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MUSIC THEORY IN CENTRAL NEW YORK
STATE PUBLIC SCHOOLS: AN INVESTIGATION

by
Mark A. McCarty

An Abstract

of a thesis submitted in partial fulfillment of the
requirements for the degree of Master of Music
in the School of Music at
Ithaca College

May 1985

Thesis Advisor: Dr. Mary I. Arlin

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ABSTRACT

The growth of technological and vocational education in public schools threatens the rebuilding of music programs which were cut during the taxpayer revolt of the seventies. If the threatened music programs are unable to equip the students choosing music careers with the fundamental tools of the trade, they are destined to be deemed expendable. The current investigation sought to determine the current ability of the public schools to provide their students with an understanding of the structure and language of music.

The study examined the comprehension of music theory by 119 high school seniors from eight school districts in six counties in central New York State who had lived in their public school district since fourth grade and had participated in the music program throughout high school. The districts supplied data on enrollment, budget, staffing and other information relevant to their music programs; the students answered a questionnaire on their music experiences both in and out of school.

The investigation found generally that the students pursuing music careers had studied privately, had had piano instruction, and had a functional music theory education. However, the study also found that most of the students tested had only a minimal comprehension of key signatures, intervals, scales and chords, but scored somewhat better on enharmonics, note values, meter, and terminology.

The study concludes that more research in the present condition of music education, other than performance, needs to be done. Schools need to have private voice, as well as instrumental lessons available to students,

and need to offer secondary courses in music theory, music history, and sightsinging, and, if at all feasible, piano instruction because these factors had the most impact on the students' knowledge and ability to communicate the principles of music theory.

MUSIC THEORY IN CENTRAL NEW YORK
STATE PUBLIC SCHOOLS: AN INVESTIGATION

A Thesis Presented to the Faculty
of the School of Music
Ithaca College

In Partial Fulfillment of the
Requirements for the Degree
Master of Music

by
Mark A. McCarty

May 1985

Ithaca College
School of Music
Ithaca, New York

CERTIFICATE OF APPROVAL

MASTER OF MUSIC THESIS

This is to certify that the Thesis of

Mark A. McCarty

submitted in partial fulfillment of the
requirements for the degree of Master of
Music in the School of Music at Ithaca
College has been approved.

Thesis Advisor: *l*

Candidate: *Y*

Chairman, Graduate
Studies in Music:

Dean, Graduate
Studies, Education,
and Continuing
Education:

Date: *May 2, 1985*

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CHAPTER I

INTRODUCTION

If the high school and college students of central New York State are not unlike those in the rest of the country, through the seventies they too changed from the idealistic and revolutionary spirit of the sixties to a more competitive drive toward a well-paying career.¹ Moreover, student and taxpayer demands on public schools, community colleges, and state-operated colleges required curricular adjustments to keep up with a rapidly changing society pushed by rapid technological progress.² The seventies were also the decade of the taxpayer revolution in the financing of public schools.³ In centralized schools the taxpayers faithfully exercised their right to vote on the only tax for which they had a direct voice. In 1975, a record 155 out of 622 New York State public school budgets, or 23.4% of those submitted in May and June, were defeated.⁴ Presumably, the music departments in these districts received their full share of cutbacks along with other programs. Indeed, in most of the schools that participated in the investigation, an administrator or music teacher reported having experienced staff and/or program cuts during this time; most usually added an optimistic comment on the future.

¹Andrew Oldenquist, "The Decline of American Education in the '60s and '70s", American Education, 19:6 (May 1983), 15.

²David Riesman, "The Changing American Campus: Beyond the 1960s", The Wilson Quarterly II, (Autumn 1978), 58-71.

³Marguirite M. Terrill, "Issue: The Local Property Tax and the American Public Schools", The Clearing House, 52:8 (Apr. 1979), 384-7.

⁴Frederick W. Hill, "A Look at School Business..." American Schools and Universities, 48:2 (Oct. 1975), 19.

The economic situation may have indeed improved, but many of the repercussions of staff, equipment, and program cutbacks are usually not fully realized for many years. One would hope that the schools that cut music programs in the seventies will rebuild them in the eighties. This may be a bit too hopeful, however. The fiscal demand to keep abreast of current computer and educational technology, the cost to maintain and/or establish new programs for special students, and the pressures of the more vocationally-oriented consumer (i.e., student, parent) have, in some ways, shifted priorities away from music.

In light of these changes, what is the current ability of any school district to provide its students with real music education? "Real" music education means an understanding and appreciation of music through listening and performance activities, and more specifically, an understanding provided by instruction in music history and styles, structure and perception, and interpretation and performance. Are the schools currently providing a music education, even at the most fundamental level, for all of the students in the district by graduation time? At the other end of the spectrum, can the school district provide a solid musical foundation for the student wishing to pursue a career in music, a foundation which will ensure a reasonable opportunity for success?¹ Should the public schools be expected to provide this? Since people often choose a career on the basis of their own perception of their abilities, knowledge and preferences, are school districts without well-rounded music

¹John M. Leverett, in his study of 219 freshmen at the University of Southern California, found "statistical significance" between completion of a bachelor of music degree and the type of high school musical experiences of the student. See the unpubl. dissertation (Univ. of So. Cal., 1984), "Relationships Between Freshmen Admissions Data and the Completion of a Bachelor of Music Degree"

programs preventing, inadvertently, some talented students from pursuing music careers, or do the talented students find the training they need outside of the public schools?

These are complex and far reaching questions; it would be naive to presume that this study, or any one study, could conclusively address these issues. An investigation of this nature begins the search for small fragments of information which may, with broader study, provide a more clear assessment of public secondary school music education in New York State. Once this appraisal is secure, the areas which may need improvement will also be more clear. Any improvement in music theory or history education, though implemented at the local level, needs guidance and focus from the state level through mandated curricular requirements and, perhaps, a standardized comprehensive examination in music. Currently, 98% of the nation's high schools do not require music as a condition for graduation.¹

In recent years, the state and federal governments have advocated a re-examination and strengthening of all curricula. Before any constructive development of music curricula, and music theory in particular, can occur, a great deal of study needs to be done. The author knows of no research in music theory education having been conducted in the public schools of New York State. The Leverett survey of college freshmen reveals information on their high school theory background, but this author can find no reference to any studies done on public high school seniors who are involved in the music program. Richard Collavell adequately states the situation in his

¹Francis S.M. Hodson, "Music Education for the Eighties", American Education, 19:8 (Oct. 1983), 3.

article, "Musical Assessment: Difficulties and Directions in Evaluation":

"...use research and evaluation to improve the teaching of music and music curriculum at all levels. Evaluation and testing deserve serious attention by the music education profession."¹

OBJECTIVES

The primary objective of this investigation is to examine the level of comprehension of basic music theory concepts as exhibited by high school seniors participating in music ensembles in the survey year. This level of understanding, as demonstrated on a written and aural test, was correlated with the data collected on student and school district questionnaires to determine the relationships, if any, between student scores, and school size, teacher/student ratio, secondary music course and ensemble participation, musical activities in and out of school, and parental involvement with music. Granted this investigation measures only a small portion of the overall music education each student should be receiving. It does not directly investigate the student's performance skills and training, knowledge of music history, literature, and styles. It focuses exclusively on the student's conceptual understanding of the structural elements of pitch and rhythm, and familiarity with the terminology of tempo and character, terminology necessary for the correct translation of the written page of music into sound.

A secondary goal, but not of secondary importance, was to develop a set of tests and questionnaires, both practical and reliable, that could be

¹Richard J. Collavell, "Musical Assessment: Difficulties and Directions in Evaluation", Music Educators Journal 57 (April 1977), 134.

used in a long-range study. Ideally, this continued study could be implemented by the schools annually to indicate areas of strength and weakness in the music program and to monitor the program and student development. Eight school districts participated in the investigation and 182 seniors were tested. Though this was sufficient for an initial investigation, it offers only a partial glimpse at the present condition of music theory education in the public schools of New York State. More extensive research on this issue is necessary and these evaluation instruments were developed for this type of continuing study.

CHAPTER II

METHODOLOGY AND IMPLEMENTATION OF THE STUDY

Test Construction

Prior to the development of the evaluation instruments, the specific goals of each of the tests had to be articulated. The written music theory exam needed to succinctly but effectively evaluate the student's comprehension of the two fundamentals of musical organization, pitch and rhythm, and test their understanding of the terminology of tempi and character. As a written exam it had to be concise enough to avoid the tedium that can set in to those unaccustomed to music theory tests or intimidated by tests, but broad enough to work in harmony with the aural exam and the student and district questionnaires to provide a picture of the public and private education in music theory available to the school-aged children in these regions.

The aural assessment had to provide insight into the student's ability in pitch and rhythm discrimination and his interpretation of and performance of elemental vocabulary. Primarily because the evaluation process required a 1:1 interaction and a large number of students had to be tested, this too had to be as short as possible without sacrificing reliability.

The Written Test

One key to understanding the pitch concepts of scale, tonality, key, intervals, and chords lies in having some tangible reference from which to begin. Familiarity with a keyboard, instrument, or even the musical staff could serve as this reference. Also necessary is the understanding of pitch modifiers, i.e., sharps and flats. In the two-thirds of the written test relating to pitch, the students were expected to exhibit a fundamental understanding of these concepts and some degree of further refinement. The test was criterion referenced and objectively scored to assist in the interpretation of the student's level of comprehension.

While the familiar Seashore and other standardized tests in music measure innate musical aptitude, the goal of this test was to assess the learned comprehension of music based on the amount of exposure to theoretical skills in concept and practice. To a certain extent, this test is akin to a college placement exam which is concerned with what is known by the student and the student's potential for success.

There are various forms of understanding and various ways in which this knowledge can be exhibited. In "Programming for Intangibles," Dr. Robert L. Bruce clearly defines what needs to be addressed in developing a written test. These terms, as organized and identified by Dr. Bruce, will be used in the explanation and description of the question and test format.

- Comprehension - knowing the material well enough to use it accurately without necessarily going beyond that.
- :Translation - the ability to paraphrase.... in another "language."
 - :Interpretation - the ability to reorder the original

Application - The ability to take rules and concepts and use them accurately in real situations.

Analysis - the ability to take a communication or a set of data and understand how it is organized.

:Identifying elements...

:Recognizing relationships among the elements.

:Recognizing the organizing principle.

Synthesis - The ability to take information and put it together to form a whole that is something more than an assembly of its parts.¹

The written test, therefore, had to evaluate both the students general understanding of music theory and assess the level of advanced understanding. Designed for objective responses and scoring, the test included 66% short answer questions and 34% multiple choice questions. Treble and bass clefs were used in approximately equal amounts throughout the written and aural exams because understanding in both of the clefs is fundamental to pitch conceptualization within the full spectrum of sound. Several questions, added to isolate the exceptional student, required special understandings, and were norm-referenced, i.e., designed for comparison with "average students." The specific music theory concepts addressed in these questions, which accounted for 20% of the written test, will be discussed in test format.

Aside from the investigative and academic goals of the written test, a practical concern was the length of the test because both the written theory test and the student questionnaire had to be completed in one school class period of 50 minutes. While a more extensive test would be more thorough, it would also require additional testing time.

¹Bruce, Robert L. "Programming for Intangibles," Cornell Information Bulletin 179 (1981), 4-6.

Format

The design of the written test will be discussed in the order of difficulty, from the easier and more basic concepts to the more advanced, rather than in the order in which the questions appeared on the exam. Each area of the test (pitch concepts [66%], rhythm concepts [26%], and terminology [14%]) had a hierarchy of difficulty. Table 1 illustrates the hierarchies of these sections on the written test.

TABLE 1

HIERARCHY OF QUESTION DIFFICULTY ON THE WRITTEN TEST

Pitch	enharmonics intervals scales key signatures chords
Rhythm	note values meter measure completion
Terminology	common terms less-common terms

Pitch

In the five questions devoted to enharmonics (36-40), the student had to notate the enharmonic equivalent of selected pitches. An example was given to illustrate the concept and the procedure to be followed. The purpose here was to determine if the student could first identify the pitch given and then determine an enharmonic equivalent. As mentioned, the understanding of the effects of a sharp and flat are basic to all pitch

concepts. These questions required the interpretive and analytical demonstration of the comprehension of elemental pitch concepts.

In the portion on intervals (26-30), the student had to identify each interval given. A list of the interval names was provided; the student chose the correct interval designation and placed the letter of that designation in the appropriate blank (see Appendix III). This procedure, which minimized the need for the student to remember the name, focused on the understanding of or ability to reason the concept. The example given illustrated the identification of a perfect fifth as interval letter "f" from the interval designation list. The student needed to identify the elements, recognize the relationship, and translate this information to the interval name.

Evaluated in questions 21-25 was the concept of tonality as exhibited in scales, and the awareness of the structural differences between major and the three minor modes. The example showed a scale in treble clef in the universal reference, especially among students, of C major. The student needed to know or be able to analyze the interval structure of a major scale and then had to apply this information to the other scales. Often tonality is introduced to the student through the memorization of rules (e.g. the next to the last flat in the key signature is the name of the key). Students who understand the relationships between key signatures, scales, and tonality could easily translate these scales to determine the correct answer.

Essentially, questions 1-10 are concerned with the same concepts as the section on scales but in a somewhat more abstract application. The visual representation of a pitch set, the key signature, is an extension of

the intervallic structure of a scale. For the musician this may seem obvious, but to the not-so-trained student musician, this can be difficult to grasp. The key signature questions asked the student to identify the tonic note and mode for the major (1-4) and the minor (5-8) key signatures given. (An example demonstrated each section.) Questions 9 and 10, two of the questions on more advanced concepts, asked the student to apply the principles of parallel and relative minor respectively.

The fundamental concepts of enharmonics, intervals, scales, and tonality are reasonable expectations for students who have participated in school music programs for four or more years. To be even modestly successful on an instrument (including voice) requires some synthesis of the concepts, whether conscious or unconscious, by the student. The final section on this portion of the written test, chord construction, also required the synthesis of the concepts thus far evaluated. The student was asked to identify the root (keynote) and quality of the given chords. A d minor root-position triad in bass clef was provided as an example. Three questions (31, 32, 35) required identification of root-position triads and questions 33 and 34 had triads in inversion. To some extent, students with some keyboard instruction or familiarity would be expected to perform better on this portion of the test because of visual reinforcement.

Rhythm

An understanding of the fundamentals of musical "time," note and rest values and metric organization, are essential for reading, performing, and interpreting written music at any level. The articulation of these

concepts on a written exam can be only at the most elemental levels. A higher level of understanding, and the most reliable measurement, is the ability to perform different rhythm patterns in numerous meters.

In questions 41-43 the students were asked to identify the group of notes equal to a dotted quarter note, a half note, and a dotted half note, respectively. The process involved counting the notes in the group and making a choice. The section on meter, 11-15, required the students to use their knowledge of note values and rests to determine the meter in the given measures. The notation of the meter, could be a large translative step for some students, but it too is fundamental to rhythmic understanding and performance. A further translative step was needed for questions 16-20 which required the student to complete, using the appropriate notes and/or rests, partial measures in different meters. Generally, one or two symbols were necessary to complete the measure. In some ways this may have been the most difficult section of the test, because the student must reverse the processes normally employed to decipher a problematic rhythm.

Terminology

The final page of the written theory test had seven multiple-choice questions on the definition of musical terms. The terms were selected from the most frequently encountered tempo and character markings found in literature; all are necessary elements for reading, interpreting, and performing the written page of music. After four years, seniors should know these terms because they would have seen and used these words innumerable times in music lessons and ensembles.

Advanced concepts

One-fifth of the exam had items of a higher degree of discrimination. Questions 9 and 10 dealt with the concepts of parallel and relative minor and questions 22 and 24 required the student be familiar with the harmonic and melodic forms. Number 33 and 34 had chords in first and second inversion, questions 15 and 18 used 5/4 meter, and numbers 38 and 39 had double flats and sharps. These questions could be answered by students with a secure understanding of the fundamentals and by students with strong music theory backgrounds.

The Aural Test

The criterion-based aural exam is divided into three sections; those questions concerned with pitch alone, those concerned with rhythm alone, and those requiring a practical application of both. The main goal of the aural exam was to determine the degree of proficiency the students have acquired in ear training and music reading. Each of the three sections of the test required the student to read and perform, and to discriminate musical passages heard from a choice of three. Most of the areas on the aural test had two questions, one easier than the other.

In the pitch concepts portion (40%), the performance questions were pitch matching (10%), singing major scales (10%), and singing pitch patterns of four to seven notes (10%) (see APPENDIX IV). The recognition of sonorities (10%), the most advanced skill evaluated on the aural test, completes the pitch section. The portion on rhythm involved performing a

"clap trap" of five 3-5 measure passages; each passage increased in difficulty, with the last using syncopation and rests in compound meter (20%). Rhythm patterns (e.g. triplets, dotted notes), were added systematically until the student could no longer read and perform accurately. In the discrimination portion the student had to choose the two-measure phrase played from the three given possibilities (10%). In the evaluation of pitch and rhythm combined, the students sang two melodies (20%) and selected the melody played from a choice of three (10%).

All musical examples and passages were written specifically for this study. In the aural test, the emphasis had to be on the practical, attainable level of proficiency for school musicians, most of whom would not have had specific ear training and sight-singing instruction. The questions had to be of two levels of discrimination and had to be structured to determine deficiencies and strengths. As in the written test, the treble and bass clefs were used throughout, but the melodies and pitch patterns were provided in both clefs. With the possible exception of one pitch pattern, all pitch material was tonally based and no odd meter or bi-meter examples were used.

Unfortunately, the aural test never received the use intended. In the middle of testing school district 1, after many initial scheduling problems and delays, it became evident there would not be enough time (8-10 minutes per student) for the administration of the aural exam. At that juncture it was impractical to redesign the aural test due to impending test dates. In addition, to scale the test down to less than five minutes would sacrifice reliability and validity. Since school district 1 was fairly small compared to those forthcoming, the test was abandoned. Indeed, the

scheduling problems involved in organizing the administration of the student questionnaire and written test alone, proved to be insurmountable for some school districts. Hereafter the discussion will focus on the results of the written test and will not include the aural test scores for district 1.

Testing Procedures

One aim of the test design was to make it short enough to be administered, along with the student questionnaire, in one 50-minute class period. It is unreasonable to expect to have access to the students for any longer since generally music students are more active in all school activities. In most of the schools tested, the test and questionnaire were administered to band, chorus and orchestra seniors during their regular ensemble rehearsals in a specially designated room. Despite the limited time factor, most of the students completed everything within the fifty minutes. Another time factor was a bigger problem. The implementation of the survey began in late January 1984. As spring approached, it became increasingly difficult to fit the survey into the schools' busy schedules. Easter recess and days off due to inclement weather acerbated the situation. At two of the schools the students had to be tested during their instrumental lesson, lunch hour or study hall because of the scheduling complications of concerts, festivals and other spring activities. The seniors who participated in both the instrumental and vocal ensembles were often "traded" so as not to detrimentally affect the impact on any one rehearsal.

Prior to beginning the test and questionnaire, the students were given a brief explanation of the purpose, design and structure of the study. At each school the questionnaire was passed out to the students first. They were instructed to carefully read and answer each question which applied to them. It was emphasized that some questions ask, "Have you ever..." and some referred specifically to high school. When most of the students had completed the questionnaires, the test was distributed with the following instructions.

- "1. Write the number of your questionnaire on your test paper.
- "2. Take your time. If you think carefully, you may discover you know more than you realize.
- "3. Try to answer each question. For many parts of the test, an example is provided. Use this to help you reason out answers.
- "4. On page two, the mode refers to major and minor and the forms of the minor.
- "5. Enharmonic equivalents are two notes which are written differently but sound the same.
- "6. For numbers 41-43, only one answer is correct.
- "7. Since your score does not affect any grade, cheating does no one any good. Keep your eyes on your own paper."

We know that auto workers perform at varying degrees of efficiency throughout the week and undoubtedly this is true of students. This factor has not been considered, however, and is, perhaps, not great enough to warrant so doing. Indeed, school district #3, which had the highest mean score, was tested at 8:00 a.m. on a Monday morning.

Scoring Procedures

The scoring of the test was clear-cut and exact. Partial credit was given for only two questions. If the student correctly identified the

scales in questions 22 and 24, as d minor and e minor, respectively, but did not identify the forms of the minor, harmonic and melodic, respectively, one half credit was given for each. For all other questions, the answer was either right or wrong. In the meter identification portion, as one director pointed out, there could be some confusion between 3/4 and 6/8 and between 2/4 and 4/8. These questions, numbers 11-13, were carefully beamed to reflect the metric organization. Students should be taught the correct beaming and organization of pulses for these simple meters. Again, the answer was either right or wrong.

Questionnaire Construction

Director Questionnaire

The survey employed the use of two questionnaires: a director questionnaire which solicited data relevant to the school district and its music program; and a student questionnaire which asked the student to relate his or her musical background, pertinent information on family, age, and length of residency in that school district. (The student and director questionnaires are in appendices I and II, respectively.)

The director questionnaire was designed to be completed with a minimum of effort and time since a prime consideration by the district in allowing the implementation of the survey was how much time would be needed for all aspects of the study to be completed. Ergo, most of the responses on this questionnaire required only a checkmark in the appropriate space. The remaining questions, those requiring explicit information (e.g. number of

students in a given program) required documentation which was either known or easily attainable.

If the district had a music administrator, then he or she completed the director questionnaire. When a district did not have a music administrator, the questionnaire was generally completed by the vocal and instrumental music directors; a district official provided the documentation on district enrollment and such. Accordingly, the director questionnaire was divided into district, instrumental, and vocal sections.

Most of the questions on this questionnaire investigated the opportunities for and extent of the music programs in each of the eight districts surveyed. Obviously, the amount of required music instruction is a distinctive factor in understanding and providing relevance to the scores of the students on the theory test. To provide a measure of insight into the health and future growth of the music program relevant to the size of the school district, the number of students involved at the various levels of the music program was requested.

As the implementation of the survey proceeded, it became increasingly evident there would be problems in using the information on budgetary allotments in the various aspects of the music program. In New York State each school district devises its own system for calculating the budget and allocating funds, as well as the investment and procurement of these funds. The survey asked for the total amount in the budget designated specifically for music, but not including salaries for the music staff. Some of the schools surveyed have budgets for adjunct instructors and for transportation of the marching band, colorguard, and jazz ensembles. Others, in the process of replacing or repairing old instruments and

equipment, have inflated budgets for the survey year which do not reflect the perennial commitment to music. One of the districts uses what is described as a 'zero-based budget,' that is, no funds are allocated for specific expenditures. All purchases are made as needed after approval of the district administration. The diversity of and inability to compare those responses on the budget questions eliminated that portion of the survey from further consideration.

The directors were asked if sight-singing/sight-reading skills were taught as a regular part of lessons and ensembles, and if theory was taught on a regular basis during these times. The responses, to some extent, required both candor and interpretation by the directors. An affirmative answer was given for theory if lesson and/or rehearsal time was used to explain the structure and use of such things as meter, rhythm, etc., instead of merely rote teaching and drilling. In those districts where the directors reported not including these skills and concepts, the primary reason given was cutbacks in the amount of time allocated for instruction and rehearsal. Members of both the school board and community use music performance as the sole measure of the success of a music program. Hence, directors spend nearly all of their teaching time preparing and polishing for the next performance.

Question (33), "Does the concert band function as a separate ensemble during the marching band season?," was included mainly out of curiosity. In essence, is marching band a required portion of the instrumental program at the high school level, and is concert band rehearsal time used for marching band during the spring and fall? Over the last ten years in New York State more and more schools have made marching

band an extra-curricular activity which rehearses after school and/or evenings. The reasons for this change are numerous, but this is not the appropriate forum for their discussion. The question was included because substantial instruction in music theory is almost impossible when the students are spread across a football field or down the street, and numerous non-musical concerns prevail.

The Student Questionnaire

This questionnaire requested information on the students' musical background -- musical activities and experiences both in and out of school, private instruction received, music courses taken, and years of involvement with music -- information which was necessary in assessing the scores on the test. The length of time the student has lived in the district was asked and only those who had lived in the district since fourth grade were included in the computations. The students were also required to make a judgement on whether music theory and/or sight-singing were taught regularly as part of ensemble rehearsals and lessons. Again, the question was whether time was taken to explain the concepts and not merely to drill. The responses of the students and the director do not always match as will be explained later.

The students were also asked if either parent sings or plays an instrument at home or in a community organization. This not only influences a student's level of involvement with music, it also gives another measure of the musical activity within the community.

Finally, the students were asked if they had ever considered music as a career option and if they intended to pursue a career in music. A student who has considered and/or intends to pursue such a musical career is more likely to be attentive to the explanation of a theoretical concept during a rehearsal and, indeed, may ask questions to try and tap the teacher's knowledge at other times.

Each of the student questionnaires was numbered so the students would remain anonymous. The student was instructed to transfer the questionnaire number to the test paper and to hand them in together after completing the exam. Fortunately, there were few problems associated with this questionnaire. As with the director questionnaire, the conservative use of time was the main concern; the student needed only to place a checkmark in the appropriate space, except for those questions requesting the number of years in a particular activity.

School Selection

The first step in the implementation of the survey was to select and contact the schools. In order to achieve a balanced sample, a major concern was the size of the school districts since the size is often a factor which affects the number of musical opportunities the district can offer. An obvious example is the availability of a strong program. Music course offerings at the high school level, equipment, ensembles, and the teacher-student ratio also may be affected by school size. Included in the survey were some very small schools in small towns, medium-sized schools in larger towns and/or larger geographic area, consolidated districts which

service several towns, and some large urban and suburban school districts with diverse student populations.

Another concern was the geographic location of the schools. If all the schools in the survey were in one county or located in the same type of geographic area, the sample might not be reliable. The schools which participated in the study were located in six different counties in central New York State.

The term "selection" has been used to describe the process for determining the schools to be involved in the survey. However, the schools were not factually selected to any great extent. Many problems arose in the course of finding schools which would consent to the implementation of the questionnaires and test. Before all eight of the schools which did participate were surveyed, seven others chose not to be a part of the study. Their given reasons varied greatly. In each district, approval from the superintendent, principal, and music directors had to be secured. None of the music directors contacted to participate was against having their program and students surveyed. In five of the seven schools which declined, the high school principal or district administration made the decision. Although anonymity of the students and district was assured, this was the main reason cited. In one district, one of the last to be contacted, the high school band was totally immersed in spring marching band competition and the director did not wish to sacrifice any rehearsal time and no other time could be found to implement the study. In another district, the high school band director decided to leave the decision up to the students. Not surprisingly, the students did not want to take a 45 minute exam in music theory for no grade or other tangible reward.

Beginning on page 26 is a profile of each of the schools which did participate in the study. Each profile gives a brief description of the district, the area it serves, and a detailed look at its music program. Although most of the information was provided in the director questionnaire, some information was derived from personal conversations with the music directors and administrators.

CHAPTER III

RESULTS

Introduction

Before presenting the results of the survey and test, a number of considerations must be mentioned. First and foremost, the sample size is small. Of the 182 high school seniors tested, 63 were not considered for the study because either they had not lived in the school district since fourth grade or they had not been taking music lessons for at least four years. The small sample, and the lack of other samplings for comparison, precludes the possibility of conclusiveness and, to some extent, reliability. As the data is assembled according to variables, the sample becomes even smaller and individual scores drastically raise or lower the means and percentages. The reader is cautioned to notice the number of students involved in any calculation.

A great many of the statistical procedures common to educational research are not valid with a sample this small. Since the study is intended as an initial investigation and not as an extensive scientific research project, the results of the test and questionnaires will be presented without elaborate statistical computation and inference. The intent is not to make value judgements of the schools or their music programs, nor to arrive at any definitive assessment of the status of music theory education in New York State. Instead, the purpose here is to begin to examine selective groups of students and school music programs to

appraise whether or not the concepts of musical structure are being presented to and retained by the student. Figure 1 illustrates the scale to be used in the assessment and comparison of test scores.

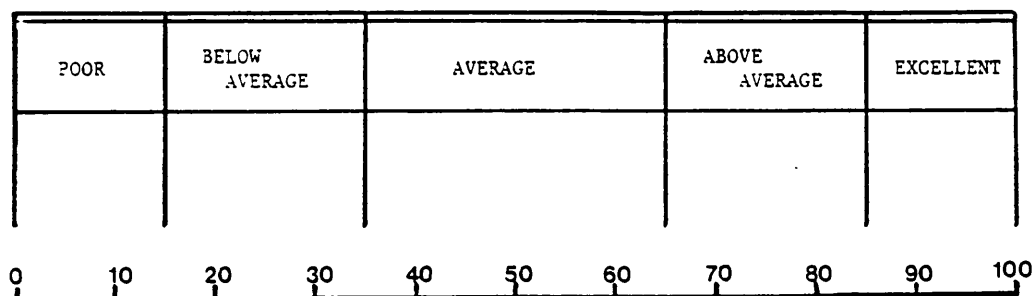


Figure 1. Scale Used in Test Score Assessment.

The schools will be discussed in the order in which they were tested and, therefore, numbered. For each school, a profile of the district and music program, as derived from the district questionnaire, will be followed by the test scores, observations of score tendencies by variable, and a brief summary of the district's results. The overall test scores and results are presented on pages 86-93.

School District 1

This school system draws students from a large geographic area into a main village central school. The population is primarily industrially and agriculturally based. The community and, hence, school population have declined somewhat over the last ten years, but these changes have been gradual and not very extreme. Currently the K-12 enrollment in School District 1 is between 2500 and 2999 students and the 9-12 enrollment is between 750 and 999 students. The grades, as in all the districts tested, are organized primarily on the basis of building capacity and location. In this district the grades are organized in K-5, 6-8 and 9-12. While this may seem to be an insignificant piece of information, it plays a major role in the organization of the music program and the musical opportunities available to the students.

The district employs eight full-time music teachers. Of those teachers, one teaches classroom music only, three teach classroom and vocal music, one teaches instrumental and vocal music, and three have instrumental duties only. Although the district does not employ a full-time music administrator, one of the music faculty is responsible for coordinating the district's music program and is remunerated and/or allotted time for these duties. All elementary students in district 1 receive an average of 45 minutes per week of music instruction. Middle school students receive an average of 77 minutes per week; there are no required music classes for students in grades 9-12.

Students may enter the instrumental music program and participate in their first ensemble in the fourth grade. The elementary instrumental

lessons are group lessons with an average of six students per group. These lessons are given once per week for 20 minutes. A beginner band is offered for first-year students and there is a band exclusively for fifth grade students. Approximately 200 students participate in the elementary instrumental music program (see Figure 2).

At the middle school level, instrumental music lessons are 40 minutes per week and have an average of four students per group. In this district each grade (6, 7, 8) has a concert band; a stage band/jazz ensemble and marching band are available to all the students at the middle school level. Approximately 180 students participate in the instrumental music program at this level.

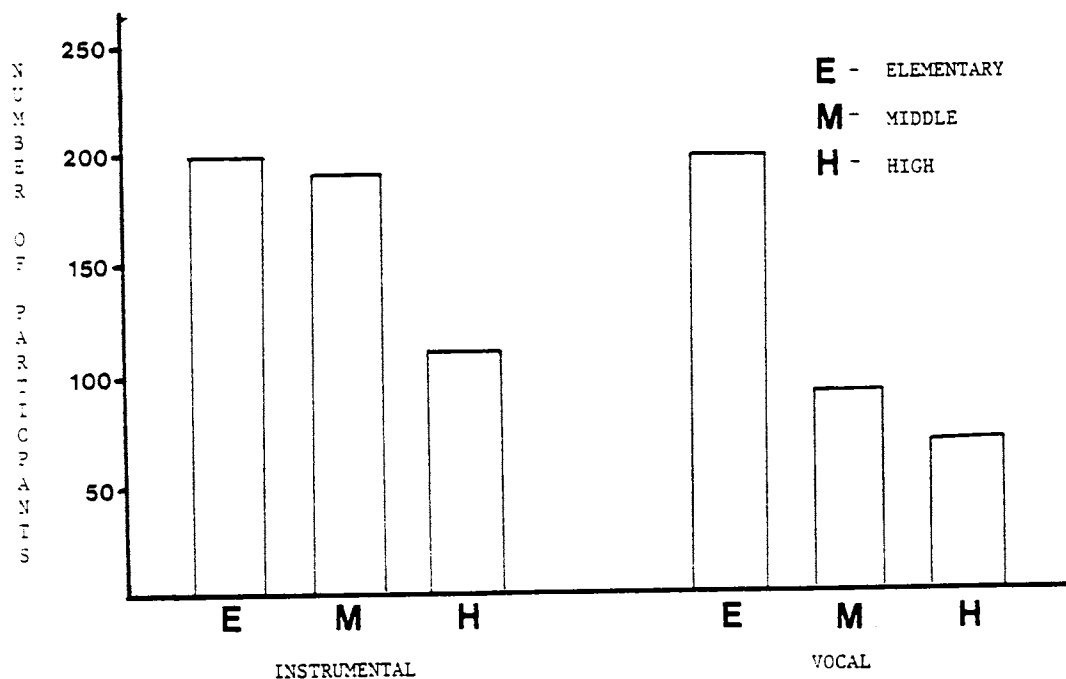


Figure 2. District 1, Number of Participants in Music Ensembles, K-12.

As in the middle school, secondary school instrumental students have one 40-minute lesson each week with an average of four students per lesson group. A concert band, select band, stage band/jazz ensemble, and a marching band are available to high school students. In addition, small ensembles for most instrument classes are offered and perform at various community and school functions. In the survey year, the marching band functioned as a separate entity during the marching season; concert band rehearsals were not impacted by marching band. There were 109 students involved in the instrumental program at the secondary level.

The vocal music program has a total of approximately 360 students participating at the following levels: elementary (200), middle (90), secondary (70). A chorus comprised of students from the combined grades is active at each of the elementary schools within district 1. Musicals or operetta productions augment the vocal music program at the middle school level. At the secondary level, in addition to a chorus, musicals are produced every two or three years and a madrigal group and swing choir are offered in alternating years. Private or small-group voice lessons are available at the secondary level but not at either the middle or elementary levels. Piano instruction is not offered at any level.

Two one-semester theory/sightsinging courses are given at the high school level. Possibly because of this, the directors indicate these skills and concepts are not introduced as a regular part of either the instrumental or vocal ensemble rehearsals at any level. Instruction and drill in sightreading skills are a regular part of instrumental lessons for all students. This school is one of only two to report the exclusion of music theory instruction in high school instrumental lessons on a regular basis.

Of the twenty students tested at District 1, fourteen had lived in the district since fourth grade and had studied music more than four years. These students, with a mean score of 49.1%, scored just above the overall mean of 48.9 percent. The scores of the students (see Table 2) indicate the students had a fairly strong comprehension of rhythmic concepts (71.7%) but were less familiar with pitch concepts (39.0%). Though this discrepancy between rhythmic concepts and pitch concepts was true in each of the schools examined, the difference was more pronounced in District 1. The students scored at or near the overall mean for each subsection with the exception of enharmonics, scales, and minor key signatures. The generally low scores for the pitch section may be due, in part, to the lack of facility with enharmonics, which as discussed, involves an understanding of the effects of a sharp or flat on a specific pitch. Only two of the nine high schools scored lower on enharmonics than District 1.

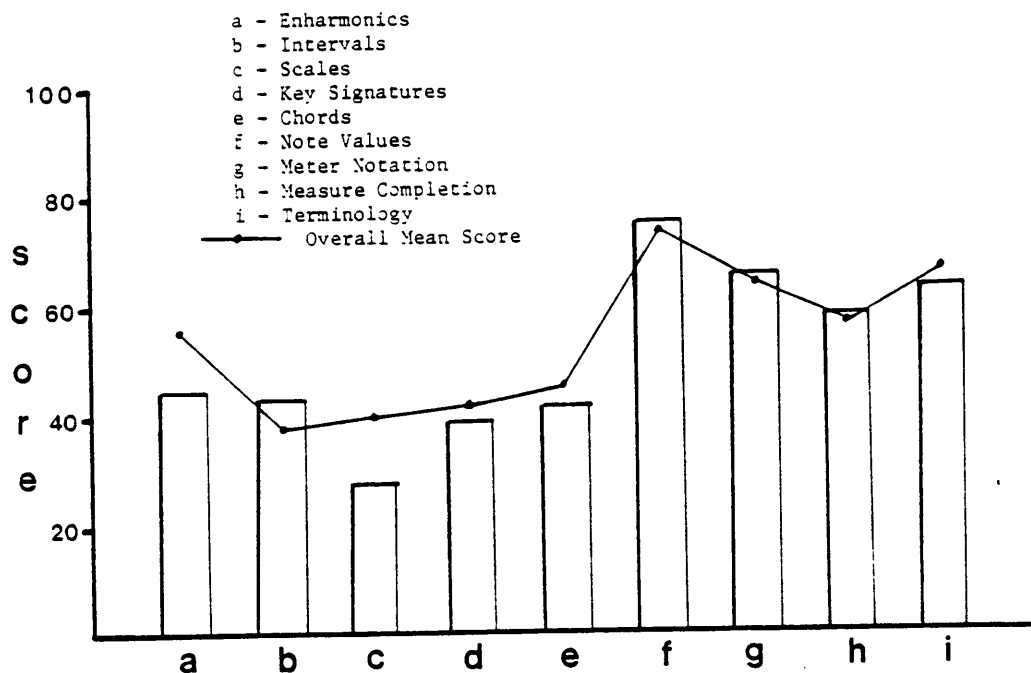


Figure 3. District 1, Student Scores by Subsection.

TABLE 2
DISTRICT 1, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
1.	2	4	0	6	8	4	4	8	36
2.*									47
3.	14	14	4	8	6	8	6	8	68
4.	4	6	2	4	2	4	4	6	32
5.	12	8	2	4	6	6	4	6	48
6.*									48
7.**									98
8.	0	12	1	0	0	2	6	4	23
9.	4	14	0	2	2	2	4	12	40
10.	18	16	6	2	10	8	6	12	78
11.	4	6	1	2	0	0	4	8	25
12.**									32
13.	10	12	1	2	2	2	0	8	37
14.	6	18	6	6	4	4	6	10	60
15.*									94
16.	10	14	4	8	4	4	2	10	56
17.	20	18	8	10	10	10	6	12	94
18.	4	18	2	6	0	4	6	10	50
19.	2	14	2	0	4	2	6	10	40
20.*									53
Ave. Score	7.86	12.43	2.71	4.29	4.14	4.43	4.57	8.86	49.1
%	39.3	62.2	27.1	42.9	41.4	44.3	76.2	63.3	49.1

*student has not lived in the district since fourth grade
**student has studied less than four years

On the basic test, the test minus the ten questions on advanced concepts (see p. 13) the students in District 1 knew 53.6% of the correct answers compared to 56.5% for all the students tested. With the exception of two individuals (10,17), the students fared less well on the advanced concepts, averaging 21.3% of the correct answers and ranking 7th overall. Of the students who indicated a predisposition to one clef or another, only one student was significantly more successful (20% or more) with one particular clef. Student 18 correctly answered 50.0% of the questions notated in treble clef as compared to 21.5% of the questions notated in bass clef. Except for four individuals of the 119 tested, clef was not a major discriminator in the scores.

Of the nine high schools surveyed (District 7 had two high schools), District 1 is exactly in the middle in school size (5th) and scored very close to the mean. In many other ways (minutes per week of required music instruction for grades K-8, grade organization, course and ensemble offerings, etc.) the district is about average and offers few indicators of where particular music program strengths and weaknesses are. Figure 2 illustrates the number of participants in the instrumental and vocal ensembles. Natural attrition and diversification of the students' interests at the higher grades create a gradually descending pattern in ensemble participation for most schools. For District 1 the instrumental drop of 71 students between middle and high school suggests there may be a problem at the high school level. Indeed, the recent change in the high school directorship may have been the problem. The large drop in the vocal program between elementary and middle school was common to almost all of the schools and is often the result of scheduling and teacher class load problems.

One area, the teacher/student ratio, and an area it affects, minutes per week per student of instrumental lessons, may be a factor in the only average performance of the students. The district ranked 7th in the 8 districts tested for student/teacher ratio; there is one teacher for every 140 instrumental students and one teacher for every 180 vocal students. Accordingly, this student/teacher ratio restricts the minutes per week the teacher can allocate to each student, particularly in the instrumental program. The elementary instrumental lesson groups average 6 students which was 2nd largest. When this is combined with the shortest amount of lesson group time each week (20 minutes), it may be a primary factor in why fundamentals may have been slighted and thus missed by some students. District 1 had the least amount of instrumental music lesson time per student in the elementary years: 3.3 minutes per week. The mean score for those students who had had all of their music instruction in the school district (i.e., no private lessons) was 36.5% with or without theory courses in high school, whereas the mean score for those who had studied privately outside of school was 55.0% (see Table 3). While a 20% point spread seems striking, it is, as will be seen, common to nearly all of the schools.

On the positive side, the school had 8 of its 14 students in the upper 50%, and one in the top 15%. As might be expected, those who had taken piano lessons and/or music theory courses did appreciably better in all sections of the test, regardless of other background factors. The high scorer (17) was one of four students planning to pursue a career in music. All four had studied their instrument or voice privately outside of school, had taken theory classes in school, and three out of the four had taken

TABLE 3

DISTRICT 1, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	14	100	49.1
Standard Deviation - 20.41			
Lesson Background - In or out of school			
vocal only	0	--	--
instrumental only	7	50.0	39.6
piano only	0	--	--
vocal/instrumental	1	7.15	68.0
vocal/piano	1	7.15	36.0
instrumental/piano	3	21.40	62.3
vocal/instrumental/piano	2	14.30	65.0
Private lessons - Out of school	10	71.0	55.0
No private lessons - Out of school	4	29.0	36.5
Piano experience - In or out of school	7	50.0	56.7
No piano experience - In or out of school	7	50.0	42.7
Have taken secondary music courses	5	35.7	63.0
Have not taken secondary music courses	9	64.3	42.3
Considered but not pursuing a career in music	3	21.4	50.7
Pursuing a career in music	4	28.6	72.5

piano lessons. Two of the three students (14,16) who had considered a career in music (and were presumably motivated to learn more about music) scored above the mean, and one (1) scored below the mean. All three had at least two years of piano lessons and had studied their instruments privately. The main background difference between these three and those four who are pursuing music as a vocational choice is that the latter students took theory classes in school (see Table 3).

School District 2

School district 2 is a consolidated district which draws students from several small towns in a predominantly agricultural area. Although declining enrollment has caused the closing of two schools over the past ten years, the enrollment has now leveled off with a K-12 enrollment in the 1500-1999 range. The grades are organized in the following manner: elementary (K-5), middle (6-8), high school (9-12). Between 250 and 499 students are enrolled in the high school.

Six full-time music teachers are employed in the school system. Two are classroom music teachers only; one teacher is both classroom and vocal; one is classroom, vocal and instrumental; and two are instrumental music teachers only. The district does not employ a full-time music administrator and none of the faculty is used in this capacity. Eighty minutes of classroom music instruction is required for all students at the elementary level each week. At the middle school the students are given 54 minutes per week of music classes. (Note that the above numbers are averages and the exact numbers vary for the different grades within the middle school level. This will be true also for most of the following districts.)

The instrumental experience begins in the fifth grade with lessons and a beginner band. The lessons, 50 minutes long, are given once per week with an average of five students per lesson group. Approximately 95 students are involved in the elementary instrumental music program (see Figure 4). In the middle school, instrumental students receive a 40 minute lesson once per week in groups of four. A concert band, stage band/jazz

ensemble, marching band and small ensembles are all available to the 82 students who participate at the middle school level. High school instrumental students also have one 40 minute lesson each week with four in the lesson group. A total of 70 students participate in a concert band, stage band/jazz ensemble and/or a marching band. District 2 also has the marching band functioning separately during the marching band season. There are no small ensembles currently active at the high school.

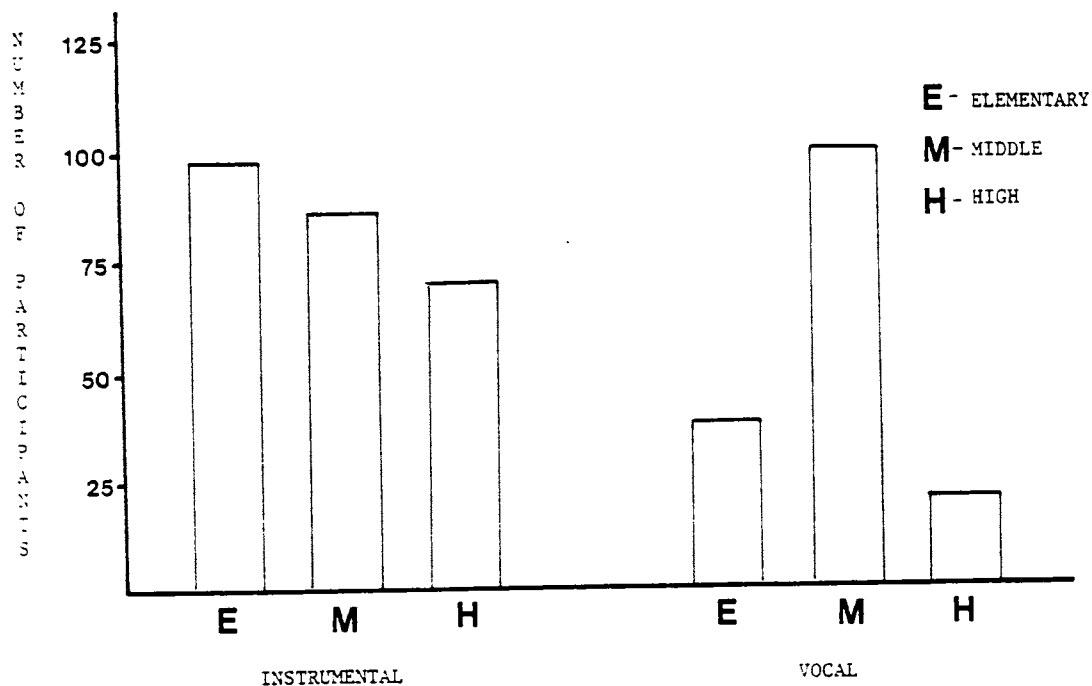


Figure 4. District 2, Number of Participants in Music Ensembles, K-12.

The vocal music program at the elementary, middle, and high school levels consists of a chorus and a musical or operetta production for each level. Private or small group voice or piano lessons are not offered at any level.

TABLE 4
DISTRICT 2, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
21.	6	14	1	2	2	6	4	4	39
22.*									34
23.*									40
24.	18	14	8	0	6	10	6	10	72
25.	16	20	10	6	10	8	6	14	90
26.	18	20	10	8	10	10	4	14	94
27.**									0
Ave. Score	14.5	17.0	7.25	4.0	7.0	8.5	5.0	10.5	73.8
%	72.5	85.0	72.5	40.0	70.0	85.0	83.3	75.0	73.8

*student has not lived in the district since fourth grade
**student has studied less than four years

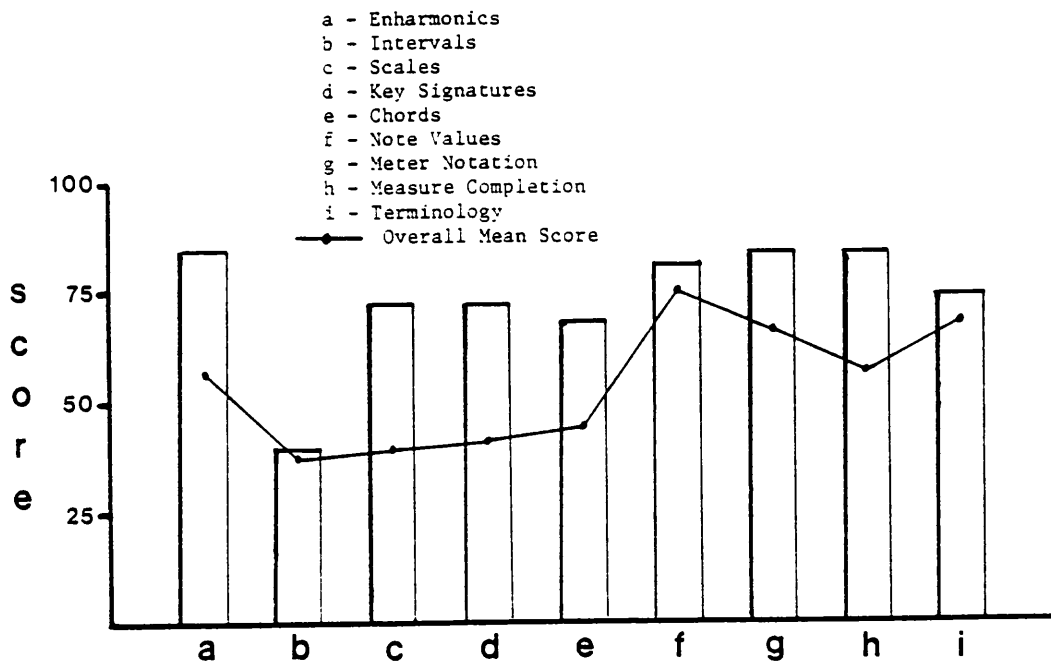


Figure 5. District 2, Student Scores by Subsection.

Instruction in music theory and sightsinging (or sightreading) is provided as a regular part of instrumental lessons and ensembles but not in vocal ensemble rehearsals. No music theory, sightsinging or music history courses are offered to students at the high school level. At one time a high school instrumental teacher offered a music theory course for exceptional students in lieu of an instrumental lesson. This accounts for the one student tested who reported having taken a theory course in school.

District 2 has a long marching band tradition and consequently has placed a great deal of emphasis on this one aspect of public school music. In the last six years other concerns, such as jazz, concert band, solo performance and improvisation, have begun to be developed.

Of the seven seniors tested in District 2, four had lived in the district and had studied music the prescribed length of time. This is the smallest number of seniors of any of the high schools tested and less than half the number of seniors of the smallest school (6), which is half the size of District 2. This figure alone suggests probable program instability. Of the 91 students participating in the high school music program (see Figure 4), only seven are seniors. While the gradually descending chart appears normal, when only seven seniors participate, then the results are skewed. Either there is a developing program in this district or numerous students have dropped out prior to their senior year. Indeed, both are true. Although the underlying instrumental program seems strong, frequent changes in the high school band directorship (four in four years) have caused problems. The vocal program also appears, by the number of participants, to be in an unusual condition. At first glance, the elementary chorus (35 students) may seem small, but this figure includes

only the fifth grade and is compatible with the middle school chorus of 100 students from grades 6, 7 and 8. The problematic area is a high school chorus of 21 members, one-third the size of the smallest school's chorus. The cause(s) of this severely depleted chorus is not ascertainable by this study and is, most likely, understood by and is a primary concern of the district's officials.

Because of the unusually small number of seniors in District 2, the test scores of the four students are representative of only the individuals and their experiences (see Table 4). District calculations (Table 5) have been done primarily for consistency and for use in comparing students and characteristics in all the districts.

For all the schools surveyed, and especially for District 2, one can assume that the seniors participating in music ensembles (particularly in the spring) are the most motivated and active, talent notwithstanding, of the entire senior class. Each school had some outstanding individuals, but numbers 25 and 26 in District 2 scored so well, they skewed the calculations in their favor. Student 24 (score 72) certainly helped to tip the scale, and student 21 (score 39), who scored some points in each subsection of the test, did particularly well in enharmonics (60%), note values (66%), and meter (70%). The section on intervals is the section that appears to have been slighted, to some extent, to all students (40%). All other subsections scored above average or excellent. For the advanced questions on the test, the students averaged 65%; the concepts of parallel and relative minor (37.5%) and the forms of the minor mode (50%) presented the most problem.

Possibly because of the small sample, District 2 students had the highest mean score, 73.8, but to assume this is the sole reason would be wholly erroneous because the music program provides the fourth largest amount of required music instruction in grades K-8, and the most minutes per student per week of instrumental lessons of the eight districts. Perhaps more important, District 2 had the second lowest teacher/student ratio, an average of one teacher for each 107.5 students. Certainly these factors are a distinct plus for the music program.

There are some negative factors and these too should be mentioned. District 2 is one of only three schools not providing secondary classroom music courses for its students. The value of these courses will be discussed later, but suffice to say, this is a serious omission for a music program. Moreover, District 2 is also one of only three districts not providing private or small-group voice lessons at the high school level. This, too, leaves a gap, or more symbolically, a wall in the music program which can handicap the students wishing to pursue a career in music. While it is true that District 2 is one of the four small schools, other small schools are providing these opportunities. The school music program, though fundamentally sound, needs to supplement the performance and experiential considerations with the perceptual and music language skills the students will need to successfully pursue music as a vocation.

The region of District 2 has many music opportunities outside the school, and all four students have had extensive community participation and performance, but the community alone cannot be expected to provide an advanced level of theory instruction for all who desire it. The school district must make this available to all of its students.

TABLE 5

DISTRICT 2, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	4	100	73.8
Standard Deviation - 25.65			
Lesson Background - In or out of school			
vocal only	0	--	--
instrumental only	2	50.0	66.5
piano only	0	--	--
vocal/instrumental	0	--	--
vocal/piano	0	--	--
instrumental/piano	1	25.0	94.0
vocal/instrumental/piano	1	25.0	72.0
Private lessons - Out of school			
Private lessons - Out of school	2	50.0	83.0
No private lessons - Out of school	2	50.0	64.5
Piano experience - In or out of school			
Piano experience - In or out of school	2	50.0	83.0
No piano experience - In or out of school	2	50.0	64.5
Have taken secondary music courses			
Have taken secondary music courses	1	25.0	90.0
Have not taken secondary music courses	3	75.0	68.3
Considered but not pursuing a career in music			
Considered but not pursuing a career in music	2	50.0	83.0
Pursuing a career in music	1	25.0	94.0

School District 3

This school system is a small rural district with approximately 1000-1499 students in grades K-12. There are between 250 and 499 students presently enrolled in the high school. The community is mainly agriculturally and tourist oriented. Unlike most of the schools surveyed the community and school populations have remained relatively stable over the last ten years. The grades are divided into elementary (K-6), middle (7-8), and high 9-12.

Four full-time music personnel are employed in the district. Their assignments are one each for classroom music only, classroom and instrumental, vocal and instrumental, and instrumental only. The required music instruction in the district consists of 38 minutes per week (average) at the elementary level and 50 minutes per week at the middle school level. The elementary figure represents an average of 30 minutes each week for grades K-1 and 45 minutes per week for grades 2-6. There is no music administrator in the district, either full-time or part-time.

The instrumental program begins in fourth grade with weekly lessons of 30 minutes and with four students in a lesson group. When these beginners are ready, they may enter an elementary band for the combined grades of 4-6. Approximately 80 students participate in this program. At the middle school the number in the instrumental lesson group drops to three and the lesson is lengthened to 45 minutes each week. The only instrumental ensemble available at this grade level is a concert band. Thirty-eight students are involved in this program (see Figure 6).

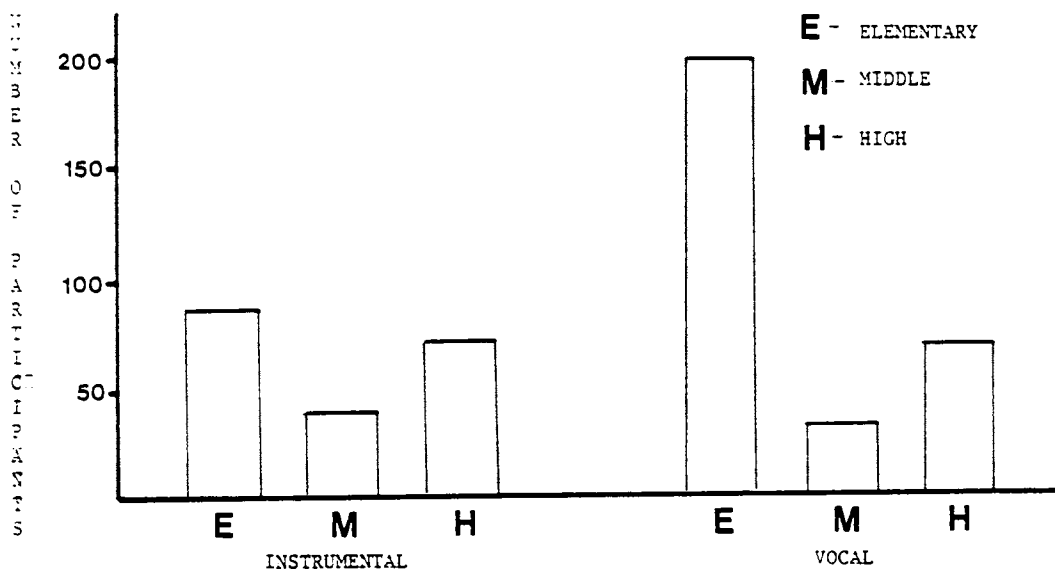


Figure 6. District 3, Number of Participants in Music Ensembles, K-12.

The high school instrumental music program provides more music experiences for the students. In addition to a concert band, there is a stage band/jazz ensemble, a marching band, and various small ensembles, all of which are quite active. There are generally two students per lesson group and the lessons are once a week for 30 minutes. School district 3 has the highest amount of total lesson time per student of all the schools surveyed. Sixty-three students participate in the high school instrumental program.

A chorus, musical and/or operetta productions, and various small vocal ensembles provide the vocal music experience at both the elementary and middle school levels. At the high school, these activities are supplemented by an active swing choir. Approximately 200 students

participate in the vocal ensembles at the elementary school, 35 at the middle school and 70 at the high school. Although small groups (5 or less) and private voice lessons are available to the students at the high school level, piano instruction is not available at any level.

Two full years of music theory and one full year of music history are available to the students at the high school. Additionally, the students receive instruction in music theory and sightsinging as a regular part of their lessons and ensemble rehearsals.

Nine of the ten seniors tested at District 3 met the criteria for inclusion in the study and their average test score (57.2) is third highest (see Table 6). The scores reveal an above average understanding

TABLE 6
DISTRICT 3, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
28.	16	18	10	10	10	8	4	12	88
29.	18	20	9	6	6	10	6	12	87
30.**									72
31.	8	14	2	6	6	6	6	12	58
32.	6	8	4	6	4	4	2	12	46
33.	0	4	0	2	0	0	2	10	18
34.	14	16	2	2	2	4	6	10	56
35.	2	16	3	0	2	4	4	12	43
36.	6	12	0	4	2	6	4	14	48
37.	16	18	7	2	8	6	6	8	71
Ave. Score	9.56	14.0	4.11	4.0	4.44	5.33	4.44	11.33	57.2
%	47.8	70.0	41.1	40.0	44.4	55.3	74.0	80.9	57.2

*student has studied less than four years

of rhythm concepts (72%) and music terminology (80.9%). Moreover, the students understand meter enough to complete the measures in questions 16-20 (73.3%), but had less success notating the correct meter for the given measures in questions 11-15 (66.7%) (see APPENDIX III). Although it is not a large percentage difference, only one other school (7A) had this configuration. In most of the schools, the students scored higher in notating meters than in completing the measures. As with the other schools, the students of District 3 scored lower on the questions relating to pitch. Specifically, the students in District 3 had more problems with the questions on minor key signatures, scales, intervals, and chords, but scored adequately with major key signatures and enharmonics (see Figure 7).

Of the eight districts surveyed, District 3 was seventh in school size and third in test score. For the basic and advanced questions on the test, the district also ranked third averaging 62.0% and 40.2%, respectively. The forms of the minor mode were the least familiar of the advanced concepts (16.6%), but the students correctly identified the scales as minor. All nine seniors tested were instrumentalists with an average of 7.5 years of study and six had taken piano lessons for 5.8 years (see Table 7). The two students who had taken music theory classes in high school (28,29) had the two highest scores. Each senior had participated in several musical activities both in and out of school. Unquestionably this extensive background is a factor in the fine performance of the students; all but one student (33) scored in the top 50% of all students tested.

The music program, fairly large for the size of the district, has the sixth highest teacher/student ratio (1:162). The instrumental teacher/student ratio, however, ranked third and the district offered the

TABLE 7

DISTRICT 3, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	9	100	57.2
Standard Deviation - 22.3			
Lesson Background - In or out of school			
vocal only	0	--	--
instrumental only	2	22.2	31.5
piano only	0	--	--
vocal/instrumental	1	11.1	48.0
vocal/piano	0	--	--
instrumental/piano	4	44.4	58.5
vocal/instrumental/piano	2	22.2	87.5
Private lessons - Out of school			
Private lessons - Out of school	6	66.7	68.3
No private lessons - Out of school	3	33.3	37.0
Piano experience - In or out of school			
Piano experience - In or out of school	6	66.7	68.3
No piano experience - In or out of school	3	33.3	37.0
Have taken secondary music courses			
Have taken secondary music courses	2	22.2	88.5
Have not taken secondary music courses	7	77.8	49.1
Considered but not pursuing a career in music			
Considered but not pursuing a career in music	4	44.4	55.3
Pursuing a career in music	1	11.1	88.0

most number of minutes per student per week of instrumental lessons at the middle and high school levels (15 minutes). It is one of only three schools to report teaching sightsinging (sightreading) and music theory as a regular part of vocal and instrumental ensemble rehearsals at all levels, and the only one of the four smallest schools to offer music theory and music history courses for high school students. The school and community offer musical opportunities that provide most of the students with a strong fundamental understanding of musical structure and terminology, and in-depth study for those interested students.

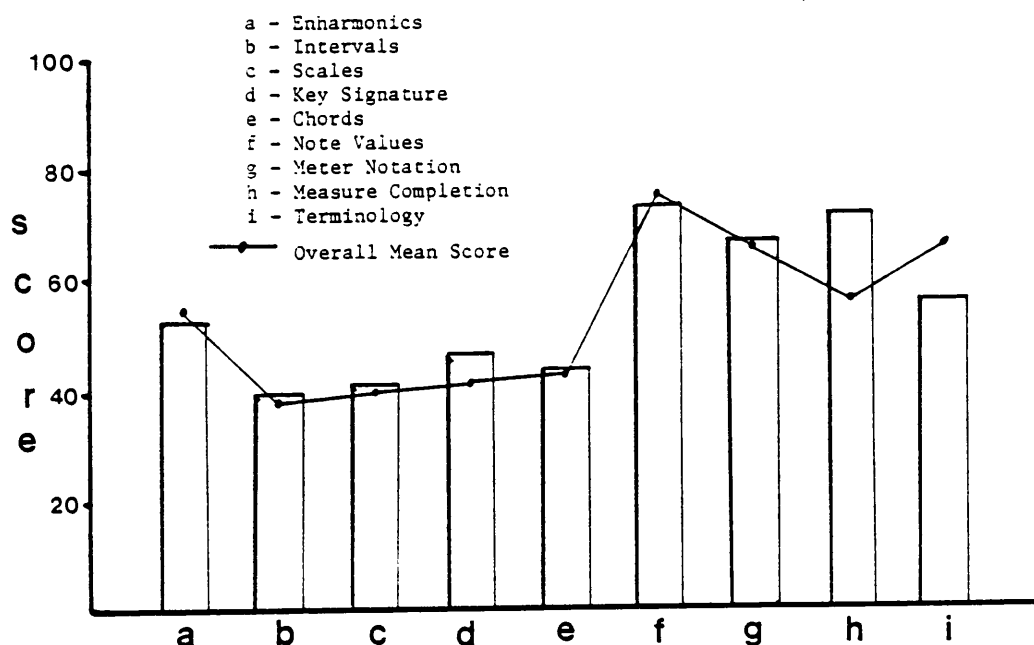


Figure 7. District 3, Student Scores by Subsection.

School District 4

This district is a large city school system with well over 3000 students in grades K-12. As with any urban school district, the students come from a wide variety of backgrounds and family units. The system-wide enrollment is presently increasing after several years of decline. In this district elementary designates the students in grades K-5, middle designates grades 6-8 and high school grades 9-12. Over 1500 students are currently enrolled at the high school level.

The district employs 14.5 full-time equivalent music teachers. Eight of these teach both classroom and vocal music. The other 6.5 teach instrumental music only; two are string teachers. The district does employ a music administrator for 70% administration and 30% teaching.

The students at the elementary level receive an average of 120 minutes of music instruction per week. This is the highest amount of required music instruction for this level of all the schools surveyed. At the middle school the students in grades six and seven receive 50 minutes of music each week; there is no required music instruction for the students in the eighth grade.

Students can enter the instrumental music program in fifth grade. Lessons are 30 minutes once per week and generally have four students in each lesson group. Instrumental ensembles at the elementary level include an elementary concert band and a string orchestra. Approximately 100 students participate in the elementary instrumental program (see Figure 8). At the middle school level the students receive one 40 minute lesson per week in a lesson group of four students. A concert band, string

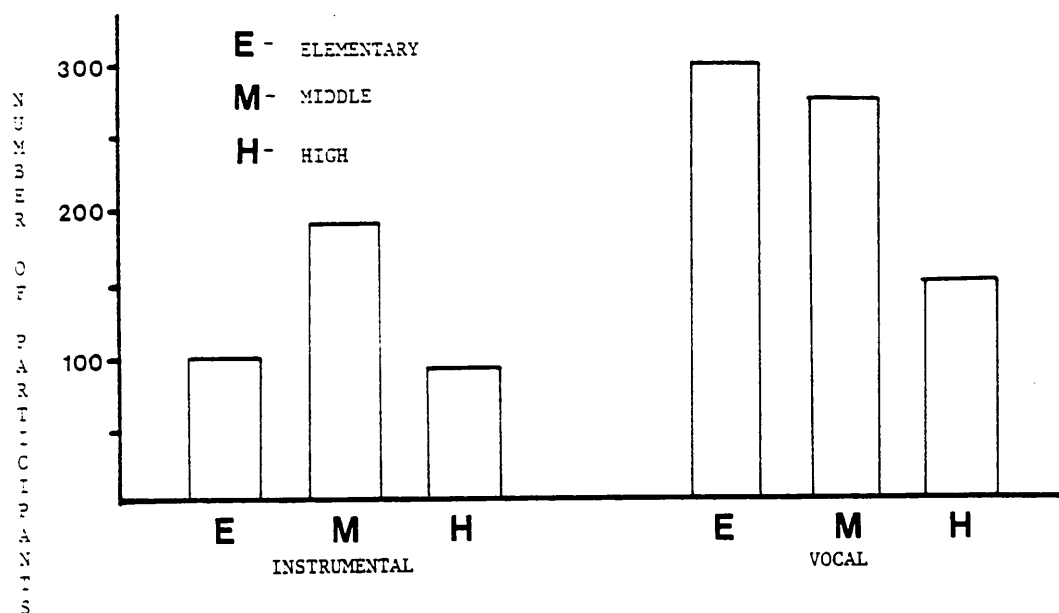


Figure 8. District 4, Number of Participants in Music Ensembles, K-12.

orchestra, stage band/jazz ensemble and numerous small instrumental ensembles are offered for middle school students; 109 students are involved at this level. As with the middle school students, each student in the high school receives one 40 minute lesson each week with three other students. Approximately 95 students participate in concert band, select band, two jazz ensembles, marching band and small ensembles. The concert band does not meet during marching band season. Instead, the rehearsal time is used for the marching band. At present the district does not have an active string program at the high school. The district-wide string program is being rebuilt from the bottom up and there are plans to reinstate this at the high school in the future.

A chorus, select choir, musical and/or operetta productions are offered at each level. For the high school students a swing choir and

small ensembles round out the vocal music offerings. Private or small group lessons are available to the students at the high school level only. No piano instruction is offered in the district. There are approximately 725 students involved in the vocal music program, with 300 at the elementary level, 275 in the middle school, and 150 at the high school level.

Four semesters of music theory courses are available to the high school students. This is a sequence of courses in which theory, sightsinging, ear training, music history and appreciation are integrated. Theory and sightsinging/sightreading instruction are included as a regular part of vocal and instrumental lessons and ensemble rehearsals at all levels.

The sixteen seniors from District 4 had the highest mean test score (59.6) of those in the four large schools; they were surpassed only by the students in District 2, one of the small schools (see Table 8). District 4 was the only school in which the seniors had a more balanced understanding of pitch (59.5%) and rhythm (66.3%), and scored above the mean. Generally, most of the students scored reasonably well on the test (71.4% scored above the mean), but as will be seen with all of the larger schools, there are students scoring poorly (an average of 15% correct answers or less). Two students (12.5%) scored in this region. Some severely low scores may be expected in the larger schools since it may be easier to blend into the ensemble "crowd", be interested only in singing or playing, and "tune out" discussions of form and musical structure. Most of the students in District 4 seem to have listened, however, since 43.8% scored in the top fifteen percent overall. The students scored high average or better in

TABLE 8
DISTRICT 4, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
38.**									6
39.	10	2	0	0	0	0	0	0	12
40.*									14
41.	18	20	10	8	10	8	6	14	94
42.	0	4	0	2	2	0	0	12	20
43.	0	12	0	2	0	2	6	10	32
44.	0	2	0	0	0	0	0	10	12
45.*									31
46.	14	18	8	8	8	10	6	12	84
47*									12
48*									62
49.**									12
50.*									38
51.*									51
52.	18	20	8	10	10	10	6	10	92
53.*									44
54.	16	16	10	6	10	10	6	12	86
55.	18	16	10	8	6	10	6	12	86
56.*									12
57.	10	4	4	4	4	4	2	10	42
58.	16	18	6	8	6	10	6	14	84
59.	18	18	7	8	8	10	4	14	87
60.	10	8	3	4	4	8	2	12	51
61.	10	6	2	4	4	6	4	8	44
62.	18	20	7	10	10	8	6	12	91
63.*									89
64.	14	20	7	10	10	10	6	12	89
Ave. Score	13.0	12.75	5.13	5.75	5.75	6.63	4.13	10.86	59.6
%	65.0	63.8	51.3	57.5	57.5	66.3	68.8	77.6	59.6

*student has not lived in the district since fourth grade
**student has studied less than four years

each subsection of the test and had the highest district scores for the basic (64.0%) and advanced (46.9%) sections of the test. (District 2, with higher average scores, is only marginally considered a district because of the size of its senior class in music.)

In Table 9 the near twenty point score difference between students with private lessons and without, as mentioned in the results of District 1, is again present. The fact that 81.3% of the students had studied privately, the highest such percentage of the schools surveyed, is quite remarkable. An equally startling statistic is that 56.3% of the seniors had taken one or more semesters of music theory and 75.0% had considered a career in music. District 4 also had the largest percentage of students pursuing music careers (31.2%). Aside from the motivational and historical considerations of the students, there are district factors which may contribute to the performance of the students. District 4 provides its students with the most required music instruction of the eight districts, 93.8 minutes per week (K-8), and it had the lowest teacher/student ratio, one teacher for every 59.2 students. These two factors alone are quite remarkable, but with the regular addition of theory and sight-singing instruction in all lessons and ensembles and four elective semesters of an integrated theory/ear training/history course, it seems clear why the students scored so well. All of this reflects a commitment to music on the part of District 4's administration and community.

TABLE 9

DISTRICT 4, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	16	100	59.6
Standard Deviation - 31.34			
Lesson Background - In or out of school			
vocal only	1	6.0	92.0
instrumental only	4	25.0	67.0
piano only	0	--	--
vocal/instrumental	6	38.0	42.3
vocal/piano	1	6.0	86.0
instrumental/piano	3	19.0	72.7
vocal/instrumental/piano	1	6.0	86.0
Private lessons - Out of school			
Private lessons - Out of school	13	81.3	66.2
No private lessons - Out of school	3	18.7	48.0
Piano experience - In or out of school			
Piano experience - In or out of school	5	31.3	78.0
No piano experience - In or out of school	11	68.7	55.8
Have taken secondary music courses			
Have taken secondary music courses	9	56.0	82.67
Have not taken secondary music courses	7	44.0	37.1
Considered but not pursuing a career in music			
Considered but not pursuing a career in music	6	38.0	66.8
Pursuing a career in music	5	31.3	79.4

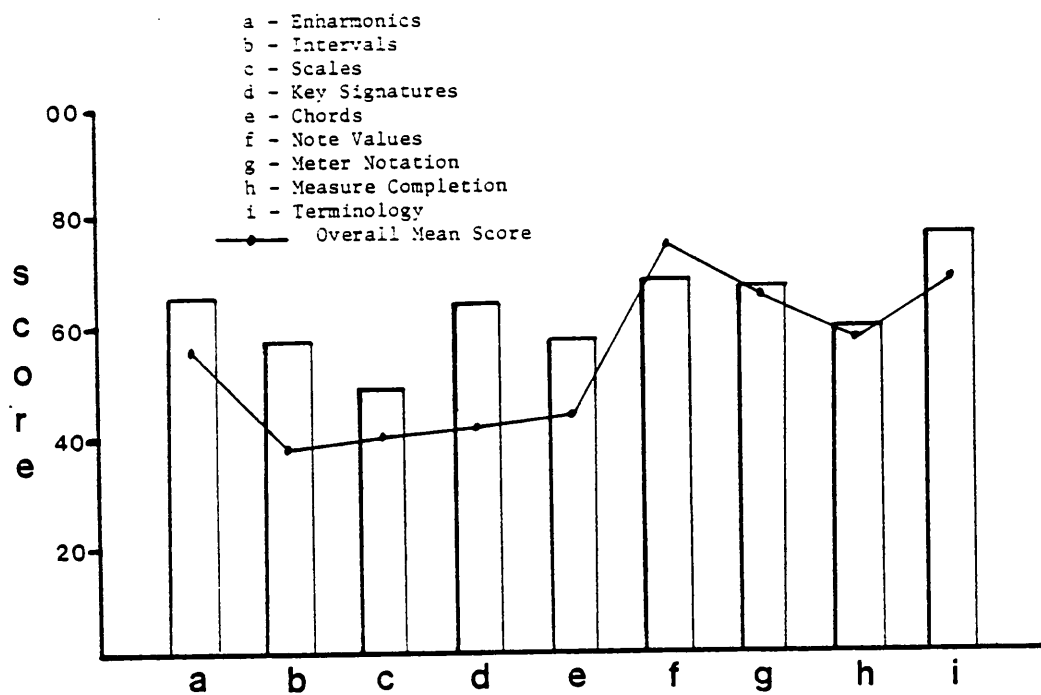


Figure 9. District 4, Student Scores by Subsection.

School District 5

The students in this school system are from a large geographic area which contains urban, suburban, and rural segments. The student population is between 2000 and 2499 (K-12), and the enrollment for the high school alone (9-12) is 750 to 999. The other grade organization is elementary (K-5), and middle (6-8).

A music staff of ten provides the music education for the district. Six of these teachers are instrumental music only, including strings, and the other four teach vocal and classroom music. While the district does not employ a full-time music administrator, one of the regular faculty serves in this capacity and is both remunerated and allotted release time. The required music instruction for all students includes two 40-minute sessions each week in grades K-7, and a blocked course with other activities averaging 70 minutes per week for the eighth grade.

Instrumental instruction can begin as early as first grade for those wishing to enter the Suzuki string program. Of all the schools which participated in the study, district 5 provides the earliest opportunity for music performance instruction. When these Suzuki students are able, they may enter an elementary string orchestra. Wind and percussion instruction commences in fourth grade with a 30-minute lesson once per week in a lesson group of five students. When these students are ready, they may join the fifth grade students in an elementary band. Approximately 185 students participate in the combined elementary instrumental program (see Figure 10). Instrumental lessons at the middle school level are 45 minutes per week and generally have an average of five students to a group. Ensembles

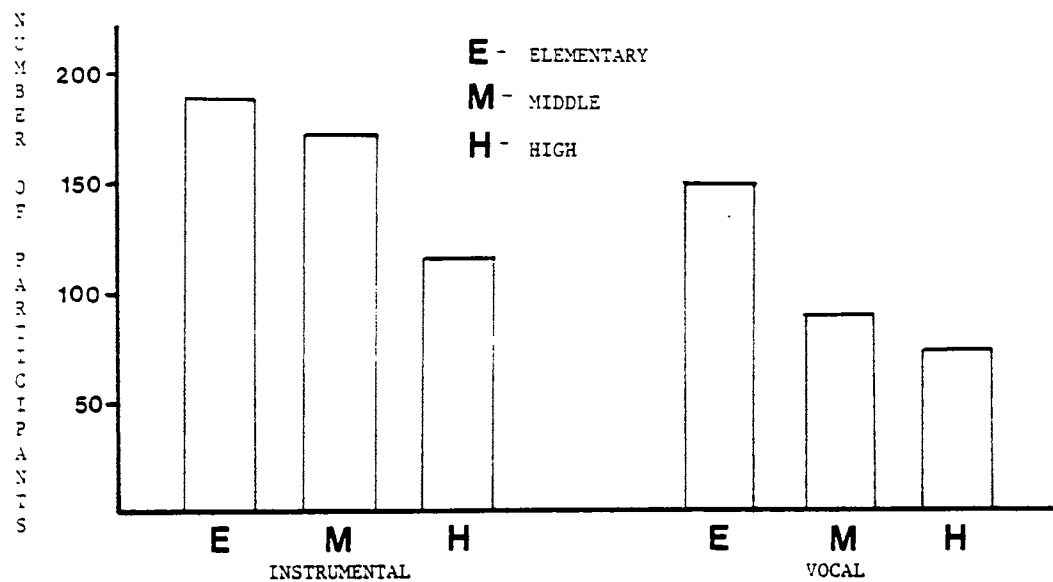


Figure 10. District 5, Number of Participants in Music Ensembles, K-12.

at this level include a concert band, orchestra, string orchestra, stage band/jazz ensemble, marching band, handbell choir, and many small ensembles. An estimated 165 students participate in the instrumental program in the middle school. In the high school program, the instrumental lesson time and size remain the same; 110 students participate in a concert band, orchestra, string orchestra, stage band/jazz ensemble, marching band and small ensembles.

The vocal program at the elementary level consists of a chorus involving approximately 150 students. At the middle school there is a select choir with a total of 80 students participating in the vocal ensemble. The high school program offers a chorus, select choir, swing choir and the students may enroll in private or small group voice and/or piano lessons. At the high school level district 5 offers its students one full year of music theory, one year of a consolidated theory and sightsinging course, one year of class piano, and one year of class guitar. Overall, this district appears to provide a formidable music program and, indeed, does offer its students many more opportunities than both smaller and larger schools. The only point of concern is the response by the director indicating that neither music theory nor sightsinging were taught within the vocal portion of the high school music program.

Overall the students of District 5 ranked fifth with a mean test score of 50.5. They also ranked fifth on the basic portion of the test, answering 58.5% of the questions correctly, and ranked fourth for the advanced concepts, 32.9%. The test scores of the seventeen qualifying seniors reveal a general comprehension of basic note and rest values, enharmonics, meter, and terminology (see Table 10). For these subsections

TABLE 10
DISTRICT 5, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
65.*									8
66.*									50
67.	2	10	0	8	2	8	4	6	40
68.**									24
69.	8	18	6	6	10	10	4	14	76
70.*									20
71.	0	12	6	4	6	8	4	12	52
72.	2	4	1	0	0	2	2	6	17
73.	0	4	1	0	2	4	4	6	21
74.	8	8	3	2	0	6	6	10	43
75.	12	16	3	6	6	8	6	10	67
76.	6	18	6	6	2	4	4	10	56
77.	8	10	4	2	6	8	4	10	52
78.	4	14	8	4	4	6	6	6	52
79.	8	2	0	0	0	0	2	8	20
80.	4	10	2	2	0	6	4	10	38
81.	14	20	6	6	6	8	6	14	80
82.*									58
83.	2	8	4	2	6	6	2	8	38
84.	4	10	4	0	4	8	6	8	44
85.	20	20	10	10	10	10	6	10	96
86.	10	18	6	0	8	8	6	12	66
Ave. Score	7.6	11.88	4.67	3.87	4.8	6.93	5.07	10.67	57.2
%	38.0	59.4	46.7	38.7	48.0	69.3	84.5	76.2	57.2

*student has not lived in the district since fourth grade
**student has studied less than four years

the students were above or near the overall subsection mean scores and had answered at least 50% of the questions correctly. Although they scored above the mean for the subsection on intervals, scoring above the mean does not necessarily imply comprehension, only some measure of relative comprehension. Indeed, the overall mean score for the intervals' subsection was only 38.6% (see Figure 11). For scale recognition District 5 was approximately seven points above the 40.0% average. The students scored roughly ten percentage points below the mean for both the major and the minor key signatures, a bit of an anomaly since all seventeen students were either instrumentalists, pianists, or both. Eleven students (59.0%) had had piano instruction, five of these in school (see Table 11).

The results of the test, though middle average and not outstanding, reflect a basic understanding of the measured concepts by nearly all of the seniors in District 5's music program. The second-best amount of required music instruction (76.3 minutes per week in K-8) may be a contributing factor in this basic understanding. Additionally, District 5 students had participated in more high school ensembles than any of the other students: 4.5 different organizations. (See APPENDIX I for specific check-off options.) Ensemble opportunities, coupled with the opportunities for piano, voice, and guitar instruction in school, probably play some role in the scores of the students. To what degree these variables, including private and music theory classes, affect the test results cannot be fairly judged by this preliminary investigation.

The four students (23.5%) planning a music career averaged 76.0% on the test. Here again the small sample is problematic. One of the four, student 71, answered 52% correctly and the other three averaged 84%.

TABLE 11

DISTRICT 5, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	17	100	50.5
Standard Deviation - 21.77			
Lesson Background - In or out of school			
vocal only	0	--	--
instrumental only	4	23.5	34.3
piano only	1	6.0	76.0
vocal/instrumental	3	18.0	43.3
vocal/piano	0	--	--
instrumental/piano	5	29.0	56.0
vocal/instrumental/piano	4	23.5	61.8
Private lessons - Out of school			
Private lessons - Out of school	11	65.0	60.4
No private lessons - Out of school	6	35.0	33.3
Piano experience - In or out of school			
Piano experience - In or out of school	10	59.0	33.6
No piano experience - In or out of school	7	41.0	38.1
Have taken secondary music courses			
Have taken secondary music courses	7	41.0	62.3
Have not taken secondary music courses	10	59.0	43.4
Considered but not pursuing a career in music			
Considered but not pursuing a career in music	7	41.0	49.1
Pursuing a career in music	4	23.5	76.0

Student 71 was the only student from District 5 who intended to pursue a career in music and had not taken piano lessons. Nine years of instrumental lessons, both in and out of school, and two semesters of music theory classes did not seem to make as much difference as a little piano instruction.

The highest scoring student in the district, 85, had participated in nine instrumental and vocal ensembles in high school, taken two semesters of music theory, two semesters of piano and had studied three brass instruments and cello in school.

The district seems to be providing most of its students with a fundamental comprehension of musical structure, and together with the community, is providing opportunities for further development. Though there is certainly room for improvement, the performance of the students is adequate and should not be diminished in stature.

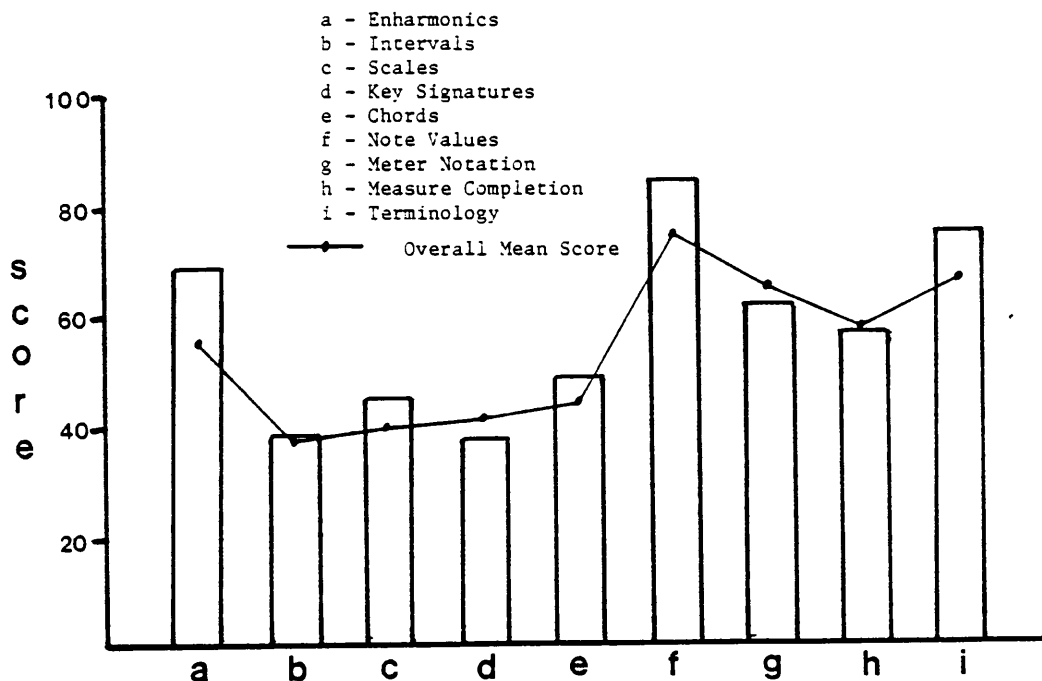


Figure 11. District 5, Student Scores by Subsection.

School District 6

District 6 is the smallest school surveyed and brings students from the surrounding rural area to a small town school. The total K-12 enrollment is between 500 and 999 students. The high school has less than 250 students in grades 9-12. The rest of the grades are elementary (K-6) and middle (7-8).

Three full-time music faculty comprise the music education staff for the district. Two of the teachers cover classroom music and vocal music, and one teaches instrumental music only. These teachers travel between schools and, accordingly, report to losing a great deal of instructional time. The district does not employ a full-time music administrator and none of the regular music faculty are responsible for these duties.

Classroom music instruction at both the elementary and middle level is 50 minutes per week. Again, this is an average. As with all the schools surveyed, the courses are blocked, and the course may be ten weeks of daily class meetings. No matter how the course is designed, the figures provided for this study indicate average minutes per week for the entire school year.

The instrumental program begins in fifth grade with weekly lessons for 20 minutes with an average of four students per group. Fifth and sixth grade students (approximately 50) play in the elementary band (see Figure 12). Middle school instrumental students receive 40 minutes of lesson time each week with an average of 8 in a group. There are 38 students in the middle school band program and these students, aside from having a concert band of their own, may participate in the district's marching band and

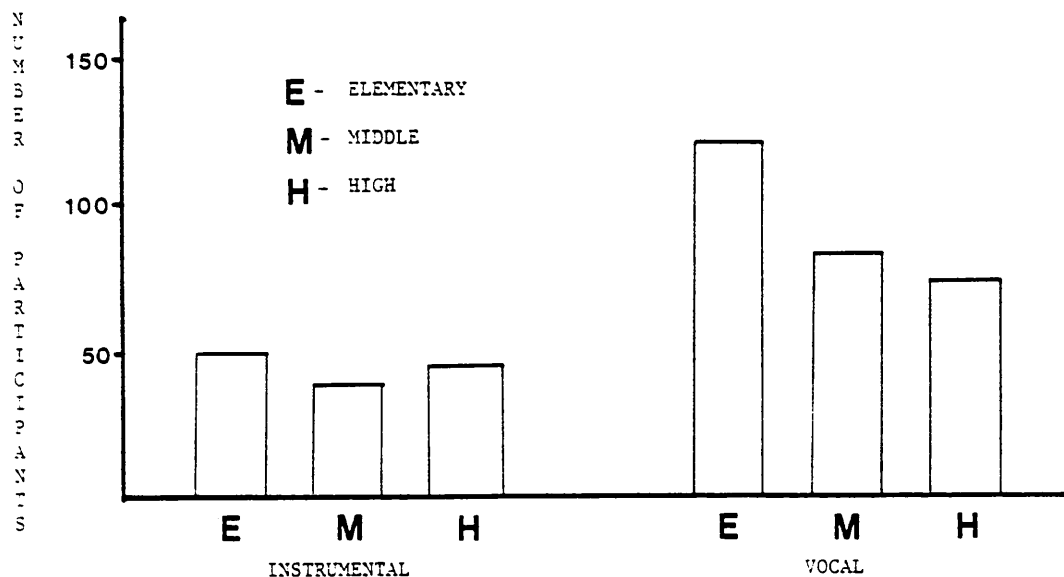


Figure 12. District 6, Number of Participants in Music Ensembles, K-12.

stage band/jazz ensemble. Both of these activities are strictly extra-curricular and voluntary. At the high school, instrumental lessons are 40 minutes per week with 7 in a group. The 45-member concert band meets twice each week.

The vocal ensembles in the district consist of a chorus, select choir, and musical and/or operetta productions annually at each level. The elementary ensembles contain 120 students, the middle school, 85, and the high school, 75. Private and/or small group voice lessons are available to students at the middle and high school levels. This is the only district to provide such lessons to grades seven and eight. Piano lessons are not offered by the district at any level.

No music theory or other music courses are offered at the secondary level. The directors indicate that sightreading skills are developed in the instrumental lessons, but theory and sightsinging are not a part of either vocal or instrumental ensemble rehearsals at any level.

Of those districts surveyed this district has the lowest amount of teacher/student contact time. In addition, the teacher/student ratio is high. These two factors combine for a low amount of per student time and contradict the common notion that there is more personalized attention in a small school. However, this district has distinguished itself in music competitions with other schools of its size in both marching activities and the jazz ensemble. As noted, both of these activities are extra-curricular.

District 6, with the smallest K-12 enrollment, had more seniors than the other three small districts. This fact alone indicates the music program may be active and cohesive enough to attract and retain students. Fifteen seniors were tested, of whom eleven met the requirements for inclusion in the study. These students scored below the mean in all but two subsections of the test, meter notation and terminology, and near the mean for enharmonics and note values (see Table 12). For all other subsections the students were fifteen or more percentage points below the subsection mean score. The intervals, scales, chords, and key signature portions of the exam are of grave concern because they indicate most of the students have little or no comprehension of these concepts. The percentage of correct answers for these sections can be attributed to a few individuals. Student 97 had the district's highest score, 84. The district's lowest score, 22 (student 10), is not as poor as it may seem. Five other districts had students who scored lower.

TABLE 12
DISTRICT 6, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
87.	2	8	3	0	4	6	4	12	39
88.*									27
89.	2	12	0	4	2	2	2	2	26
90.**									10
91.	6	12	1	4	10	6	4	10	53
92.*									10
93.	4	16	0	6	4	4	6	12	52
94.	2	8	0	2	0	4	4	4	24
95.*									32
96.	4	12	2	0	0	2	4	10	34
97.	16	16	6	8	8	10	6	14	84
98.	6	2	0	0	8	10	6	14	46
99.	6	18	2	0	6	6	6	14	58
100.	0	14	1	0	0	4	4	10	53
101.	0	10	4	0	0	0	0	10	24
Ave. Score	3.82	11.64	1.73	2.18	2.91	4.91	4.18	10.55	43.0
%	19.1	58.2	17.3	21.8	29.1	49.1	69.7	75.4	43.0

*student has not lived in the district since fourth grade
**student has studied less than four years

District 6 ranked eighth of the nine high schools on the basic test and ninth on the advanced questions, an indication that the students are only slightly more familiar with the most basic fundamentals. Whether the students' lesson and ensemble experience was vocal and/or instrumental had very little impact on the scores (see Table 13). The high teacher/student ratio (1:206.5) and low average of 50 minutes per week of required music (K-8) are, probably, the two biggest factors influencing the scores of the students. In a performance oriented school with these constraints, like District 6, all contact time (lessons and ensembles) is usually devoted to the rote teaching of band or choral music, because the time is too short to use for classroom or studio-type lectures. This is not to say that this situation is unique in District 6, but most of the other districts tested offer secondary music courses which provide the opportunity for learning the concepts slighted or never fully explained in lessons and ensembles. Unless another music teacher is hired, it seems unlikely theory courses will be added in the near future.

The community has lesson and ensemble opportunities available to the students but even the private lessons, including piano, do not appear to be covering music theory. Student 97 had participated in a variety of in- and out-of-school lessons and ensembles and the high score may reflect his experience, particularly when observed that there are three other students with more years of private instrument and piano lessons whose average score is only 39.0. The school and/or the community should examine some way to fill this glaring need. Five students (45.5%) had considered careers in music but decided against it. District 6 was the only district in which no student is pursuing a career in music.

TABLE 13

DISTRICT 6, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	11	100	43.0
Standard Deviation - 18.18			
Lesson Background - In or out of school			
vocal only	0	--	--
instrumental only	3	27.3	37.7
piano only	0	--	--
vocal/instrumental	4	36.3	41.3
vocal/piano	1	9.0	38.0
instrumental/piano	0	--	--
vocal/instrumental/piano	3	27.3	49.7
Private lessons - Out of school	7	63.6	42.3
No private lessons - Out of school	4	36.4	43.3
Piano experience - In or out of school	4	36.4	47.0
No piano experience - In or out of school	7	63.6	39.7
Have taken secondary music courses	0*	--	--
Considered but not pursuing a career in music	5	45.5	50.6
Pursuing a career in music	0	--	--

*District does not offer classroom music instruction at the secondary level.

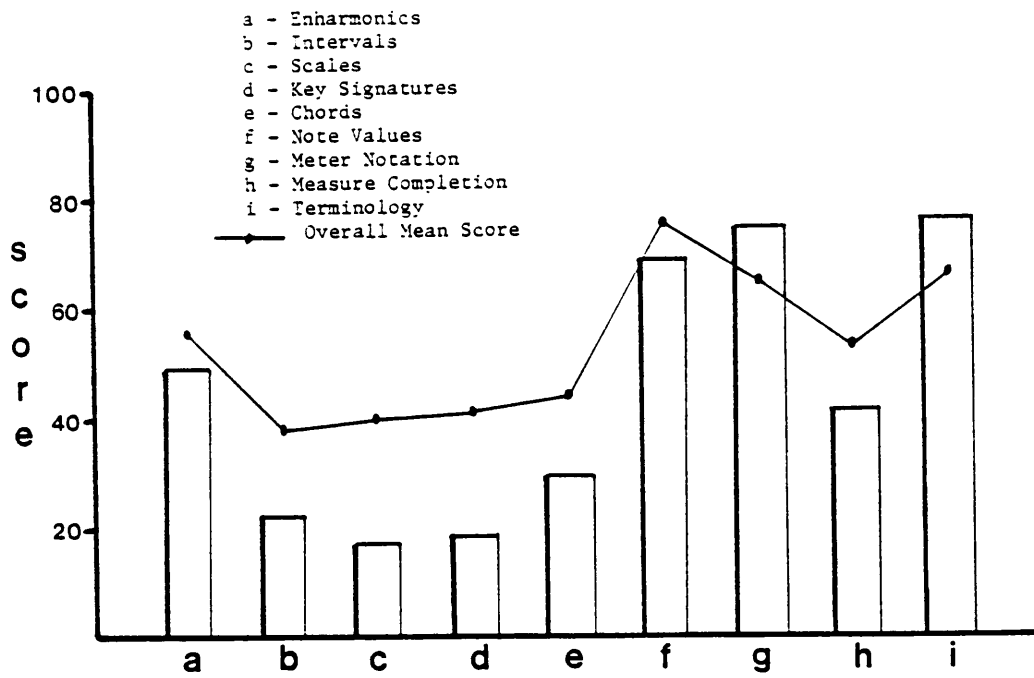


Figure 13. District 6, Student Scores by Subsection.

School District 7

This district is the largest of the eight schools surveyed and includes two high schools, hereafter designated 7A and 7B. There are more than 8000 students in the district K-12 and over 1500 students in grades 9-12. The grade configuration K-6, 7-8, and 9-12 is used. The two high schools service different school and community populations. As one administrator explained, 7A has students from "blue collar" families and 7B serves the "white collar" and "inner-city" students.

The music staff includes 28.3 full-time equivalent (FTE) teachers, two of whom serve 40 percent time as music department chairs for vocal and instrumental, and a district administrator who is also in charge of the other humanities and manual arts. Of the teaching staff 13.8 FTE teach instrumental music and 14.5 FTE teach both classroom and vocal music. Students at the elementary level receive 30 minutes of music instruction per week and 100 minutes per week when they reach the middle school. Middle school students who participate in either the vocal or instrumental ensembles receive class instruction in theory, history and literature.

The instrumental experience begins in third grade for those entering the string program and in fourth grade for beginning students in winds and percussion. The ensemble experience also begins in fourth grade with a beginner band for fourth grade students only. The other elementary level ensembles include a band of combined grades, an orchestra, a string orchestra, and a stage band/jazz ensemble. The instrumental lessons for elementary students are for 30 minutes each week with an average of four students per group. Approximately 2200 students participate in the

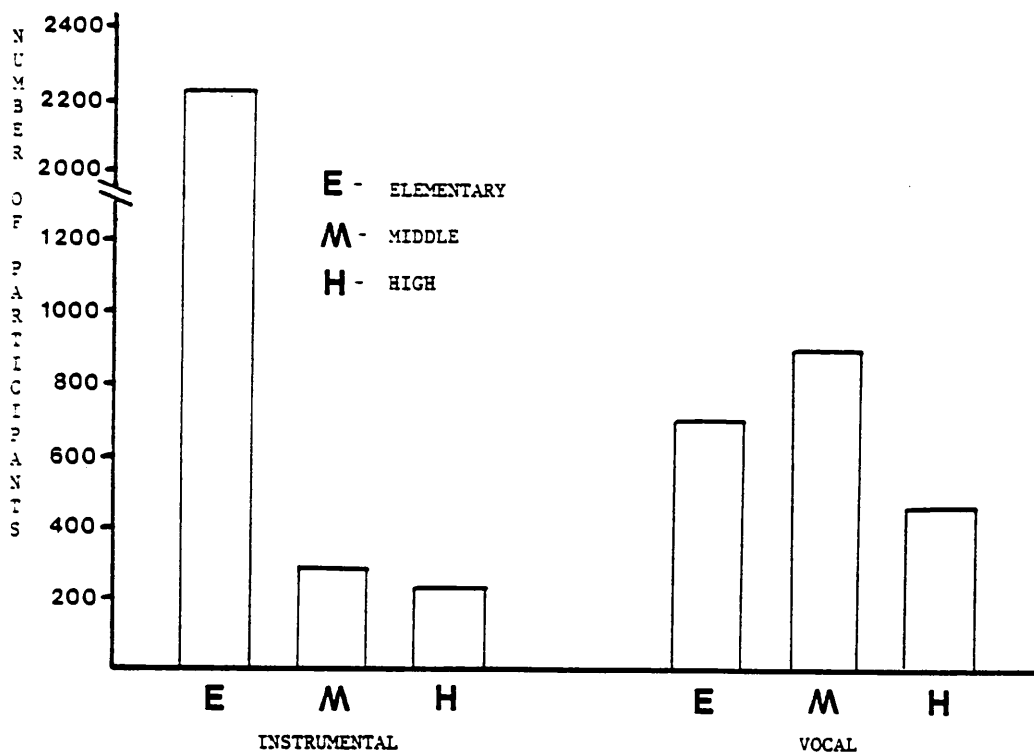


Figure 14. District 7, Number of Participants in Music Ensembles, K-12.

instrumental music program at the various elementary schools in this district (see Figure 14).

In the middle schools, instrumental students have one 40-minute lesson each week with four students in each group. The middle school concert band, select band, orchestra, string orchestra, stage band/jazz ensemble, and various small ensembles encompass an estimated 275 students. The high school music program provides the same lesson scheme and ensembles as the middle school program. High school 7A also has a marching band, but 7B eliminated it following a vote by the instrumental students. The orchestra and string orchestra are district-wide ensembles. The students, bused from the high schools to a central location for rehearsals, must arrange for their own transportation home at the end of rehearsals. The marching band at 7A and the stage bands at 7A and 7B rehearse after school and are designated extra-curricular.

The vocal music program is quite simply a chorus and select choir at all levels, with the addition of a swing choir, madrigal group and musical productions at the secondary level. A large-group voice class for instruction in diction, vocal production, breathing, etc. is available for high school students. This is the only surveyed school which provides this and it seems a reasonable and viable alternative to voice lessons. Neither private nor small group voice or piano lessons are offered at any level. Approximately 2070 students participate in the vocal music program in district seven with 700, 900, and 470 students respectively involved at the elementary, middle and high school levels.

This district offer its high school students the largest selection of music courses of all those included in the survey. In addition to the previously mentioned voice class, the students may elect to take a three-year sequence in music. This six-semester sequence begins with Theory I (rudiments), Theory II (harmony) and, finally, Theory III (composition with history and literature). In addition, two semesters of Music History are available. Theory II and III and the second semester of Music History are available only to those students who have successfully completed the first course in the respective series. Keyboard and aural skills are included in all three levels of theory instruction. Sightsinging and sightreading are taught as an integral part of instrumental lessons as well as instrumental and vocal ensemble rehearsals. Instruction in music theory is also regularly taught in these rehearsals.

The scores of the students in District 7 reflect the diversity one would expect in a large school system. District 7 had both the highest

(100) and lowest (2) individual scores (see Tables 14 and 16). Of the forty-one seniors who met the necessary criteria, 26 were from high school 7A, and 15 were from 7B. The dramatic drop in the number of students participating in ensembles between elementary school and high school (see Figure 14) probably reflects a process of selectivity rather than attrition. If in fact it is selectivity, this does not seem to be reflected in the scores.

High school 7A students, in answering an average of 39.0% of the questions correctly, placed the school at low average on the Figure 1 scale of measurement, and ninth of the nine high schools. The students scored well below the mean for all the subsections of the test (see Figure 15). In two subsections, the students scored above 50% correct, note values and terminology. These are the only areas, however, that merit acceptable ratings. On the basic test the students of 7A also ranked 9th with an average score of 41.0%. On the advanced concept questions, they ranked 8th overall with an average of 27.3%.

The students from high school 7B, with a mean score of 44.7, ranked 7th overall. There is one subsection, intervals, in which the students excelled. Their score, 52.0, was the second highest in the districts surveyed. It is also the only subsection in which the students surpassed the mean (see Figure 16). The scores for the basic (47.0%) and advanced (31.3%) portions of the test reveal that the students were not familiar with double-flats and double-sharps (30.0%), but were more aware of enharmonic principles (55.5%).

The district information provides little insight into reasons for the low averages. The teacher/student ratio, 1:124.6 for the total district

TABLE 14
DISTRICT 7A, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
102.	2	2	1	2	0	4	2	8	21
103.	20	20	10	10	10	10	6	14	100
104.	4	14	8	0	0	6	6	10	48
105.**									98
106.	14	0	2	6	4	0	0	12	38
107.	16	16	10	4	8	8	6	12	80
108.**									23
109.	20	20	10	8	10	10	6	14	98
110.	8	18	2	10	6	10	6	6	66
111.**									10
112.**									6
113.	2	0	0	4	0	0	6	4	16
114.	0	0	0	0	0	0	2	12	14
115.*									4
116.	0	4	0	0	2	0	4	6	16
117.	0	0	0	0	0	2	2	6	10
118.	4	4	0	0	0	6	4	6	24
119.**									42
120.	14	6	2	0	2	2	4	10	40
121.**									31
122.**									8
123.	0	8	0	6	2	0	0	6	22
124.**									54
125.*									10
126.	20	20	10	10	10	8	6	14	98
127.	0	0	0	2	6	0	4	2	14
128.	2	6	1	4	0	0	6	8	27
129.	16	12	0	0	0	0	6	12	46
130.**									38
131.	0	0	0	0	0	0	0	10	12
132.	0	2	2	0	2	0	4	4	14
133.**									10
134.	2	0	0	0	0	0	4	6	12
135.	6	8	0	0	0	0	4	6	24
136.**									10
137.	20	18	2	4	6	10	6	10	74
138.*									50
139.**									2
140.**									8
141.	0	14	0	0	0	0	4	2	20
142.	0	0	0	0	0	0	2	0	2

TABLE 14 - Continued

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
143.*									96
144.	18	14	10	6	8	6	6	12	80
Ave. Score	7.23	7.92	2.69	2.92	2.92	3.15	4.15	8.15	38.2
%	36.2	39.6	26.9	29.2	29.2	31.5	69.2	58.2	38.2

*student has not lived in the district since fourth grade
 **student has studied less than four years

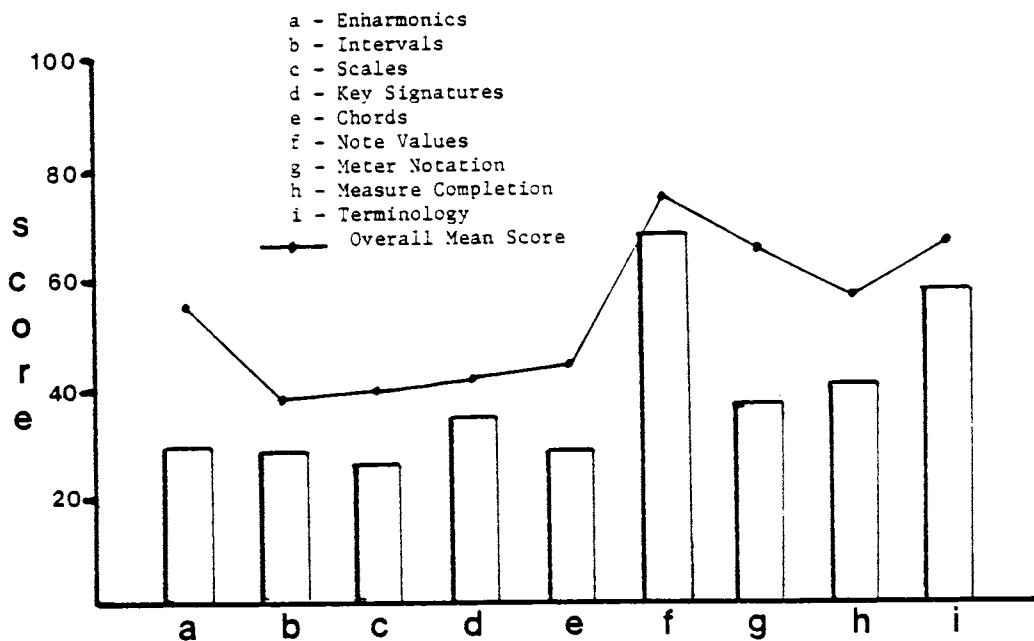


Figure 15. District 7A, Student Scores by Subsection.

TABLE 15

DISTRICT 7A, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	26	100	38.2
Standard Deviation - 31.18			
Lesson Background - In or out of school			
vocal only	3	11.5	22.0
instrumental only	6	23.1	30.2
piano only	0	--	--
vocal/instrumental	12	46.2	42.2
vocal/piano	0	--	--
instrumental/piano	3	11.5	44.7
vocal/instrumental/piano	2	7.7	63.0
Private lessons - Out of school			
Private lessons - Out of school	9	34.6	58.9
No private lessons - Out of school	17	65.4	28.4
Piano experience - In or out of school			
Piano experience - In or out of school	5	19.2	52.0
No piano experience - In or out of school	21	80.8	35.9
Have taken secondary music courses			
Have taken secondary music courses	13	50.0	54.3
Have not taken secondary music courses	13	50.0	23.6
Considered but not pursuing a career in music			
Considered but not pursuing a career in music	10	38.5	40.2
Pursuing a career in music	5	19.2	72.8*

*One of the scores reflected in this average is a 12 which dramatically lowers the average score of the other four students - 88.0

TABLE 16
DISTRICT 7B, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
145.**									16
146.	16	20	8	10	8	6	4	14	86
147.*									12
148.	18	16	2	8	8	6	6	6	70
149.	2	2	1	6	2	6	2	4	24
150.	2	14	1	4	0	4	4	4	33
151.	20	20	10	10	10	6	6	14	96
152.	18	20	2	10	8	6	6	8	78
153.**									14
154.*									62
155.**									6
156.*									24
157.	4	8	1	6	2	4	4	6	35
158.	2	2	0	0	2	2	4	4	16
159.**									8
160.	4	4	1	0	2	6	0	6	23
161.	16	16	0	4	0	8	4	12	60
162.**									48
163.**									28
164.**									12
165.	0	0	0	0	0	0	4	2	6
166.**									8
167.**									9
168.**									14
169.	0	0	0	2	0	0	2	4	8
170.	2	0	0	0	2	0	2	2	8
171.*									78
172.	0	8	0	8	2	4	4	10	36
173.	14	18	10	10	10	10	6	14	92
Ave. Score	7.87	10.53	2.4	5.2	3.73	4.53	3.87	7.33	44.8
%	39.4	52.7	24.0	52.0	37.3	45.3	64.5	52.4	44.8

*student has not lived in the district since fourth grade
**student has studied less than four years

music program, is not unusually high, and the average minutes of required music instruction and per pupil lesson time are not unusually low. The lesson, ensemble, and music course opportunities make an impressive-looking program. What then, is the reason for these low averages?

It may be that not enough students were tested to establish a reliable mean. Since District 7 provided one-third of the students for the survey, the actual mean may indeed be lower which would reveal more clearly the present difficulty the school districts are having in providing this aspect of music instruction for all students. Of greater immediate importance, perhaps, is the apparent inability of the school districts to provide the most talented students with a functional understanding of musical structure; without the latter, pursuing a career in music is difficult, at best. Of the students who scored above 70%, nearly all had taken theory class(es) in school and all but one had had private lessons (see Tables 15 and 17). Though this obscures the source of the students' theory knowledge, it does clarify its importance. Of particular concern are the scores of two students: student 131 (score 12) and student 169 (score 8) since both of these students are planning to pursue careers in music. Student 131 had not studied privately and had had no piano experience but had taken theory classes in school. Student 169 had eleven years of piano instruction, three years of private lessons on a wind instrument, but had not taken theory classes in school. If these two scores are true and just, then the system has allowed two students to graduate without even the most basic competency for their career. It may be that this is more a matter for the guidance counselor and not the music teachers.

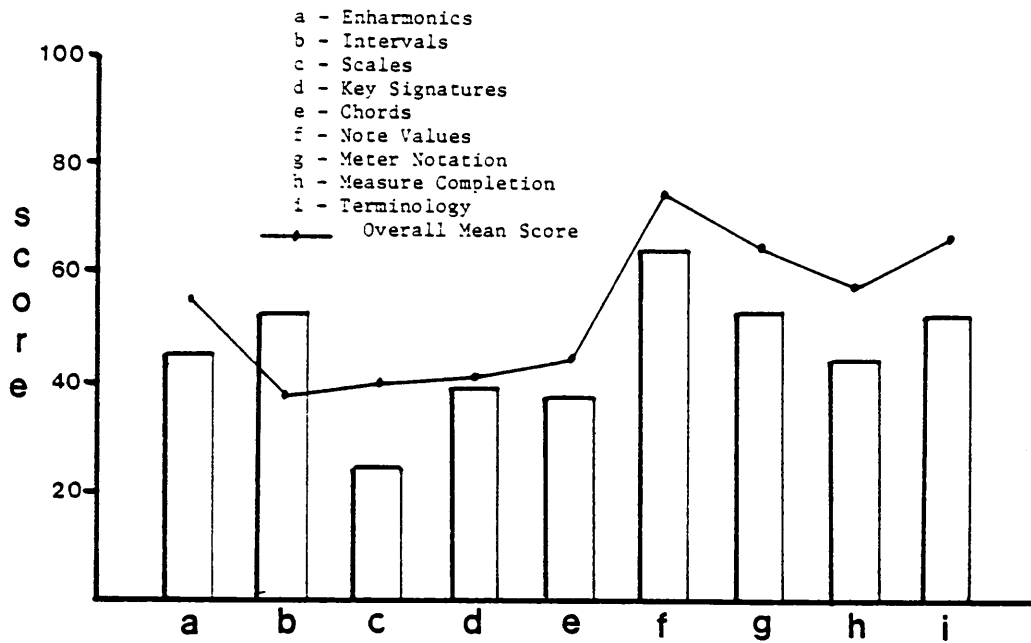


Figure 16. District 7B, Student Scores by Subsection.

TABLE 17

DISTRICT 7B, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	15	100	44.8
Standard Deviation - 32.45			
Lesson Background - In or out of school			
vocal only	0	--	--
instrumental only	4	26.7	36.8
piano only	0	--	--
vocal/instrumental	2	13.3	47.0
vocal/piano	0	--	--
instrumental/piano	5	33.3	57.4
vocal/instrumental/piano	4	26.7	35.5
Private lessons - Out of school	11	73.3	50.0
No private lessons - Out of school	4	26.7	30.0
Piano experience - In or out of school	9	60.0	47.7
No piano experience - In or out of school	6	40.0	40.2
Have taken secondary music courses	8	53.3	66.0
Have not taken secondary music courses	7	46.7	20.3
Considered but not pursuing a career in music	2	13.3	51.0
Pursuing a career in music	4	26.6	62.5*

*One of the scores reflected in this average, an 8, dramatically lowers the average score, 80.7, of the other four students

School District 8

A small school system in a predominantly agricultural area, district 8 serves the students from two small towns and the surrounding area, with a district enrollment of 1000-1499 for grades K-12; the high school enrollment is 500-749. The grades in the district, organized into elementary (K-4), middle (5-7), and high school (8-12), are grouped differently from the other schools in the survey. This configuration reflects the decline in the student population and the need to maximize building usage.

Four full-time music teachers are employed by the district. There is one teacher for each of the specific types of instruction (instrumental, vocal and classroom) and one teacher who teaches some in each of these subdisciplines. Interestingly, it is the high school music director who has this variety of teaching responsibilities. There is no music administrator employed by the district and no music teacher is assigned these duties.

Elementary school students receive an average of 100 minutes of required music instruction each week. When the students reach the middle school (grades 5-7), this number is reduced to 50 minutes per week. As with most of the schools, middle school music classes are blocked either quarterly or in trimesters along with other activities. There are no required music classes for grades 9-12, but the eighth grade, which is housed in the high school, receives the same 50 minutes as the other middle school grades.

Students wishing to learn an instrument may begin lessons in fourth grade but no ensemble is available to them until they reach fifth grade and

the middle school band. Lessons for the fourth grade beginners are 40 minutes long once a week and have an average of eight students in each group. Approximately 75 students participate in the first year of the instrumental program (see Figure 17). At the middle school level, lessons are still 40 minutes once a week, but the number of students in a group drops to six. In the survey year, there were 62 students participating in the middle school instrumental program and the concert band (combined grades). High school instrumental lessons, also 40 minutes, have an average of four students in each group. As well as a concert band, a marching band and a stage band/jazz ensemble are available at the high school. The marching band is required for all those participating in the instrumental program and it rehearses in place of the concert band during the marching season. There are 83 students participating in the high school instrumental program.

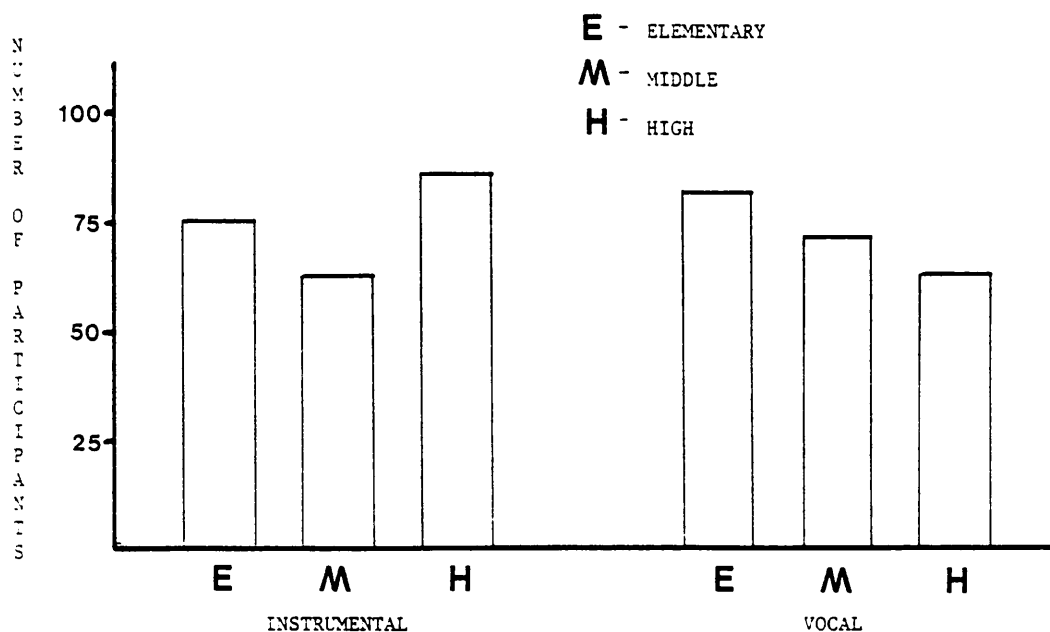


Figure 17. District 8, Number of Participants in Music Ensembles, K-12.

The vocal program consists of a chorus at all three levels and the addition of a select choir at the middle school. No voice lessons are offered in the district at any level. Approximately 80 students participate in the vocal ensemble at the elementary school, 70 at the middle, and 64 at the high school. As with most of the schools surveyed, district 8 does not offer any form of piano instruction. It does, however, allow private piano teachers from the community to teach piano lessons for elementary and middle school students in the schools, and the students are released from other classes in the same manner as instrumental lessons. The students pay the piano teachers individually for these lessons.

There are no theory courses, or any other music courses, available to the high school students. The directors have indicated, however, that sightreading and theory are included as a regular part of the vocal and instrumental ensemble rehearsals and all instrumental lessons.

The seven seniors tested in District 8 had a mean test score of 54.1 which ranked them fourth with the other schools. By correctly answering 61.3% of the basic questions and 30.0% of the advanced questions, the students demonstrated a reasonable understanding of the concepts measured. Two subsections of the test, intervals and minor key signatures, fall short of the mean (see Table 18, Figure 18). The students scored highest on the subsection devoted to note values (90.3%) and second highest for meter notation (82.8%). These are impressive when the program for theory education is considered. All in-school theory instruction must be given during lessons and ensembles. The difference in scores between students with and without private lessons or piano is not as great as at the other schools (see Table 19). This is due, primarily, to the limited range of

TABLE 18
DISTRICT 8, TEST SCORES

I.D.	Key (20)	Meter (20)	Scale (10)	Inter- vals (10)	Chord (10)	Enhar. (10)	Note values (6)	Term. (14)	Score (100)
174.	2	10	0	2	2	0	4	6	26
175.	10	12	8	6	0	6	6	10	56
176.	14	10	8	4	8	6	6	10	66
177.**									19
178.	4	10	5	4	2	4	6	6	41
179.	6	20	6	2	4	8	4	12	62
180.	8	18	8	0	8	8	6	12	68
181.*									49
182.	12	20	2	0	4	4	6	10	58
Ave. Score	8.0	14.29	5.29	2.57	4.0	5.14	5.42	9.43	53.9
%	40.0	71.5	52.9	25.7	40.0	51.4	90.3	67.4	53.9

*student has not lived in the district since fourth grade
**student has studied less than four years

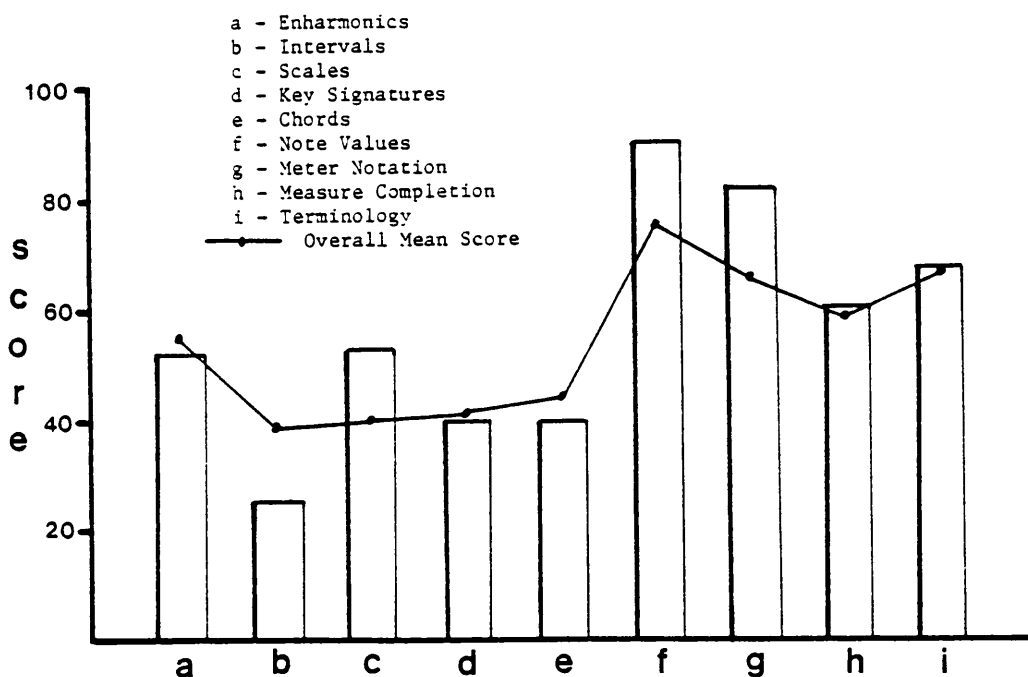


Figure 18. District 8, Student Scores by Subsection.

TABLE 19

DISTRICT 8, COMPARISON OF STUDENTS' BACKGROUND WITH TEST SCORES

	Number of Students (#)	Percent of Students (%)	Average Score
Mean Score	7	100	53.9
Standard Deviation - 32.45			
Lesson Background - In or out of school			
vocal only	1	14.3	26.0
instrumental only	4	57.1	54.8
piano only	0	--	--
vocal/instrumental	0	--	--
instrumental/piano	1	14.3	68.0
vocal/instrumental/piano	1	14.3	66.0
Private lessons - Out of school			
Private lessons - Out of school	3	42.9	59.3
No private lessons - Out of school	4	57.1	51.0
Piano experience - In or out of school			
Piano experience - In or out of school	2	28.6	67.0
No piano experience - In or out of school	5	71.4	49.0
Have taken secondary music courses			
Have taken secondary music courses	0*	--	--
Considered but not pursuing a career in music			
Considered but not pursuing a career in music	3	42.9	43.6
Pursuing a career in music			
Pursuing a career in music	2	28.6	61.0

*District does not offer secondary classroom music instruction

the scores (26-68). There were no truly outstanding individuals; this may be partially a result of no secondary music theory course(s). The District 8 students planning careers in music had the lowest average scores of all those pursuing music careers. The test shows the students have a very solid theoretical foundation but lack the knowledge of advanced concepts.

The fundamentally strong music program is marred by one district statistic: the highest teacher/student ratio of the eight districts (1:146.7). In turn, as noted with District 1, this negatively affects the per student time in instrumental lessons each week. If the program, with its present offering, can produce a modestly strong performance by all its students, what is the potential if one music theory class is added and lesson time is increased? Certainly these factors are of concern in the district's music department but, by and large, the solution is out of their hands.

CHAPTER IV

SUMMARY

Overall Results

When the mean scores of the eight districts are compared with the overall mean score of the students and the highest and lowest scores within each district (Figure 19), the range and relative performance of the students presents an interesting pattern. As the size of the school district decreases, the range of scores also decreases. The lowest scoring student in the smaller districts scored higher than the lowest scoring student in the larger districts, while the highest scorers remained the same. Two schools (2, 8) interrupt what would otherwise be relatively

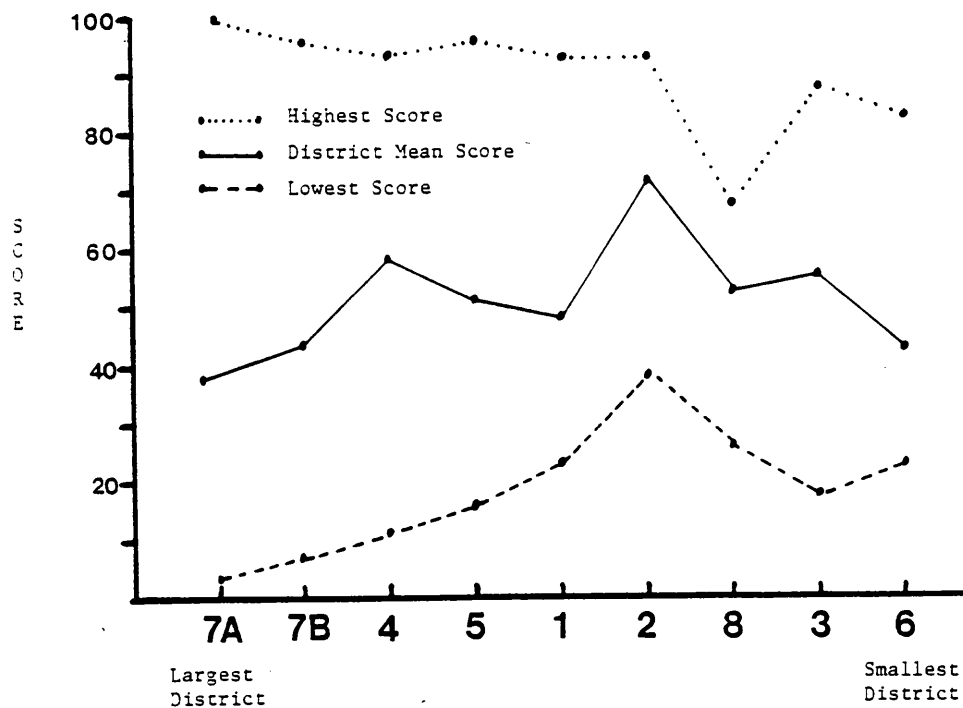


Figure 19. Overall Mean, High and Low Scores, by District.

smooth lines: District 2 breaks the line of the lowest score and District 8 breaks the line of the highest score. These two schools had both the least number of seniors tested and the smallest range in scores. Both of these factors are a result of the sample size problem. For more reliable results these schools should be tested over several years.

Each school, with the exception of District 8, had at least one student with outstanding music theory comprehension, testifying to the fact that this education is available in the region. But what about the rest of the students? How extensive is their knowledge of music theory, and what elements of the students' backgrounds appear to have had the most effect on this knowledge?

The type of lesson experiences had some bearing on the students' scores. The students who had had lessons in only one performance medium scored substantially lower than those with two or more different types of lessons (see Figure 20). Vocal students, for the most part, scored lower overall than instrumental students. (Probably due, in part, to the lack of small-group vocal lessons in many schools.) Students who had participated in the vocal program in school, but had not taken voice lessons, were considered under the 'vocal only' category.

A common variable in those students scoring above 80% is the presence of piano lessons. Because pitch concepts can be more readily demonstrated and visualized on the keyboard, this was a predicted outcome. For those without piano instruction (vocal score 39.5% and instrumental score 42.7%), there is a pressing need for devoting time to music theory during lessons and ensembles. While these scores include students who may have studied privately and may have taken theory classes in school, the reinforcement

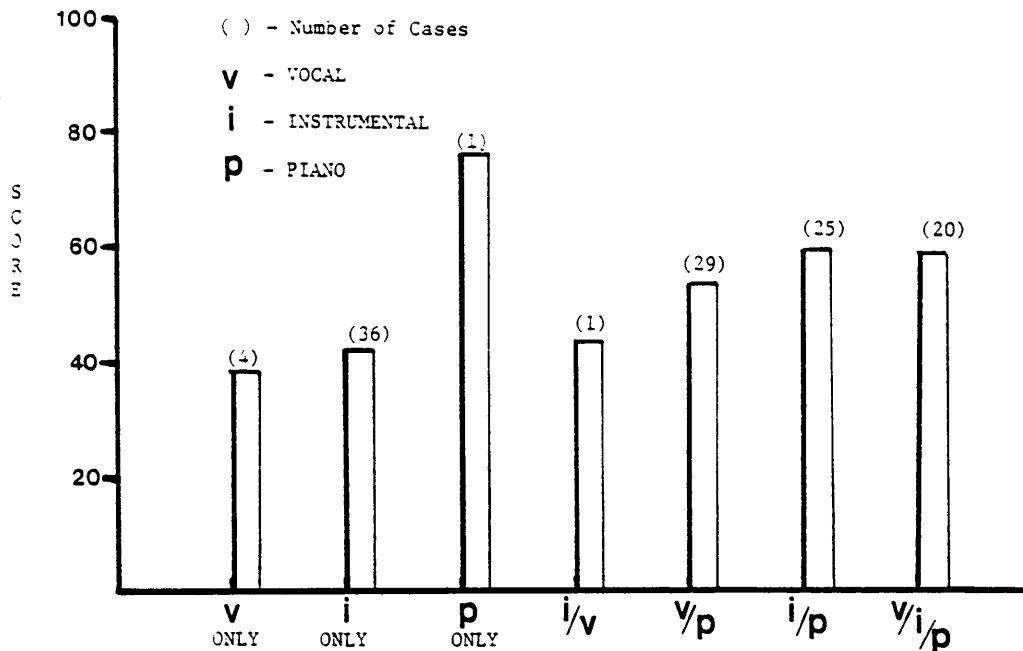


Figure 20. Overall Mean Scores by Student Lesson Background.

and reiteration of music theory concepts in lessons and ensembles helps all of the students develop a working knowledge of music theory that is related directly to the literature being studied for performance.

The overall mean scores for each subsection of the test reveal a general lack of comprehension of the concepts of intervals, scale construction, minor key signatures and chords (see Figure 21). While some individuals and schools scored well on these parts, instruction in these areas seems to have been slighted. All of the students scored marginally well on major key signatures, enharmonics and the measure completion subsection; and in an acceptable range for note values, meter notation and terminology.

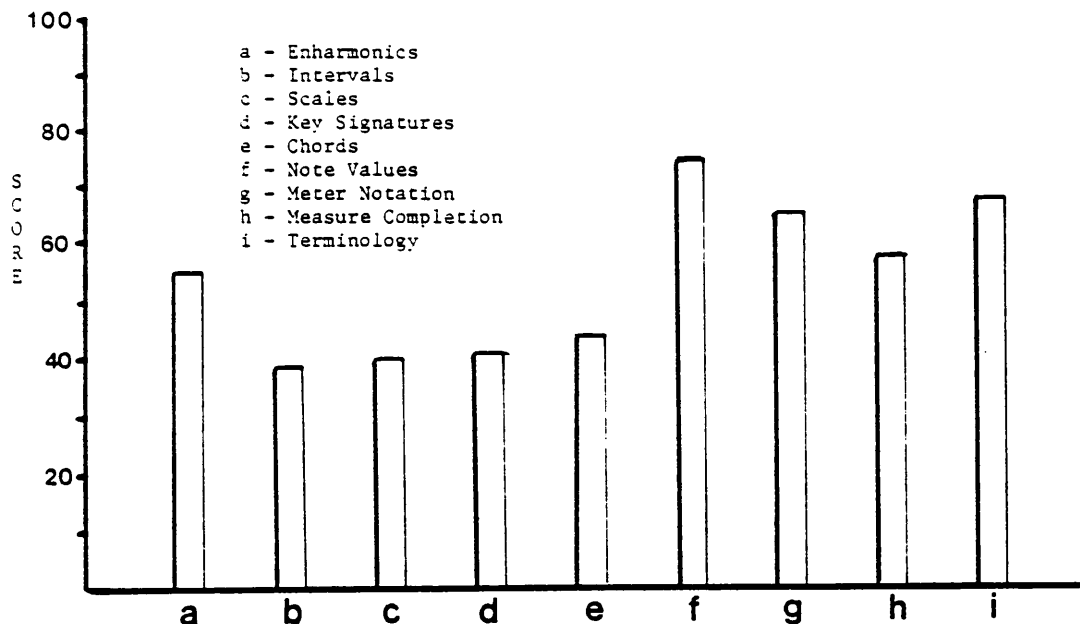


Figure 21. Overall Scores by Subsection.

Since there are many factors contributing to the scores of the students, the relative weight of these variables cannot be determined from this investigation; however, the results as illustrated in Figures 22-25 show the impact the amount of required music instruction a high school music theory class, private lessons and piano, had on the students' scores. The students' estimation as to whether they thought music theory and sightsinging were being taught in lessons and ensembles had little in common with the districts' appraisals and students' scores. Neither the marching band issue nor parental involvement in music influenced the scores to any discernible extent.

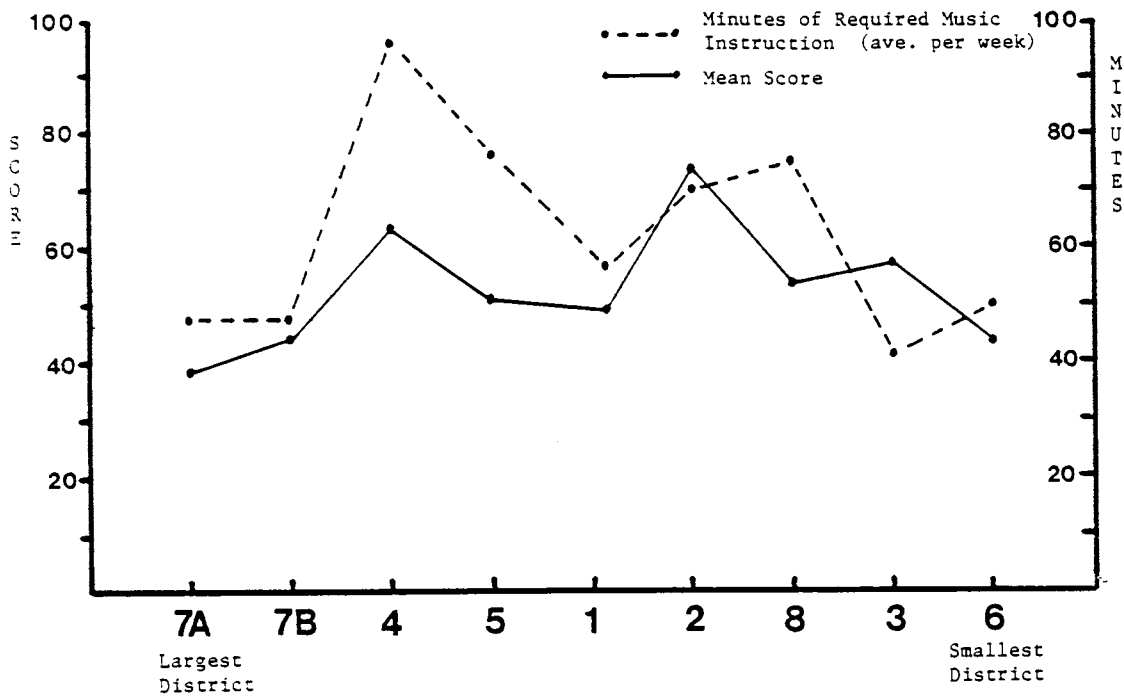


Figure 22. Amount of Required Music Instruction, K-12, by District, with Test Score.

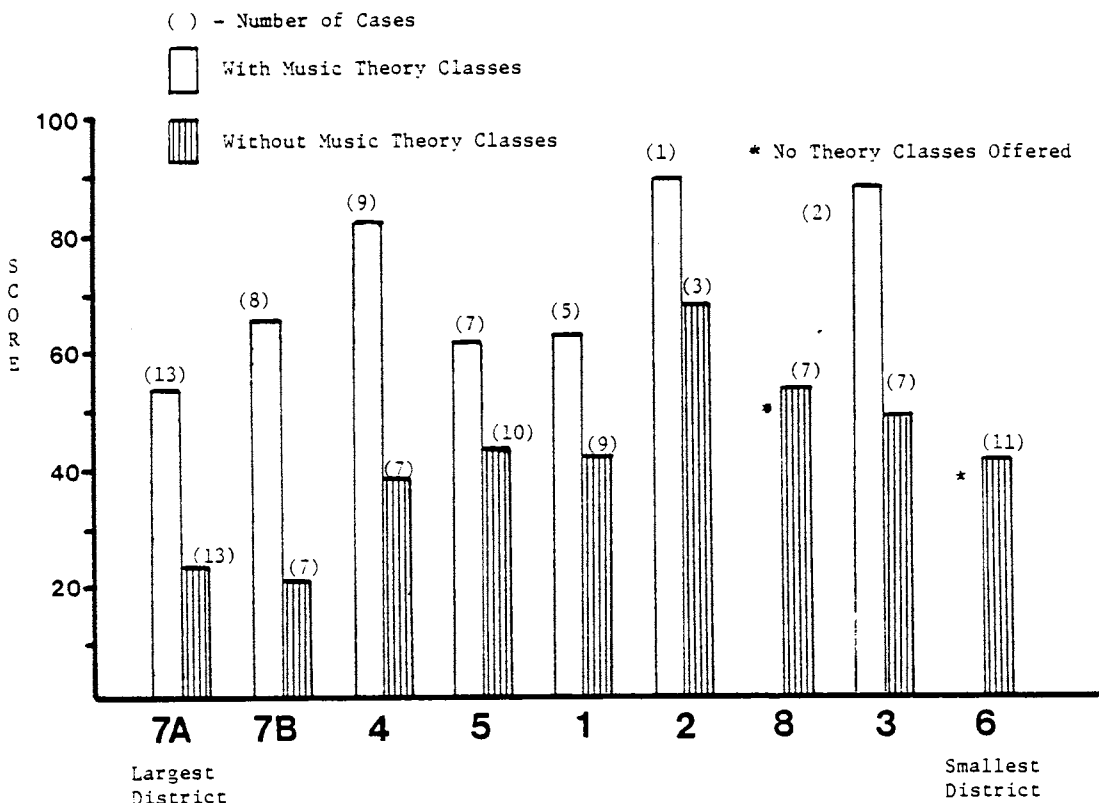


Figure 23. Average Scores of Students with and without Music Theory Class in High School, by District.

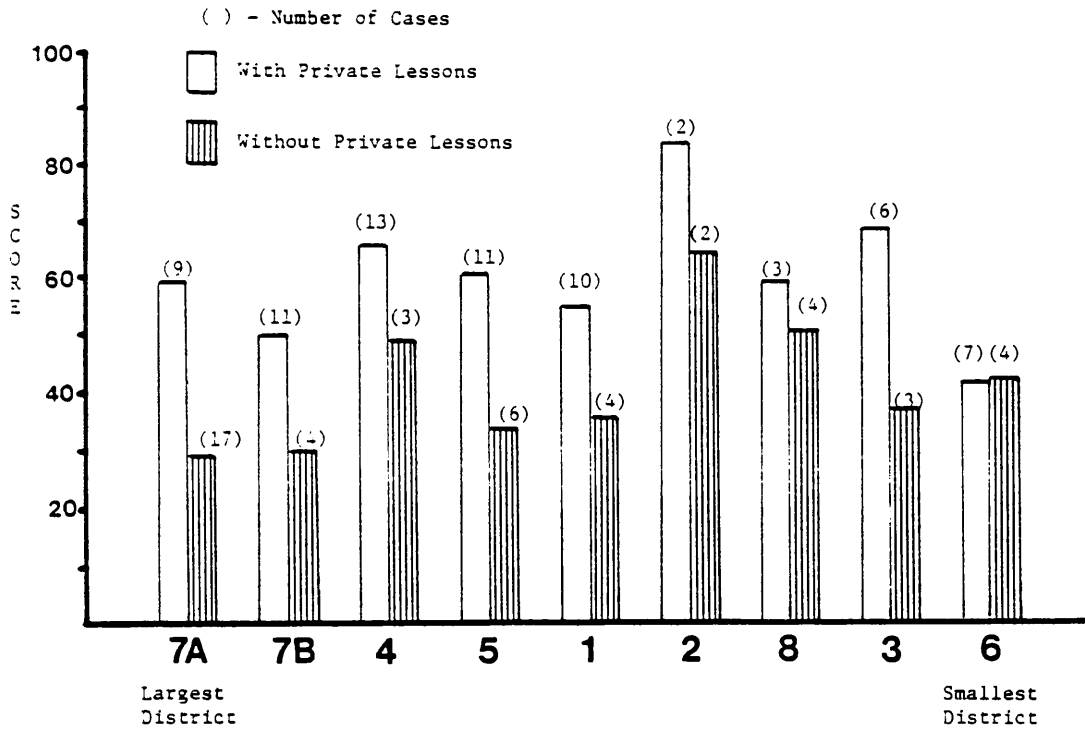


Figure 24. Average Scores of Students with and without Private Music Lessons Out-of-School, by District.

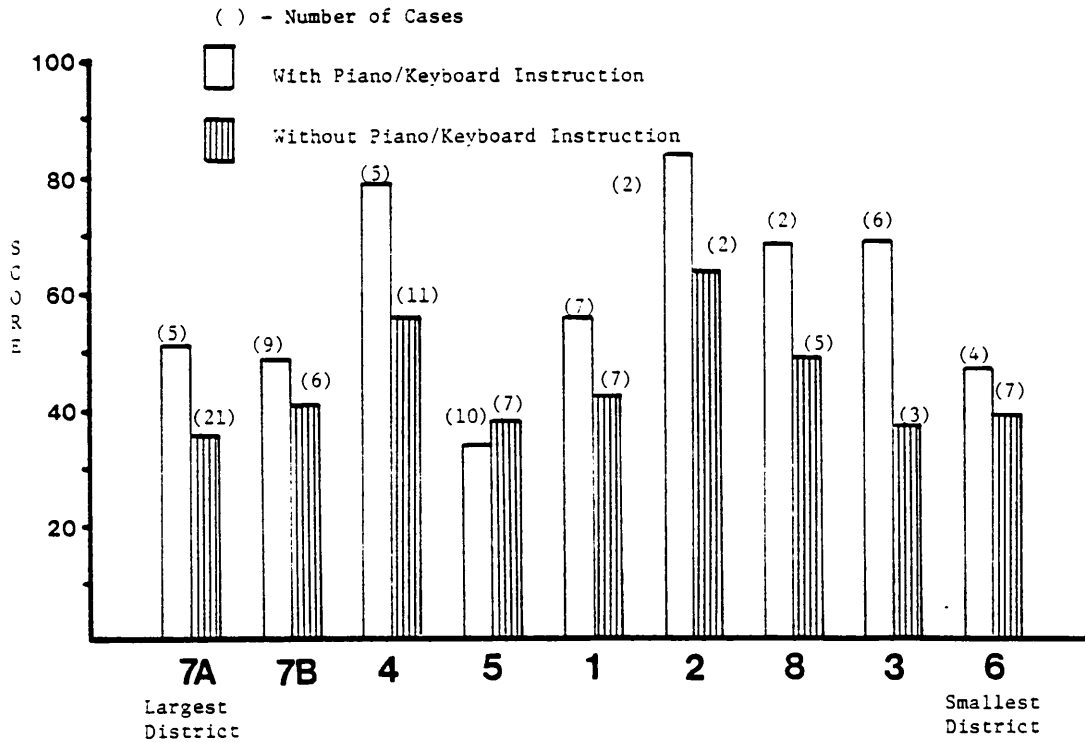


Figure 25. Average Scores of Students with and without Piano/Keyboard Experience; by District.

The distribution of the test scores, Figure 26, is skewed to the low end as would be expected in a norm-referenced criterion-based exam designed to isolate the exceptional student through advanced questions. There is fairly equal distribution in the area above 70%, and a multi-modal distribution below that point. The mean and median scores are only five points apart, indicating a fairly even distribution, and revealing the effectiveness of the test in measuring a wide range of students. The gaps in the distribution can be attributed primarily to the small sample and would probably disappear with a larger sample.

For the students who have relied solely upon their school district for their music education the results are alarming. The average score for these 47 students is 38.9%. This is particularly alarming in light of the fact that this score includes students with extensive lesson and ensemble experience, and even high school music theory classes. It may be argued

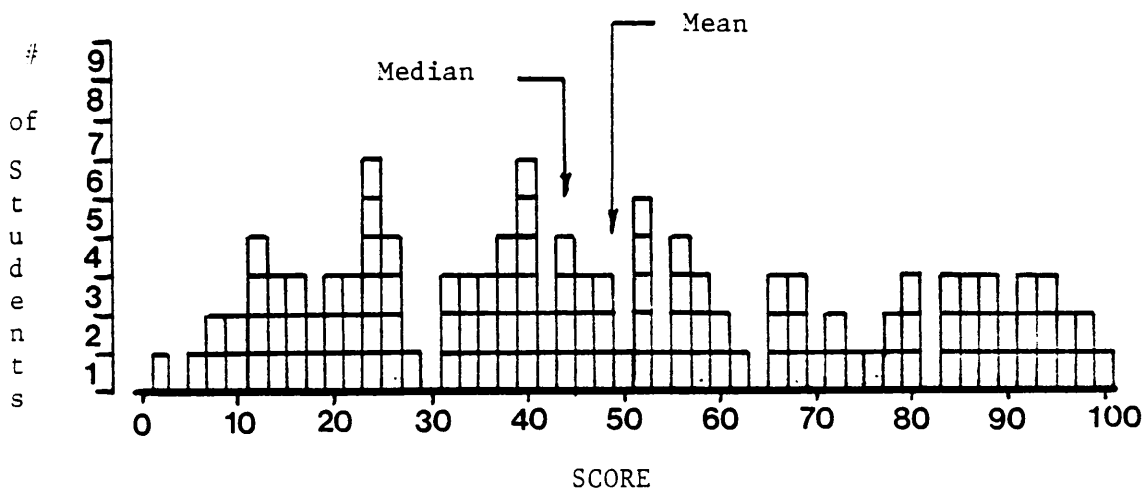


Figure 26. Distribution of Scores.

that those students who are motivated in music will seek private lessons and piano instruction, and this may be true, but the schools should be able to equip all of its music students with a higher level of fundamental music theory understanding than the study indicated. A startling 42% of the 119 students tested could not identify the B^b major key signature, 54% could not identify a G major scale, and 46% could not identify the group of notes that equaled one dotted half note. This is wholly unacceptable for any student who has participated in the public school music program an average of 6.8 years.

In the discussion of each of the districts, some irregularities and problems were noted, but what has led to such a large-scale neglect of the fundamentals? The emphasis on music performance, competition, and community "face time", are probable contributors to the problem. Also to be noted is the overuse of some visual aids in required music classes. Movies and filmstrips entertain rather than educate when sufficient discussion before and after is absent without private music instruction, and other aspects of the music program. It is hoped that some music teachers and school boards of education will find these results sufficiently disturbing to take the necessary steps to improve their music program.

Survey Instrument Analysis

In the course of developing the survey instruments, there were countless changes, additions and deletions, and even though this investigation is completed, the development of these instruments continues. The written test has a high factorial validity if, as Robert

Ebel asserts, "it seems to be a good measure of some dimension which has been isolated."¹ However, during the implementation and scoring of the test, certain questions revealed themselves as problematic. The questions on interval identification could be supplemented by replication of some of the intervals in various clefs to help identify those students who understand the basic concept, but who need more than one example. Although clef reading was not a major discriminator in the scores, the scales in questions 21-25 could be notated in both clefs to aid the students in recognition. These two changes could improve the reliability of the test without increasing the number of questions.

On the student questionnaire a question should ask the student to identify his/her major instrument. This would add clarity to the student's background and musical focus. Even though the parental involvement questions revealed little insight into the students and had little effect on their test scores, with a larger sample the results may be different; thus these questions will be retained. For those students who had considered music as a career, question 21 could yield much more information if the 'yes' respondents supplied when they had considered music and why they had chosen another career.

The district (or directors) questionnaire, with the exception of the questions concerning budget allocation for music, seems to supply all of the relevant information for this type of investigation. For a much larger study, it would be helpful to have the specific enrollment statistics for the district and the high school. Knowing the extent of the

¹Robert L. Ebel, Essentials of Educational Measurement, 3rd ed., Englewood Cliffs, NJ: Prentice Hall, 1979, p. 27.

extracurricular music activities and the community music activities would also be helpful, but this may not be the document for such information, since it can be gleaned from the student questionnaire.

The evaluation instruments served the purpose for which they were intended: to assess the level of music theory education in the schools. The failure of the evaluation instruments to isolate and identify the source of the students' comprehension lies in the complexity of the students' backgrounds and a sample which was not large enough to compare the many variables in these backgrounds.

Implications

The results indicate certain trends in the backgrounds of students scoring in the top 20% and these can assist in the formulation of some general recommendations to students considering careers in music. A more substantive source for these recommendations, however, is the College Entrance Examination Board's publication, "Academic Preparation for College: What Students Need to Know and Be Able to Do" (New York: The College Board, 1983).¹ While it may or may not be true that the students wishing to pursue music in college always have and always will need to study privately outside of school, the recommendations of the College Board suggest nothing that cannot be taught in the public schools.²

¹Charles M. Dorn, "Academic Preparation for College: From Paper to Practice," Music Educators Journal, 65 (March 1985): 47.

²Only three of the 26 students pursuing music careers had not studied privately or taken piano lessons. Their average score was 56.0%.

The College Board states that students need the ability to identify and describe--using the appropriate vocabulary--various musical forms from different historical periods; the ability to listen perceptively to music, distinguishing such elements as pitch, rhythm, timbre, and dynamics; the ability to read music; the ability to evaluate a musical work or performance; and to know how to express themselves by playing an instrument, singing in a group or individually, or composing music.¹

This study investigated the students' knowledge of pitch and rhythm concepts, and terminology, and the students ability to communicate this knowledge. The results show that of the students who scored 80% or better, 80.0% had studied privately an average of 5.3 years, had taken at least 1 high school music course; 60.0% had had at least one year of piano instruction, and 74.1% had had experience in more than one performance medium. A further recommendation to any students considering music careers should be to broaden his/her musical experiences as much as possible for this seems to strengthen the student's knowledge of music theory, history, and performance skills, as recommended by the College Board. Naturally, the opportunities for music experience and education are limited by their availability in the schools and communities.

The study found areas of strength and weakness in each of the school districts surveyed, and a broader study of schools across the state may more clearly identify the essential components of a comprehensive and viable school music program. However, the scores in this study indicate that the amount of required music instruction in the district, the teaching

¹op. cit.

of secondary elective courses in music theory, and the amount of small group lesson time for each student, all have some influence on the student's retention and ability to communicate the fundamentals of music theory. This may seem to be stating the obvious, but the effectiveness of the public schools in teaching any aspect of music other than performance has never been properly assessed. How much classroom music is adequate to communicate the basics of musical structure and terminology, not to mention history, styles and literature, to all the students in the district? How much lesson time is necessary to teach the vocalist to actually read and perform (i.e., sightsing)? Although these questions and many more remain unanswered, a few general recommendations can be made, however, to the districts in the study, and indeed, to all schools.

Those schools that do not provide voice lessons should find some way to do so in grades 9-12. Only in the private or small-group atmosphere can individual misunderstandings be identified and corrected quickly. Certainly, since each school has different teachers and assignments, one should not cut a classroom music program to find time for vocal instructors to teach lessons. On a rotating basis, as are instrumental lessons in most schools, there should be some way to provide this without too much of an increase in staff.

Elective courses in music theory, history and sightsinging need to be taught in all high schools. This may seem obvious, but not all schools are willing or able to do so. While lack of staff, scheduling problems with the three R's and required computer courses are all excuses for not offering these courses, there are ways to do this without extensive staff increases. The courses can be offered in lieu of rotating instrumental

and/or vocal lessons for students with above average ability and interest. The impact on the time in other classes and activities, and on the music teacher's class load, is minimal. These courses are as necessary for college bound musicians, as are math courses for college bound business majors.

Piano instruction in school, whether privately or in small or larger groups, may at first seem to be a luxury that would require the purchase of electronic pianos, headphones, mixers, etc., and more teachers; but in fact, piano instruction can also be accomplished without much additional expense for a school. District 8 allowed a piano instructor from the community to teach lessons on a rotating basis to students during the school day. Ideally, some financial support and control of lesson prices could keep the lessons within the reach of most families.

While the responsibility of the schools to provide this level of music education may be debatable, the need for well-rounded music programs is not. In this time of school accountability, program and teacher evaluation, and the resurgence in the liberal arts at the college level, fundamentally strong music programs must provide the necessary tools for student endeavors and future audiences.

The expense of a complete music program may, however, be too much for many schools, and the use of adjunct faculty and community resources may not be possible in some rural areas. How, then, can schools provide for outstanding students preparing for a college major in music? In New York State the Board of Cooperative Educational Services (BOCES) offers educational opportunities not possible or practical in the local schools. The students are transported from their high school to a regional center

for part of each school day. Classes and instruction in music theory, sight-singing, music history, literature, electronic and computer music could all be presented for the students considering music careers through the existing BOCES program. In rural areas where the instrumental and vocal ensemble opportunities are threatened or limited because of insufficient students, the students could take this instruction through BOCES as well. In this way, the educational opportunities would exist for all students and not only for those who can afford them.

The legitimization of music careers and the recognition of the value of a citizenry that is appreciative of the arts are the tasks of both the local and state education officials. New York (and other states) can accomplish both tasks with stricter minimum requirements for required music (and art) instruction, and mandates for secondary music courses in all districts. The pace of change in our democratic system is notoriously slow, so for the present, a large measure of the onus is on the state to begin a large-scale evaluation of the present condition of music education, and to identify feasible solutions.

APPENDIX I

STUDENT QUESTIONNAIRE

QUESTIONNAIRE NUMBER _____

1. Age _____
2. Have you lived in this school district since 4th grade? (check one)
- yes - go to number 5
 no - go to number 3
3. Have you lived in this school district since 7th grade? (check one)
- yes - go to number 5
 no - go to number 4
4. Have you lived in this school district since 10th grade?
- yes
 no
5. On which of the following instruments have you taken private or small group lessons in school? (Including summer music lesson through the school district)
CHECK ALL THAT APPLY
- | | | |
|--|--|--|
| <input type="checkbox"/> voice | <input type="checkbox"/> drums | <input type="checkbox"/> saxophone(s) |
| <input type="checkbox"/> piano | <input type="checkbox"/> trumpet/Fr. horn | <input type="checkbox"/> clarinet(s) |
| <input type="checkbox"/> violin/viola | <input type="checkbox"/> trombone | <input type="checkbox"/> flute/piccolo |
| <input type="checkbox"/> cello/string bass | <input type="checkbox"/> baritone/tuba | <input type="checkbox"/> oboe/bassoon |
| <input type="checkbox"/> organ | <input type="checkbox"/> bells/vibes/xylo. | <input type="checkbox"/> guitar/el. bass |
| <input type="checkbox"/> other _____ | | |
6. On which of the following instruments have you taken private or small group lessons outside of school? CHECK ALL THAT APPLY
- | | | |
|--|--|--|
| <input type="checkbox"/> none | <input type="checkbox"/> drums | <input type="checkbox"/> saxophone(s) |
| <input type="checkbox"/> voice | <input type="checkbox"/> trumpet/ Fr. horn | <input type="checkbox"/> clarinet(s) |
| <input type="checkbox"/> piano | <input type="checkbox"/> trombone | <input type="checkbox"/> flute/piccolo |
| <input type="checkbox"/> violin/viola | <input type="checkbox"/> baritone/tuba | <input type="checkbox"/> oboe/bassoon |
| <input type="checkbox"/> cello/string bass | <input type="checkbox"/> bells/vibes/xylo. | <input type="checkbox"/> guitar/el. bass |
| <input type="checkbox"/> organ | <input type="checkbox"/> other _____ | |
7. How many years have you studied the instrument you consider to be your major instrument?
- _____

8. Have you ever taken lessons on your major instrument outside of school?

yes

no - go to number 10

9. How many years did you take these lessons outside of school?

_____ years

10. Have you ever taken piano lessons outside of school?

yes

no - go to number 12

11. How long did you take (or have you been taking) piano lessons outside of school?

_____ years

12. Have you ever taken class piano instruction in school?

yes

no - go to number 14.

13. How long did you take (or have you been taking) class piano in school?

_____ years

14. Has instruction in sight-singing or music theory been provided as part of your instrument or voice lessons in school?

yes

no

15. Has instruction in sight-singing or music theory been provided as part of your instrument or voice lessons outside of school?

yes

no

16. Which of the following high school (9-12) music classes have you taken? CHECK ALL THAT APPLY

NOTE: Unless otherwise indicated, these are one year courses.

- | | |
|--|---|
| <input type="checkbox"/> none of these | <input type="checkbox"/> Sight-singing/Ear Training (½ year only) |
| <input type="checkbox"/> Music Theory (½ year only) | <input type="checkbox"/> Sight-singing/Ear Training I |
| <input type="checkbox"/> Music Theory I | <input type="checkbox"/> Sight-singing/Ear Training II |
| <input type="checkbox"/> Music Theory II | <input type="checkbox"/> Sight-singing/Ear Training III |
| <input type="checkbox"/> Music History (½ year only) | <input type="checkbox"/> Music Appreciation (½ year) |
| <input type="checkbox"/> Music History | <input type="checkbox"/> Jazz or Popular Music (½ year) |
| <input type="checkbox"/> other _____ | |

17. In which of the following high school musical organizations and/or activities have you participated for at least one year?

- | | |
|---|---|
| <input type="checkbox"/> orchestra | <input type="checkbox"/> chorus/choir/glee club |
| <input type="checkbox"/> string orchestra or ensemble | <input type="checkbox"/> madrigal singers |
| <input type="checkbox"/> concert band/ wind ensemble | <input type="checkbox"/> swing choir |
| <input type="checkbox"/> brass or woodwind small ens. | <input type="checkbox"/> musical productions |
| <input type="checkbox"/> jazz ensemble/stage band | <input type="checkbox"/> handbell choir |
| <input type="checkbox"/> marching band | <input type="checkbox"/> other _____ |

18. In which of the following out-of-school musical organizations and/or activities have you participated for at least one year during the past four years?

- | | |
|---|--|
| <input type="checkbox"/> none | <input type="checkbox"/> all-county music festival |
| <input type="checkbox"/> church choir | <input type="checkbox"/> NYSSMA solo festival |
| <input type="checkbox"/> community band | <input type="checkbox"/> Area All-State |
| <input type="checkbox"/> community musical productions | <input type="checkbox"/> Youth orchestra |
| <input type="checkbox"/> community orchestra | <input type="checkbox"/> handbell choir |
| <input type="checkbox"/> solo or small group performance in church or community | <input type="checkbox"/> other _____ |

19. Do either of your parents (or guardians) sing or play an instrument in a community organization?

- yes
 no

20. Do either of your parents (or guardians) sing or play an instrument at home?

- yes
 no

21. Have you ever considered music as a career option? (eg. performer, teacher, etc.)

- yes
 no

22. Do you plan to pursue a career in music at this time?

- yes
 no

APPENDIX II

DIRECTOR QUESTIONNAIRE

DISTRICT

1. What is the K-12 enrollment in the school district?

_____ less than 500 _____ 500-999 _____ 1000-1499 _____ 1500-1999
 _____ 2000-2499 _____ 2500-2999 _____ more than 3000

2. What is the current enrollment at the High School level?

_____ less than 250 _____ 250-499 _____ 500-749 _____ 750-999 _____
 _____ 1000-1249 _____ 1250-1499 _____ more than 1500

3. How are the grades organized in your district? (check one)

a.	<u> </u>	b.	<u> </u>	c.	<u> </u>	
	K - 5		K - 6		K - 6	Elementary
	6 - 8		7 - 9		7 - 8	Middle School
	9 - 12		10 - 12		9 - 12	High School

4. How many music personnel are employed full-time in the district?

(Include full-time equivalents)

5. How many full-time music faculty members are:

a. classroom music only _____	d) classroom and instrumental _____
b) instrumental music only _____	e) classroom and vocal _____
c) vocal music only _____	f) instrumental and vocal _____

6. How many minutes of classroom music instruction are provided per week

for all students in the following grades?

If such classes are given in one quarter or half year, adjust the numbers to reflect minutes per week for 40 weeks.

for example: 10 weeks of three (3) forty-five minute (45) class sessions

45 min. X 3 sessions/wk. = 135 min./wk.

135 min./wk. X 10 weeks = 1350 minutes

40 weeks $\overline{) 1350 \text{ min.}}$
 33.75

This number would be entered in the appropriate space

DO NOT INCLUDE ELECTIVE COURSES.

6a. Elementary _____ 6b. Middle School _____ 6c. High School _____

7. How many semesters of the following half-year courses are available to students at the high school level?

<u>Separate courses</u>	<u>Consolidated courses</u>
<input type="checkbox"/> Music Theory	<input type="checkbox"/> Theory/Sightsinging
<input type="checkbox"/> Music History	<input type="checkbox"/> Music Appreciation
<input type="checkbox"/> Sightsinging	<input type="checkbox"/> Music Theory/History
<input type="checkbox"/> Ear Training	<input type="checkbox"/> (others) _____
<input type="checkbox"/> Popular Music	_____
<input type="checkbox"/> Class Piano	_____
<input type="checkbox"/> Class Guitar	_____
<input type="checkbox"/> (others) _____	

8. Does the district employ a full-time music administrator?

yes - go to number 11 no

9. Is one of the regular music faculty responsible of coordination and supervision of the district's music program?

yes no - go to number 11

10. Is that faculty member additionally remunerated and/or allotted time for these duties?

yes no

INSTRUMENTAL MUSIC

Elementary

11. In what grade are instrumental lessons first available to students? _____ grade

12. How many students are generally in the lesson groups at this level?

(circle one) 1 2 3 4 5 6 7 8 9 more than 10

13. In which grade can students first enter a large instrumental ensemble? _____ grade

14. How many minutes per week is allotted for each beginner music lesson? _____ minutes

15. Approximately how many students are involved in the instrumental music program at the Elementary level? _____ students

16. Which of the following instrumental ensembles are available to the students at the Elementary level? (Check all that apply)

none other _____
 beginner band (1st year students only)
 elementary band (combined grades)
 elementary orchestra (incl. winds & percussion)
 string orchestra
 stage band/jazz ensemble
 handbell choir

17. What is the total budget allotment for operation of the instrumental music program at the elementary level? Do not include salaries of employees. Do include music, supplies, repair, purchase of instruments, etc.

\$ _____

Middle School

18. How many students are generally in the lesson groups at this time?

(circle one) 1 2 3 4 5 6 7 8 9 more than 10

19. How many minutes per week are allotted for each lesson at this level? _____ minutes

20. How many students are involved in the instrumental program? _____ students

21. Which of the following instrumental ensembles are available to the students at this level? (Check all that apply)

Concert band Handbell choir
 Select band Marching band
 Orchestra Small ensembles: ___ brass,
 String Orchestra ___ woodwind, ___ string,
 Stage band/Jazz ens. ___ percussion
 others (please list) _____

22. What is the total budget allotment for operation of the instrumental music program at this level.

\$ _____

High School

23. How many students are generally in the lesson groups at the at the High School level?

(circle one) 1 2 3 4 5 6 7 8 9 more than 10

24. How many minutes per week are allotted for each lesson? _____ minutes
25. How many students are involved in the instrumental program? (H.S.) _____ students
26. Which of the following instrumental ensembles are available to the students in High School?

Concert band Handbell choir
 Select band Marching band
 Orchestra Small ensembles: ___ brass,
 String Orchestra ___ woodwind, ___ string,
 Stage band/Jazz ens. ___ percussion
 others (please list) _____

27. What is the total budget allotment for the instrumental program at the High School level?

\$ _____

28. Are sight-singing and/or sight-reading skills taught in the instrumental lessons at the following levels?

a) Elementary	b) Middle School	c) High School
<input type="checkbox"/> yes	<input type="checkbox"/> yes	<input type="checkbox"/> yes
<input type="checkbox"/> no	<input type="checkbox"/> no	<input type="checkbox"/> no

29. Are these skills taught as a regular part of the instrumental ensemble rehearsals? (H.S.)

yes
 no

30. Is music theory instruction included as a regular part of the instrumental lessons at the High School level?

yes
 no

31. Can students begin instrumental lessons at the Middle School level?

yes High School? yes
 no no

32. How many minutes per week of rehearsal time is scheduled for the following major instrumental ensembles?

a) Concert band _____ min. b) Orchestra _____ min.
 c) Stage band/Jazz ensemble _____ min.

33. Does the Concert band function as a separate ensemble during the Marching band season? (fall or spring) if applicable

___ yes
___ no

VOCAL/KEYBOARD

34. Which of the following vocal music ensembles and/or activities are available to students at the Elementary level?

___ chorus	others - please list
___ select choir	_____
___ musical/operetta production	_____
___ small vocal ensembles	_____

Middle School?

___ chorus	others - please list
___ select choir	_____
___ musical/operetta production	_____
___ small vocal ensembles	_____

High School?

___ chorus	others - please list
___ select choir	_____
___ swing choir	_____
___ madrigal singers	_____
___ small ensembles	_____
___ musical/ operetta production	_____

35. Are private or small group (5 or less) voice lessons available to the students in the following grades?

a) Elementary?	b) Middle School?	c) High School?
___ yes	___ yes	___ yes
___ no	___ no	___ no

36. Are private or small group piano lessons available to students in the following grades?

a) Elementary?	b) Middle School?	c) High School?
___ yes	___ yes	___ yes
___ no	___ no	___ no

37. How many students are involved in the vocal music ensembles in the following grades?

a) Elementary?	b) Middle School?	c) High School?
_____	_____	_____

38. What is the total budget allotment for the vocal music program at the following levels? Do not include salaries of employees. Do include music, supplies, equipment, piano tuning, etc.

a) Elementary

b) Middle School

c) High School

\$ _____

\$ _____

\$ _____

39. Are sightsinging and/or sightreading skills taught as a regular part of the vocal ensembles in the following grades?

a) Elementary?

b) Middle School?

c) High School?

_____ yes

_____ yes

_____ yes

_____ no

_____ no

_____ no

40. Is music theory taught as a regular part of the vocal ensemble rehearsals at the high school level?

_____ yes

_____ no

41. How many minutes per week of rehearsal time is scheduled for the vocal music ensembles? (H.S.)

APPENDIX III

WRITTEN TEST

QUESTIONNAIRE NUMBER _____

What is the letter name of each of the major key signatures below?



example C 1. _____ 2. _____ 3. _____ 4. _____

What is the letter name of each of the minor key signatures below?



example D 5. _____ 6. _____ 7. _____ 8. _____

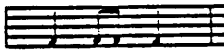
9. The parallel minor of B^b major is: (check one)

- a) G minor b) A-sharp minor c) D minor
 d) B^b minor e) B minor

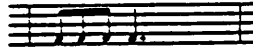
10. The relative minor of A major is:

- a) A minor b) F-sharp minor c) C minor
 d) F minor e) G-sharp minor

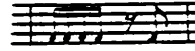
What is the meter (time) signature for each of the following complete measures of rhythms?



11. _____



12. _____



13. _____

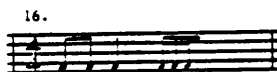


14. _____

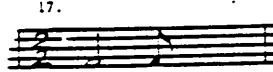


15. _____

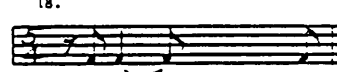
Complete the following measures using the appropriate notes and/or rests.



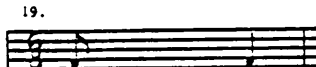
16.



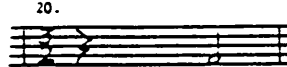
17.



18.

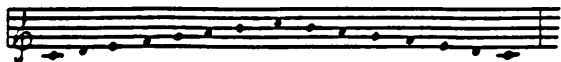



19.

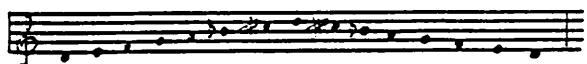


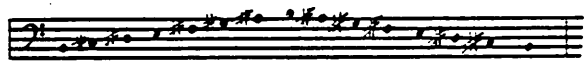
20.


What is the tonic (keynote) and mode of each of the following scales?

example  ans. C major

 21. _____

 22. _____

 23. _____

 24. _____

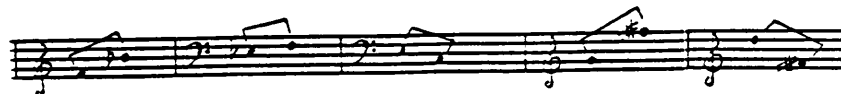
 25. _____

Identify each of the following intervals using the lettered answers below.

- | | |
|----------------|----------------|
| a) minor 2nd | f) perfect 5th |
| b) major 2nd | g) minor 6th |
| c) minor 3rd | h) major 6th |
| d) major 3rd | i) minor 7th |
| e) perfect 4th | j) major 7th |

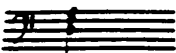
example 

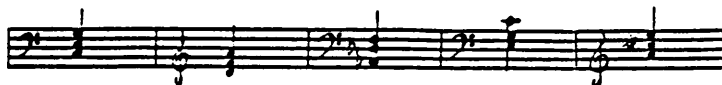
ans. f



26. _____ 27. _____ 28. _____ 29. _____ 30. _____

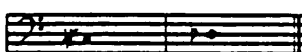
Identify the root and quality (major or minor) of each of the chords below.


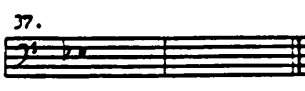
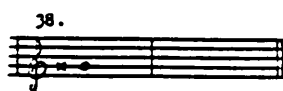
example 
 ans. *D minor*



31. _____ 32. _____ 33. _____ 34. _____ 35. _____


Write the enharmonic equivalent to the following pitches in the staff provided.

example 

36.  37.  38. 

39.  40. 

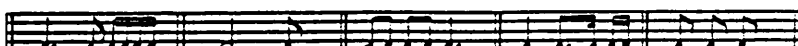
41. Which of the following note values (combined) equal one dotted quarter note ()?

(check one) 

42. Which of the following note values (combined) equal one half note ()?

(check one) 

43. Which of the following note values (combined) equal one dotted half note ()?

(check one) 

Define the following terms. (check one)

44. Allegro a) slow tempo b) fast tempo c) all together
 d) medium tempo
45. poco a poco a) little by little b) two by two c) side by side
 d) faster and faster
46. dolce a) slowly b) play loud c) sweetly d) slur
47. diminuendo a) slow down b) speed up c) get louder
 d) get softer
48. Largo a) slow tempo b) fast tempo c) all together
 d) medium tempo
49. pianissimo a) more volume b) less volume c) more motion
 d) less motion
50. legato a) smoothly b) march style c) short notes
 d) not too loud

APPENDIX IV

AURAL TEST

QUESTIONNAIRE NUMBER _____

Pitch Matching

Sing the pitch played in your own voice range.

ScalesSing an ascending major scale starting on the pitch given.Pitch Patterns

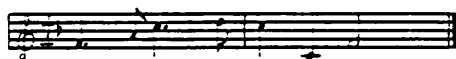
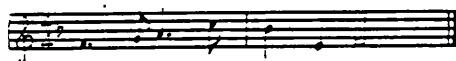
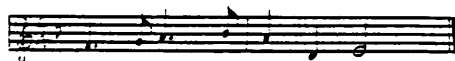
Sing the following pitch patterns. The first pitch will be provided.

Melodies

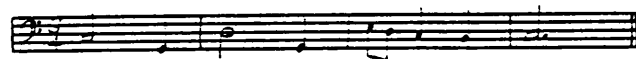
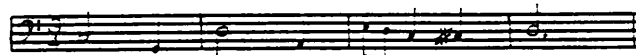
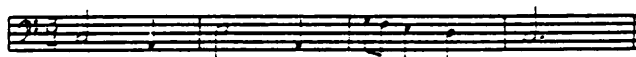
Sing the following melodies in rhythm.



Which of the following melodies was played? (2x)



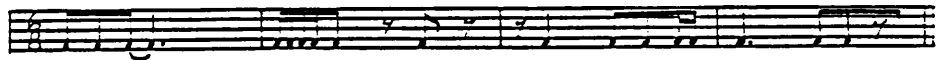
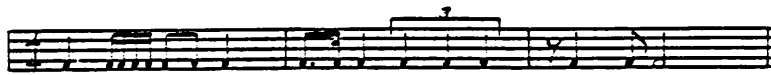
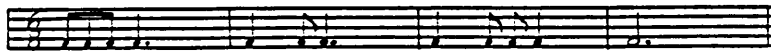
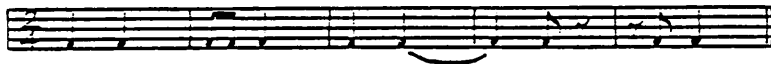
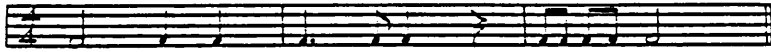
Which of the following melodies was played? (2x)



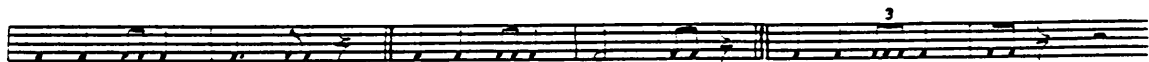
Listen to the melody played (2x) then sing it back. (No.'s 13-15)

Rhythm

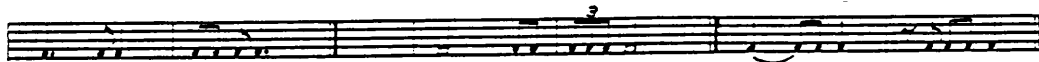
Clap (or "ta") the following rhythm patterns.



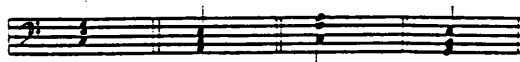
Which of the following rhythms was played? (2x)



Which of the following rhythms was played? (2x)



Which of the following sonorities was played? (2x)



Which of the following sonorities was played? (2x)



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