attendance in the exploratory program, age/years studied, musicality/sight reading ability, attitude toward elementary school music/EPI, and musicality/socioeconomic status.  

With respect to data obtained from subjects who attended the performance-oriented program of instruction (Program B), twenty-nine pairs of variables (out of a total possible of ninety-one pairs) were found to correlate significantly at the .05 level. Of these pairings, ten were found to be highly correlated at the .001 level. These variable pairings included pre-TMPS scores/post-TMPS scores,  

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Table 9 on page 85 presents a summary of the paired variable coefficients for Population A.
pre-TMPS scores/sight reading ability, sight reading ability/post-TMPS scores, years studied/attendance in the exploratory program, pre-TMPS scores/attendance in the exploratory program, pre-TMPS scores/EPI, musicality/pre-TMPS scores, age/years studied, and musicality/post-TMPS scores.\textsuperscript{5}

Comparing the two sets of data, numerous variable pairings were found to be correlated at the .05 level for both populations. Six of these pairings were found to be highly correlated at the .001 level (both groups). These include (listed in order of highest to lowest correlation): pre-TMPS scores/post-TMPS scores, sight-reading ability/post-TMPS scores, pre-TMPS scores/sight reading ability, years studied/attendance in the exploratory program, attitude toward elementary school music/EPI, and age/years studied.

\textbf{Multiple Regression Analyses.--} Two multiple regression analyses were compiled by means of the BMD02R program for each population. One sought to determine which variables or combination of variables in the group of twelve selected independent variables made a significant contribution to

\textsuperscript{5}Table 11 on page 89 presents a summary of the paired variable coefficients for Population B.
post-program performance skills. The other sought to
determine the contribution made with respect to the
evaluation-of-the-program indexes.

With respect to the first analyses, the following
variables were found to be significant contributors to
post-program performance skills for subjects who partici­
pated in the comprehensive program of instruction: sight­
reading ability (73%), pre-TMPS scores (5%), and chrono­
logical age (1%). In somewhat similar findings, the vari­
ables of pre-TMPS scores (68%), sight reading ability (4%),
piano experience (1%) and private lessons (1%) were found
to be significant contributors of post-program performance
skills for subjects who participated in the performance­
oriented program. Additional multiple correlation results
indicated that the variables of attendance, number of
years studied on chosen band instrument, musicality, atti­
tude toward elementary school music, sex, participation
in the exploratory program, socioeconomic status, and
evaluation of the program of participation were not signi­
ficant contributors to post-program performance skills for
either method of instruction.

With respect to the second analyses, the following
variables were found to be significant contributors of
program evaluation indexes for subjects of Program A:
attitude toward elementary school music (20%), attendance (8%), sex (4%), piano experience (1%), and participation in the exploratory program (1%). In somewhat similar fashion, the variables of attitude toward elementary school music (25%), attendance (6%), and piano experience (2%) were found to be significant contributors of program evaluation indexes for participants of Program B. However, the variables of sex and participation in the exploratory program were found to be significant contributors for program evaluations with respect to the comprehensive program of instruction only (4% and 1% respectively). In similar fashion, the variable of piano experience was found to be contributing significantly to the program evaluations with respect to the performance-oriented participants (5%) but not with respect to the comprehensive program participants (less than 1%).

Evaluation of Full Band Performances.-- Using a rating scale of 1 - 5 (1 being "outstanding," 5 being "very poor"), the performance-oriented group was rated by a panel of three selected adjudicators as 2.53 while the comprehensive group was rated 2.66 with respect to overall full band performance (as heard on recorded tapes). The panel felt that the performance-oriented group
performed slightly better than did the comprehensive group on the folk tune medley and on the popular musical selection; however, they viewed the performance of the comprehensive group to be slightly better on the 3/4 time march-like selection. Both groups received an equal mean rating on the baroque court music selection.\textsuperscript{6}

With respect to general comments, it appears that while both groups possessed similar performance problems (e.g., failure to consistently observe musical nuance markings, failure to center the tone, tendency to play note-to-note rather than in phrases), the band associated with the performance-oriented program received fewer negative criticisms and more positive comments overall than did the band associated with the comprehensive program of instruction.

**Conclusions**

On the basis of the findings reported above, the following conclusions can be made.

\textsuperscript{6}Table 17 on page 101 lists the assigned numerical ratings for the band associated with Program A. Table 18 on page 102 lists the assigned numerical ratings for the band associated with Program B.
No. 1.— Students who attended the performance-oriented program (Program B) in which the full band selections were rehearsed for 75% of the instructional time did not perform significantly better (.05 level) on the post-Test of Musical Performance Skills than students who attended the comprehensive program (Program A) in which the full band selections were rehearsed 50% of the instructional time. The resultant difference between the post-TMPS means of the two populations was four per cent, in favor of Population B.

No. 2.— Students who participated in the performance-oriented program, which involved ensemble participation and marching as well as full band rehearsals, did not evaluate their experiences significantly different (.05 level) than students who participated in the comprehensive program, which involved various learning activities related to the music rehearsed. The resultant difference between the means of the Evaluation of the Program Index for the two populations was two per cent, in favor of Population B.

No. 3.— Pairings among selected background and performance variables found to be related (.05 level of confidence) and highly related (.001 level) for subjects
of Program A were, in many cases, the same variable pairings found to be related (.05) and highly related (.001) for subjects of Program B. Examples of those pairings found to be highly related for both populations (listed in an order of highest correlation to lowest) are: (1) pre-TMPS scores/post-TMPS scores, (2) sight-reading ability/post-TMPS scores, (3) pre-TMPS scores/sight reading ability, (4) years studied/attendance in the exploratory program, (5) attitude toward elementary school music/EPI, and (6) age/years studied.

No. 4. — With respect to the multiple regression analyses conducted, the following can be concluded:

a. The variables sight reading ability and pre-program test of musical performance skills were significant contributors to post-program performance scores for both populations.

b. The variable attitude toward elementary school music was the only significant contributor to evaluation-of-the-program indexes for both populations.

c. Eight variables—attendance, number of years studied, musicality, attitude toward elementary school music, sex, attendance in the exploratory program, socioeconomic status, and evaluation-of-the-program indexes—contributed little if anything to the post-program performance skill scores of either population.
d. Seven variables—chronological age, number of years studied, musicality, sight reading ability, private lessons, socioeconomic status, and post-TMPS scores—contributed little if anything to the evaluation-of-the-program indexes of either population.

No. 5.—On the basis of assigned ratings and comments by a panel of adjudicators, the band associated with the performance-oriented approach (Program B) performed slightly better in most respects than the band associated with the comprehensive instructional approach (Program A).

Implications

The following implications are formulated on the basis of the findings and conclusions of this study and in consideration of the limitations of the investigation.

No. 1.—The results of the comparison involving post-program test of musical performance skills (Post-TMPS) do not necessarily substantiate the often heard tenet that reducing the amount of rehearsal time in order to incorporate instruction in related learning activities will result in poorer performance. Some amount of
individual performance accuracy (4%) resulted in this investigation, probably as a result of the 33% difference in the amount of time alloted for full band rehearsal; however, the amount of this difference was not found to be significant statistically speaking.

No. 2.-- Middle school aged students do not necessarily prefer a performance-oriented approach to band instruction any more or less than a comprehensive approach. While students' reactions tend to favor the performance-oriented method slightly more (2%) than the comprehensive method, the degree of this difference was not found to be significant, statistically speaking. It is therefore realistic to assume that students will be receptive to instruction which includes the study of music as well as its performance, providing that the content of such instruction is challenging and of high interest.

No. 3.-- The intercorrelation analyses conducted in this study with respect to a group of selected background and performance variables indicate that the performance variable pairings highly related (.75 or more correlation) for subjects of population A (viz., pre-TMPS scores/post-TMPS scores, sight reading ability/
post-TMPS scores, pre-TMPS scores/sight-reading ability) are the same performance variable pairings highly related for subjects of Population B. This finding would seem to imply that the pre-program, sight reading, and post-program performance skills of middle school aged band students are highly related, regardless of the type of instructional program in which they participate.

No. 4.— The finding that the independent variables of sight reading ability and pre-program test of musical performance scores made significant contributions to post-program performance scores for both populations is not surprising, since the same music was rehearsed in full band settings by both treatment groups. Likewise, the finding that the variable attitude toward elementary school music is a significant contributor of evaluation-of-the-program indexes with respect to both methods of band instruction used in this study is not surprising, since the aspects being measured (elementary vocal music experiences and middle school instrumental experiences) are similar. However, the complementary finding that the independent variables of age, number of years studied, musicality, and socioeconomic status made little or no contribution to either post-program performance skills
or evaluation-of-the-program indexes with respect to both populations is surprising. Instrumental music teachers have been known to view many of these variables as powerful contributors of success and interest. However, it appears that their validity as significant contributors is open to question.

**No. 5.**—The finding that the band associated with the performance-oriented program of instruction played somewhat better than did the band associated with the comprehensive program substantiates, to a limited extent, the tenet discussed in implication number one—viz., reducing the amount of rehearsal time in order to incorporate instruction in related activities will result in poorer performance. Ample time appears to be needed to mould the sounds of individual performers into a unified ensemble sound. However, it would appear that the advantages gained through participating in the comprehensive program, viz., the imparting of related information and understandings relative to the art of music in general, the music being rehearsed in particular, far outweigh the small losses incurred in group performance technique and sound as a result of decreasing the amount of full band rehearsal time.
Discussion

The findings and conclusions of this study present much food for thought in connection with the current desire to implement better materials and procedures relative to effective curricula in instrumental music education. Both of the middle school programs of band instruction designed and implemented for this study were "liked" by their participants and both facilitated the development of performance skills. While emphasis in one was placed on the acquisition of related learnings and cognitive understandings and emphasis in the other was placed on the perfection of group and individual performance skills, neither of the methods of instruction proved to be significantly superior with respect to post-program performance skills nor program evaluations. It therefore appears that the argument over which method of instruction is better—a comprehensive approach or a performance-oriented approach—is not a simple "either-or" issue; rather, it is a complex matter of degree.

Recommendations for Further Research

The findings, conclusions, and implications of this study are based on a comparative study of two middle school programs of limited instruction time (thirty hours). It
would be beneficial to extend the programs of instruction to a three year course of instruction (e.g., grades 6-8) to discover which method is more effective with respect to an extended period of time. It would also be interesting to explore the effects of the two methods of instruction with respect to post-program scores on a standardized measure of cognitive knowledges and understandings relative to the content inherent in band instruction curricula. Finally, it seems that some explorations should be made concerning the evaluations of parents and administrators relative to the two methods of instruction implemented in this study in order to gain additional insights to their feasibility and relative values.
APPENDICES
Sample materials used exclusively in the mini-classes of Program A
I. Name the two categories (types) of music and give a musical example of each.
   a. P___________________: _____________________________
   b. A___________________: _____________________________

II. Name the four elements of music and give a definition of each.
   a. P____________________: _____________________________
   b. D____________________: _____________________________
   c. V____________________: _____________________________
   d. T____________________: _____________________________

III. Name the four composer's tools.
   a. M____________________ c. H____________________
   b. R____________________ d. F____________________

IV. Short answer questions

Moderately bright

1. The title of this melody is ____________________.
2. The composer was ____________________.
3. a. The entire length of the melody is ____ measures.
    b. The first half may be labeled the ____________.
    c. The second half may be labeled the ____________.
    d. A _____________ brings the melody to a close.
4. The tonal center for this melody is ____________.
### THE CATEGORIES, ELEMENTS, AND TOOLS OF MUSIC

<table>
<thead>
<tr>
<th>ACROSS</th>
<th>DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TYPE: Music which has a story or &quot;extramusical&quot; idea</td>
<td>1. ELEMENT: Highness or lowness of a tone</td>
</tr>
<tr>
<td>2. ELEMENT: The loudness or softness of sound</td>
<td>2. ELEMENT: The loudness or softness of sound</td>
</tr>
<tr>
<td>3. ELEMENT: The length of a tone (short, long)</td>
<td>3. ELEMENT: The length of a tone (short, long)</td>
</tr>
<tr>
<td>4. TYPE: Music based on purely musical procedures and ideas</td>
<td>4. TYPE: Music based on purely musical procedures and ideas</td>
</tr>
<tr>
<td>5. TOOL: The relative duration of sounds and rests</td>
<td>5. TOOL: The relative duration of sounds and rests</td>
</tr>
</tbody>
</table>

* BONUS: Something which is needed to purchase a record or musical instrument

**NAME**
I. Answer the following questions concerning the composition "Abdul the Bulbul Ameer."

1. Write out the main melody of this work. (Use the key in which you perform the melody on your instrument.)

______________________________________________________________________________________________________________________________________________________________________________________

2. What is the "form" of this work? ______________________

3. To what "categories" of music does this work belong?
   a. ___ Program Music  b. ___ Mild Rock
      ___ Absolute Music  ___ Hard Rock
      ___ Country/Western  ___ Folk
      ___ Classical  ___ Jazz
      ___ Soul  ___ Religious

4. Name three reasons why this music reached the "market."
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________
1. Name four basic categories of "popular music."
   a. ___________________________ c. ___________________________
   b. ___________________________ d. ___________________________

2. Name three recent hits (and the group which recorded them)
   a. ___________________________ (____________________________)
   b. ___________________________ (____________________________)
   c. ___________________________ (____________________________)

3. Define and give an example of the following:
   a. Lyricist: ____________________ (___________________)
   b. Composer: ______________________ (___________________)
   c. Recording Company: ___________________ (____________)

4. Define "folk song" and give three examples: ____________

          __________________________
   a. ___________ b. ___________ c. ___________

5. What instruments are responsible for maintaining the rhythm in a group?

          __________________________

6. Give three basic reasons why a tune becomes a hit.
   a. ___________ b. ___________ c. ___________

7. Name a radio station which programs the following categories of music:

          ___________ Rock ___________ Religious ________ C/W
          ___________ Soul ___________ Classical ________ Folk

8. Define the role of the disc jockey: __________________________
          __________________________
THEORY WORKSHEET: NOTE AND REST VALUES

1. a) On the first line below the staff, write the name of each note of the melody "Land of the Silver Birch."
   b) On the second line, write the number of beats which each note would receive if the melody were in 4/4 time.
   c) On the third line, write the time values for each note if the melody were in cut (alle breve) time.

   a) ______________________
   b) ______________________
   c) ______________________

2. On the staff below, write out the melody "Land of the Silver Birch" in augmentation.

   ______________________
   ______________________
   ______________________

3. Below is the melody "Abdul the Bulbul Ameer." On the staff below it, write this melody in diminution.

   [Musical notation]

   ______________________
   ______________________
   ______________________
THEORY WORKSHEET

1. a. Name the circled intervals in the tune "In the Evening by the Moonlight."
   
   b. How many phrases are in this melody? Are they similar? Are they different?

2. a. Fill in the missing notes in the melody "Comin' Round the Mountain."
   
   b. Write the rhythmic counts beneath the notes.

3. Write the melody "Chant" (first half) one octave above the given notes.
ELECTRONIC PIANO CLASS: PRACTICE EXERCISES

1. RIGHT HAND
   ![Right Hand Exercices]

2. SKIPS
   ![Skips Exercices]

3. LEFT HAND
   ![Left Hand Exercices]

4. SKIPS
   ![Skips Exercices]

5. LAND OF THE SILVER BIRCH
   ![Land of the Silver Birch]

6. MATCH MATES
   ![Match Mates]

7. ABDUL THE BULBUL AMEER
   ![Abdul the Bulbul Ameer]
WORKSHEET: FUNDAMENTALS OF POPULAR MUSIC

1. Name four basic categories of "popular music."
   a. ____________________
   b. ____________________
   c. ____________________
   d. ____________________

2. Name three recent hits (and their recording group)
   a. ____________________ (__________________________)
   b. ____________________ (__________________________)
   c. ____________________ (__________________________)

3. Define and give an example of the following:
   a. Lyricist: ____________________ (__________________)
   b. Composer: ____________________ (__________________)
   c. Recording Company: ______________ (___________)

4. Define "folk song" and give three examples: ______

   a. ______________  b. ______________  c. ______________

5. What instruments are responsible for maintaining the rhythm in a jazz/rock group?

6. Give three reasons why a tune becomes a hit.
   a. ______________  b. ______________  c. ______________

7. Name a radio station which programs the following categories of music:
   ___________ Rock ___________ Religious _____ C/W
   ___________ Soul ___________ Classical _____ Folk

8. Define the role of the disc jockey. ______________
WORKSHEET: MUSIC THEORY

1. Below is the melody "Abdul the Bulbul Ameer."
   a. Place a circle around the pick-up note(s)
   b. Draw the barlines in the music
   c. Under the melody, write in the rhythmic counts

2. Below is the melody "Land of the Silver Birch."
   a. On the first line below the staff, write the name of each note of the melody
   b. On the second line, write the number of beats which each note would receive if the melody were in 4/4 time
   c. On the third line, write the time values for each note if the melody were in cut (alle breve) time
1. Construct the "Concert B-flat" scale (ascending whole notes) which we use for warm-up purposes in band. (Use the clef and starting pitch required by your instrument.)


2. Fill-in: Show Answer
   
a. A "whole-step" may be defined as ______ ________.
b. Two examples of an "accidental" are the ______ ( ) and the _________ ( )
c. A triad consists of ___ notes.
d. The roman numerals used to indicate the three primary chords are ____, ____, and ____.

3. Label the chords where indicated. (Tune: "In the Evening by the Moonlight.")

4. a. The top line (top staff) is called the _______.
b. The chords on the bottom staff constitute the _____ ______________.
WORKSHEET: MUSIC THEORY

I. MATCHING (Tune: "John Jacob Jingleheimer Schmidt")

1. [Music notation]
2. [Music notation]
3. [Music notation]
4. [Music notation]
5. [Music notation]
6. Staccato marking
7. Dynamic indication
8. Breath mark
9. Crescendo
10. Time signature
11. Decrescendo
12. Repeat
13. Key signature
14. Slow down
15. Metronomic marking

II. MULTIPLE CHOICE

1. Which marking best indicates the manner in which the melody "Chant" should be played? a) Marcato b) Legato c) Staccato d) Rockato

2. Which dynamic marking would be best for playing the tune "Everything Is Beautiful?" a) mf b) pp c) ff d) Blastissimo

3. The last measures of "Land of the Silver Birch" have what kind of marking? a) Crescendo b) Decrescendo c) Ritardando d) Accelerando

4. Which of the following is the correct order of dynamics (softest to loudest)? a) mp mf pp ff p f b) ff f mf mp p pp c) p pp mp f ff mf d) pp p mp mf f ff
APPENDIX B

Sample materials used exclusively in the mini-classes of Program B
1. **PARADE REST:**

   Band: Say (in time): "One, Two!"
   
   One: Left foot moves sideways (1 foot)
   
   Two: Left arm is brought up behind back; no talking.

2. **AT EASE:**

   Band: Band members relax; right foot remains in place; soft talking is permitted.

3. **LEFT FACE:**

   Band: Say (in time): "One, Two!"
   
   One: Right foot forward/pivot left
   
   Two: Drop left foot

4. **RIGHT FACE:**

   Band: Say (in time): "One, Two!"
   
   One: Left foot forward/pivot right
   
   Two: Drop right foot

5. **CENTER FACE**

   Band: Execute a left face;
   
   Band: Execute a right face
   
   Everyone should be facing same direction upon execution

6. **ABOUT FACE:**

   Band: Say (in time): "One, Two, Three, Four!"
   
   One: Place right foot forward; point toe
   
   Two: Cross right foot over left foot, touching toe to the ground
   
   Three: Pivot to the rear by starting pivot on both toes and turning body to left; complete turn and raise left foot
   
   Four: Drop left foot
WHISTLE COMMANDS

1. CALL TO ATTENTION
   Band: Say "One, Two, Three!"
   D.M. 1 long, pause,
       1 long, 2 short
   One: Tap left foot
   Two: King right foot out
   Three: Bring foot back so feet are together.
   Body erect; no talking

2. START CADENCE: MARK TIME
   Band: Mark time (starting with left foot), keeping same tempo as set by 4 short whistles
   D.M. 1 long, pause,
       4 short
   No baton signal

3. FORWARD MARCH WHILE MARKING TIME
   Band: Move forward on first left after whistles; step off together; march 8 steps to 5 yards
   D.M. 1 long, 1 short
       Baton, pointing forward, jabs forward on short whistle

4. FORWARD MARCH WHILE STANDING STILL
   Band: Move forward on first left after whistle; step off together; always march 8 to 5; guide right.
   D.M. 1 long, 4 short
       Baton, point forward, jabs forward on each short whistle

5. STOP FORWARD MOTION
   Band: Continue marching forward until short execution whistle, then begin M.T. (Cadence continues)
   D.M. (Facing band)
       1 long (preparatory)
       1 short (execution)
       Baton is held horizontally; push baton toward band on execution whistle

6. STOP
   Band: Continue marching (or marking time) until 3 short whistles; after 3rd whistle take one final right and stop. (Cadence stops)
   D.M. (Facing band)
       1 long (preparatory)
       3 short (L-R-L)
       Drop baton to waist on 3rd whistle
I. BASIC\N

TO-THE-REAR (TTR) - Pivot 180° on right foot (count 8).

Note: A TTR is done on the line, so that the next left will be off the line.

MARK TIME (MT) - March (L-R-L-R) but do not go forward.

RIGHT PINWHEEL (RP) - (8, 16, 24, 32) Pivot on man on the right side. Maintain spacing.

LEFT PINWHEEL (LP) - (8, 16, 24, 32) Pivot on man on the left side. Maintain spacing.

RIGHT FLANK (RF) - Pivot left 270° on the right foot.

LEFT FLANK (LF) - Pivot left 90° on the right foot.

II. SLANT LEFT

SLANT RIGHT

PICK-UP

STACK-UP

Move and Mark Time according to directions.

III. BOWS

X-JUMP - Legs out/arms out

RIPPLE BOW - Bow 90° rapidly in sequence

DOUBLE BOW - See demonstration

IV. MISCELLANEOUS

Skinnie Minnie

Peanut

Hot Dog
ADJUDICATION FORM

MUSICAL SELECTION _______________________________________________________

COMPOSER (or arranger) __________________________________________________

Ratings: + Above Average  II Excellent
         +/- Average      Final Ratings: III Good
         - Below Average  IV Fair

___ Tone Quality     ___ Correct Notes
___ Blend and Balance ___ Correct Rhythms
___ Dynamics         ___ Watching the Conductor
___ Articulation     ___ Appearance (posture)

FINAL RATING

Signature

Additional comments (weaknesses):

Additional comments (strengths):

Suggestions for improvement:
Supplementary information on four instruments used to collect data
A Test of Musicality

A standardized test by E. Thayer Gaston, this instrument measures students' awareness of tonal-rhythmic configurations and his response thereto. Less than thirty minutes in length, the test is administered to students collectively. A reliability coefficient of .88 for grades four, five, and six was determined to exist. In addition, the .103 probability level evidenced at grades four-five-six indicates that there is a definite association between teaching rating of pupils' musical personality and the pupils' musicality scores.

Watkins-Farnum Performance Scale (Form A)

An objective test of performance by John Watkins and Stephen Farnum, this instrument measures the sight-reading ability of students who play band instruments. This achievement test contains fourteen exercises which range from easy to difficult. The test measures playing accuracy with respect to pitch, rhythm, change of time, expression, slurs, rests, holds and pauses, and repeats. A reliability of .87 was found to exist between Form A and Form B of the Performance Scale. Validity correlation coefficients between students' scores on the Performance Scale and teachers' judgment rankings of students' technical ability and musicianly performance range from .68 on the snare drum test to .87 on the cornet and trumpet test.

Attitude Toward School Music Scale

A twenty-item attitude rating scale constructed by Geraldine Younkman, this test measures students' attitudes

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1E. Thayer Gaston, A Test of Musicality (Lawrence, Kansas: Odell's Instrumental Service, 1957).


3Geraldine Younkman, "A Pilot Study: Comparison of the Attitudes of Selected Public School Seventh Grade Students at Two Socioeconomic Levels Toward Within-classroom Music in Grades One Through Six" (unpublished master's thesis: Ohio State University, 1964).
(positive-negative) toward within-classroom music at the elementary level. The scale, which includes ten positive and ten negative items, arranged in random order, is administered collectively to students. Designed for usage with vocal students, the scale was modified slightly for usage by instrumental music students. The reliability coefficient of the instrument as determined by Younkman was found to be .95 when tested by the split-half method.

**Status Level of Workers**

Developed by Nam and Powers, this instrument lists numerous occupational titles, each with an assigned numerical index of socioeconomic status. Each student who participated in the comparative study thus received a socioeconomic status index based on his supporting parent's occupational title.

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APPENDIX D

TEST OF MUSICAL PERFORMANCE SKILLS (TMPS)

by

Richard A. Parker
The Test of Musical Performance Skills (TMPS) is an achievement test designed to measure the performance skills of middle school aged musicians who play band instruments. Test exercises have been scored for nine instruments: flute, oboe, clarinet, alto saxophone, bass clarinet (including tenor sax and baritone treble clef), cornet (trumpet), french horn, trombone (including bassoon and baritone bass clef), and snare drum.

The test proper, which is to be administered to students on an individual basis in a tape recorded session, consists of twelve exercises (170 measures) which have been extracted from warm-up scale routines and specially arranged instrumental passages from four selected compositions:

1) Chant, a Renaissance chorale by Palestrina.

2) Abdul the Bulbul Ameer, a 3/4 march-like selection by French.

3) Everything Is Beautiful, a popular selection by Stevens.

4) Campfire Suite, a medley of four folksongs.

The exercises contain both melodic parts (75% of the exercises) and harmonic/rhythmic accompanimental parts (25% of the exercises). They are not necessarily arranged in an order from easiest to most difficult. Rather, they are arranged selectively in a series. This series of exercises is designed to measure the performer's playing skills with respect to notes (35% of the total score value), rhythm (30%), musical markings (15%), and tempo (5%).

*The four musical selections upon which the TMPS is based were rearranged by the writer in order to incorporate within each part the same melodic and harmonic/rhythmic lines contained in the TMPS.
In addition, the TMPS incorporates an evaluation of the performer's breathing, intonation, tonal quality, musicianly feeling, embouchure, and playing position. These factors, which constitute 15% of the test, are to be evaluated on bases of the audio-tape and visual movie films (either super 8 or closed circuit television) taken at the onset of the testing situation of each student.

**DIRECTIONS FOR ADMINISTERING THE TMPS**

The test administrator shall instruct the student to perform exercise number one. As this exercise is being played (but not recorded), the administrator (or an outside photographer) shall film the performer in order to obtain visual proof of playing position, posture, and embouchure. It is recommended that the photographer stand approximately six feet from the performer; all aspects can be photographed by using a 5 to 1 zoom.

The test administrator shall then turn on the tape recorder and proceed to administer and record the complete TMPS. (The length of the test is approximately fifteen minutes. It is recommended that a 3 3/4 tape speed be used.) The following guidelines should be observed.

1) The metronome is to be used to determine the beginning tempo for each exercise. (Exception: exercises nine and ten have no metromic indication; the test administrator should provide the player with a "moderately bright" 4/4 beat for each of these exercises.) The administrator will count two full measures (four measures in fast cut-time exercises) in the appropriate tempo, after which the student should begin playing. The metronome is to continue for one measure and one beat (two measures and one beat in fast cut-time exercises) before being stopped.

2) A pause of no more than twenty seconds is to exist between exercises. During this pause, the student is to be informed of the following with respect to the upcoming exercises: the time signature, how many lines the exercise has, and the general tempo (slow, medium fast, fast, etc.). No additional help is to be provided, even if requested.
3) All students with the exception of drum players are to be seated while taking the test. Each player is to be permitted to attempt each of the twelve exercises.

4) At the conclusion of the testing situation, the name of the player should be verbalized after which the tape recorder can be turned off.

**DIRECTIONS FOR SCORING THE TMPS**

Using the score sheet provided and a mimeographed copy of the player's part, the scorer shall evaluate the various factors and exercises as instructed.

Part I lists six facets, each of which is worth from 0 to 5 points. The higher the rating, the more points awarded. "Embouchure" and "Posture and Playing Position" are to be evaluated on the basis of the visual films. "Intonation," "Tonal Quality," and "Musicianly Feeling" are to be evaluated on the basis of general impressions received from the tape recorded sounds. "Breathing and Breath Control" (or the substituted "Roll Evenness and Roll Control" for snare drum) is to be evaluated on the basis of reactions received from both the film and the tape.

Part II lists the nine exercises. Each is worth a certain amount of points. The measure is the scoring unit. A measure should be marked incorrect by drawing a slash through it if any of the following error types occur:

1) Pitch (added tones, omitted tones, wrong tones).

2) Rhythm (wrong rhythms, incorrect note lengths, failure to observe holds or rests).

3) Musical markings (failure to observe dynamics, crescendoes, decrescendoes, breath marks, accelerando, ritards, accents, sfzorandoes, slurs, and repeats).

*If a dynamic error is made, limit error markings (slashes) to the first measure which contains the volume level indication.
Only one mistake per measure is to be given. The exercise which contains a repeat may have two slashes over a measure if the player make an error both time through. If the performer makes a pitch error and a rhythmic error (or musical marking error) all within the same measure, only one error is to be marked.

If a tempo error is made, a slash should be drawn through the M.M. marking. Tempo errors are of two kinds: a marked slowing down or a marked speeding up.

Note: If a player begins an exercise in 4/4 time which should be in alla breve time (exercises five and/or six), the scorer should mark two measurers as incorrect (and not all of the measures in the exercise). This rule also applies to exercises in 4/4 time which are played in alla breve time.

**TABULATING THE SCORE**

For each of the six factors in Part I, indicate the number of points awarded for each respective item on the appropriate blanks. (Use the 0-5 point scale.)

For each of the nine exercises in Part II, total the number of error marks (slashes) and subtract this figure from the total possible score. Place the numerical difference in the appropriate blank on the answer sheet.

Add the column of numbers on the score sheet. The highest possible score is 200 points. Place the score total in the appropriate box.
164

SCORE SHEET (TMPS)

NAME __________________________ GRADE ___________

INSTRUMENT __________________ DIVISION ___ M/Th ___ T/F

PART I. GENERALITIES (Film, tape)

___ (5) 1. Embouchure
___ (5) 2. Posture and Playing Position
___ (5) 3. Breathing and Breath Control*
___ (5) 4. Intonation
___ (5) 5. Tonal Quality
___ (5) 6. Musicianly Feeling

TOTAL

PART II. EXERCISES (Tape)

___ (8) 1. Ascending Concert Bb Scale (Unison whole notes)
___ (8) 2. Descending Concert Bb Scale (Rhythmic drill)
___ (13) 3. "Chant" (melody part: phrase a)
___ (19) 4. "Chant" (harmony part: phrase b)
___ (8) 5. "Land of the Silver Birch" (rhythmic part)
___ (12) 6. "Land of the Silver Birch" (melody)
___ (15) 7. "In the Evening by the Moonlight" (mel. & har.)
___ (16) 8. "Abdul the Bulbul Ameer" (melody)
___ (8) 9. "Everything Is Beautiful" (harmony part)
___ (16) 10. "Everything Is Beautiful" (melody)
___ (16) 11. "Comin' Round the Mountain" (melody)
___ (31) 12. "John Jacob Jingleheimer Schmidt" (melody & var.)

*Substitute "Evenness and Roll Control" for drum part
TEST OF MUSICAL PERFORMANCE SKILLS
TEST OF MUSICAL PERFORMANCE SKILLS

1

2

3

4

5

6

7
APPENDIX E

EVALUATION OF THE PROGRAM INDEX (EPI)
THE WAY I FEEL ABOUT THE 1971 SUMMER MUSIC SCHOOL

This is not a test. There are no wrong answers. The right answer is the way you feel about the 1971 Summer Music School which you have just attended. Answer as instructed. You need not sign your name.

FIVE POSSIBLE ANSWERS

There are five possible answers to each of the questions. Choose the one answer that is right for you. The five possible answers are:

STRONGLY AGREE - SA
AGREE - A
UNDECIDED - U
DISAGREE - D
STRONGLY DISAGREE - SD

If you feel very strongly that a statement is right, draw a slash through SA for STRONGLY AGREE.  $\backslash A$

If you feel that a statement is right, draw a slash through A for AGREE.  $\backslash A$

If you are not sure how you feel, draw a slash through U for UNDECIDED.  $\backslash U$

If you feel that a statement is wrong, draw a slash through D for DISAGREE.  $\backslash D$

If you feel very strongly that a statement is wrong, draw a slash through SD for STRONGLY DISAGREE.  $\backslash SD$

LET'S TRY SOME EXAMPLES

a. Sixth grade students should have nine hours of sleep every night . . . . . . . . . . SA A U D SD

b. I like to eat popcorn . . . . . . . . . . . . . . . SA A U D SD

c. We should have warm weather all year round . SA A U D SD

NOW WE'RE READY TO BEGIN
EVALUATION OF THE PROGRAM INDEX (EPI)

1. Attending the 1971 Summer Music School took up a lot of time I could have used better studying something else
2. I loved the 1971 Summer Music School
3. The 1971 Summer Music School was boring
4. Attending the 1971 Summer Music School made me feel happy and gay
5. I did not enjoy playing the songs
6. The 1971 Summer Music School was foolish
7. I think that we should have more programs like the 1971 Summer Music School made available to us in our regular schools
8. Attending the 1971 Summer Music School was my least favorite activity during the summer
9. I hope that we can have more musical experiences like the 1971 Summer Music School in the coming years
10. I think the time we spent in the 1971 Summer Music School was wasted
11. The musical experiences I had while attending the 1971 Summer Music School were fun
12. After six weeks in the 1971 Summer Music School, I surely don't want any more of it
13. What I remember about the 1971 Summer Music School is good and I liked it very much
14. I enjoyed the music classes in the 1971 Summer Music School
15. I thought having the 1971 Summer Music School was a terrible idea
16. I liked the musical experiences I had in the 1971 Summer Music School very much. . . . SA A U D SD

17. I did not like to play my instrument in the 1971 Summer Music School. . . . . . . . . . . SA A U D SD

18. The 1971 Summer Music School has made me want to play my instrument more when I am not at the school. . . . . . . . . . SA A U D SD

19. The musical experiences I had in the 1971 Summer Music School have been very worthwhile. . . . . . . . . . . . . . . . . SA A U D SD

20. I hated the 1971 Summer Music School. . . . . . . . . . . . . . . . . . . . SA A U D SD
APPENDIX F

ADJUDICATORS COMMENT SHEET
ADJUDICATOR'S COMMENT SHEET - FULL BAND

TONE
Quality
Control
Blend
Balance

INTONATION
Individual
Ensemble

INTERPRETATION
Tempo
Phrasing
Expression
Style
Dynamic Levels

TECHNIQUE
Facility
Articulation
Breath Support
Rhythmic Accuracy
Precision

ADDITIONAL COMMENTS

Rating: I II III IV V
(One rating for each selection)  Judge's Signature
APPENDIX G

COMPOSITE INDEX OF SCORES:
PERFORMANCE AND BACKGROUND VARIABLES
### Composite Index of Scores: Performance and Background Variables

(Population A Continued)

<table>
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<p>| 28      | 17  | 112.0| 117.7  | 5.7       | 30   | 85   | 82    | 11.5  | 1.0  | 75   | -    | -     | -   | -    |
| 29      | 21  | 157.7| 66.3   | 10.6      | 17   | 1.9  | 1.7   | 11.0  | 0.5  | 10   | -    | -     | -   | -    |
| 30      | 01  | 19.0 | 21.0   | 2.0       | 19   | 69   | 83    | 11.5  | 0.5  | 16   | -    | -     | -   | -    |
| 31      | 56  | 113.7| 167.0  | 53.3      | 18   | 71   | 81    | 12.0  | 0.5  | 63   | +    | +     | -   | -    |
| 32      | 31  | 72.7 | 125.0  | 52.3      | 28   | 75   | 85    | 11.0  | 0.5  | 62   | +    | +     | -   | -    |
| 33      | 30  | 60.3 | 95.7   | 36.4      | 35   | 69   | 65    | 12.0  | 2.0  | 65   | -    | -     | -   | -    |
| 34      | 31  | 85.7 | 113.0  | 27.3      | 29   | 80   | 87    | 12.5  | 2.0  | 64   | -    | -     | -   | -    |
| 35      | 30  | 91.3 | 96.7   | 36.1      | 33   | 82   | 81    | 11.0  | 0.5  | 33   | -    | -     | -   | -    |
| 36      | 19  | 60.3 | 85.7   | 25.0      | 29   | 82   | 87    | 11.0  | 1.0  | 60   | -    | -     | -   | -    |
| 37      | 12  | 39.3 | 51.7   | 22.4      | 39   | 91   | 87    | 10.5  | 1.0  | 85   | -    | -     | -   | -    |
| 38      | 51  | 97.3 | 126.0  | 28.7      | 33   | 89   | 72    | 11.0  | 1.0  | 69   | +    | +     | -   | -    |
| 39      | 18  | 100.0| 63.0   | 23.0      | 27   | 89   | 86    | 12.0  | 0.5  | 58   | +    | +     | -   | -    |
| 40      | 31  | 109.3| 116.7  | 33.4      | 15   | 67   | 61    | 11.5  | 2.0  | 96   | +    | +     | -   | -    |
| 41      | 13  | 65.3 | 96.7   | 11.4      | 38   | 100  | 78    | 11.0  | 1.0  | 16   | +    | +     | -   | -    |
| 42      | 11  | 67.0 | 129.0  | 62.0      | 29   | 100  | 94    | 10.5  | 1.0  | 78   | +    | +     | -   | -    |
| 43      | 21  | 91.0 | 98.7   | 7.7       | 13   | 79   | 88    | 11.5  | 2.0  | 98   | +    | +     | -   | -    |
| 44      | 31  | 69.0 | 131.0  | 60.0      | 38   | 67   | 85    | 11.0  | 0.5  | 90   | +    | +     | -   | -    |
| 45      | 51  | 63.0 | 151.3  | 68.3      | 32   | 77   | 77    | 11.0  | 1.0  | 35   | +    | +     | -   | -    |
| 46      | 35  | 91.3 | 112.3  | 21.0      | 14   | 77   | 76    | 11.5  | 1.0  | 59   | +    | +     | -   | -    |
| 47      | 31  | 116.0| 137.7  | 21.7      | 29   | 91   | 96    | 12.0  | 2.0  | 65   | +    | +     | -   | -    |
| 48      | 31  | 72.3 | 129.7  | 57.4      | 14   | 90   | 83    | 12.0  | 3.0  | 72   | +    | +     | -   | -    |
| 49      | 16  | 76.0 | 120.0  | 44.0      | 32   | 91   | 78    | 11.5  | 1.5  | 59   | +    | +     | -   | -    |
| 50      | 31  | 19.3 | 15.3   | 26.0      | 23   | 89   | 88    | 11.0  | 0.5  | 63   | +    | +     | -   | -    |
| 51      | 23  | 55.3 | 100.7  | 45.4      | 31   | 90   | 84    | 11.0  | 1.0  | 31   | +    | +     | -   | -    |
| 52      | 21  | 28.3 | 115.0  | 56.7      | 21   | 97   | 98    | 12.0  | 1.0  | 36   | +    | +     | -   | -    |
| 53      | 45  | 76.7 | 175.0  | 108.3     | 33   | 96   | 83    | 11.0  | 1.0  | 68   | -    | -     | -   | -    |
| 54      | 35  | 57.7 | 58.7   | 23.0      | 32   | 86   | 90    | 11.5  | 2.0  | 75   | -    | -     | -   | -    |</p>
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BIBLIOGRAPHY
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A. BOOKS


B. ARTICLES AND PERIODICALS


C. REPORTS


D. UNPUBLISHED MATERIALS


Tate, Elizabeth C. "A Study to Determine the Factors that Influence the Drop Outs in the Instrumental Music Programs in Selected Elementary Schools in Omaha, Nebraska." Unpublished Doctoral Dissertation, University of Nebraska Teachers College, 1962.


E. OTHER SOURCES


F. MUSIC


