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A SURVEY TO DETERMINE THE USE OF MUSIC THEORY KNOWLEDGE AND SKILLS BY NORTH CAROLINA PUBLIC SCHOOL MUSIC TEACHERS

The University of North Carolina at Greensboro ED.D. 1984

A SURVEY TO DETERMINE THE USE OF MUSIC THEORY KNOWLEDGE AND SKILLS BY NORTH CAROLINA PUBLIC SCHOOL MUSIC TEACHERS

by

Robert L. Decker

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Approved by

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APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

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The purpose of this study was to attempt to define and examine those areas taught in undergraduate music theory classes perceived to be of most importance and least importance in the work of music educators who teach in the state of North Carolina. A questionnaire was sent to a random sample of 149 North Carolina public school music educators. Completed questionnaires were returned by 112 of these music educators--a 75% return rate.

A one-way ANOVA revealed that there were statistically significant differences among instrumental music teachers, choral music teachers, and elementary/general music teachers concerning the perception of the importance of selected areas of music theory used in their teaching. The differences were statistically significant at or beyond the .05 level in 44% (n = 20) of the 45 items on the questionnaire. All music teachers surveyed perceived 29% (n = 13) of the areas of theory on the questionnaire to be of greatest importance in their work. Only 9% (n = 4) of the areas of theory on the questionnaire were perceived to be of least importance by all teachers surveyed.

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CHAPTER I

INTRODUCTION

In recent years an increased emphasis has been placed on the need for relevancy and accountability in higher education in America. Bessom (1972) stated:

> An uproar about our educational system is nothing new; it seems as though it has always gone on in one form or another. During the past fifteen years, however, the cry has become more vitriolic, more engulfing, and more demanding, both within and outside the educational profession. (p. 5)

Lee (1977) also stated, "Increased consumer demand for greater accountability is a situation confronting all professions--music education is no exception" (p. 16). Cady (1973) defined three areas of pressure on higher education--economy, efficiency, and accountability. He commented:

> Many kinds of people are telling us indirectly and directly to be more economical, to use less money in the educational process. We are told to use less time for even better quality, that is to be more efficient and thereby to reduce the years it takes to earn a bachelor's degree. We are being pressured to account for the quality of our work. These pressures are not new, but they are more intense today. (p. 7)

In 1983 the demands for accountability continue. In the aftermath of the report from the National Commission on Excellence in Education (NCEE) entitled "Nation at Risk: The Imperative for Educational Reform," LeBlanc (1983) stated: "Educators are being asked to achieve

more than ever while working under unprecedented constraints of fiscal deprivation and governmentally mandated social policy" (p. 30).

As a response to these calls for more efficiency and accountability, the researcher has attempted to define and examine those areas of undergraduate music theory perceived to be most important and least important to music educators who teach in the public schools of North Carolina. A questionnaire was used in this research to obtain data relative to the attitudes and perceptions of public school music educators in North Carolina concerning the use of music theory in their work. Only selected areas of music theory which are usually included in freshman and sophomore level music theory classes were included in this study, since this initial two-year sequence of study at the college level is usually considered basic to the theory curriculum (Cooper, 1981, p. xi).

Music theory is of primary importance in undergraduate music education programs. Piston (1978) has written, "It is clear that this knowledge (of music theory) is indispensable to musicians in all fields of the art" (p. xix). Smith (1975) stated, "The issues considered by music theory are the indispensable concerns of every musician" (p. 2). Because of its importance, music theory seems to be a logical focal point for examintion.

The musical components which make up the study of music theory have undergone some drastic changes in the 20th century. As Ehle (1980) wrote:

> The change in harmony wrought by early 20th century composers might be compared with the discovery of the New World in its impact on the respective discipline, geography. In

> music theory it taught theorists that music is constantly changing, and that to view harmony as a static subject with rights and wrongs ever fixed and immutable was an unsatisfactory concept. (p. 28)

This would seem to imply that theory teachers need to be constantly on the alert for ways to keep the study of theory relevant to changing practices. Weigel (1959) expressed the view that, "We are forced to take a new and critical look at theory itself, its methods and even its basic assumptions" (p. 52). However, Goldman (1965) reminded the reader that even though a new era in the history of music may have begun with new principles of music organization and new dimensions of musical thought, still this "does not invalidate a consideration of the background on which our thought has been based until quite recently" (p. x). He went on to point out that music of the 17th, 18th, and 19th centuries (as well as earlier music) represents a "permanent heritage" (p. x).

This permanent heritage extends at least as far back as the Greek philosopher and mathematician Pythagoras (582-500 B.C.), who based his harmonic science on numerical ratios (Sadie, 1980, p. 742). The history of music theory from early Greeks to today describes the development of the art of music. As Goldman (1965) has observed, "much contemporary music, apparently not based on traditional harmony, still uses its syntax, and still reflects its disciplines" (p. x). Ferguson (1935) stated it in this way:

> Like language or any of the other arts, music is a conventional utterance. Assuming, in different periods, the form to which it is constrained by its relation to other existing conventions of life . . . . The forms of music are to be understood as a product of the fertilization of music through the world of human experience. (p. v)

Aldwell and Schachter (1978) stated that the importance of studying music theory of previous centuries is that student will be

> learning to form musical equivalents of simple sentences and paragraphs . . . [and] to understand the language the great composers spoke with such matchless eloquence, the language that embodies some of the greatest achievements of the human spirit. (p. vii)

The 20th century, because of the many innovations in music theory and composition, has been a time of ferment in the field of music theory education (Thompson, 1980, p. 40). Because of this ferment the conscientious music theory teacher has to deal with "the question of what to include and what to leave out" (Schachter, 1977, p. 152). Metz (1975) concurred that it is mandatory for colleges to "determine the kinds of skills and characteristics needed by music teachers" (p. 21). The National Association of Schools of Music (NASM) states as one of its purposes, "to establish and maintain minimum standards for the education of musicians, while encouraging both diversity and excellence" (NASM Handbook, 1981, p. 5). This is reflected in its standards for degree-granting institutions. Theory requirements are included under basic musicianship. It is expected that the institution will prepare the student to have "a conceptual understanding for such musical properties as rhythm, melody, harmony, timbre, texture, and form" (NASM Handbook, 1981, p. 40). These are reiterated for each degree program. The researcher is particularly concerned wtih the Bachelor of Arts degree with a major in music as it is applied to the music education concentration. Those students concentrating in music education are expected to develop competence in basic musicianship (NASM Handbook, 1981,

p. 52). Among the specialized forms of learning designed to develop basic musicianship would include:

1. Functional knowledge of the language and grammar of music
2. Ability to hear, identify, and relate aesthetically the elements of music--rhythmic, melodic, harmonic, and formal
3. An understanding of the methods by which music is composed. (NASM Handbook, 1981, p. 42)

These standards are necessarily stated in a broad, general manner making it necessary for individual schools to establish priorities and develop courses which will enable their students to develop the appropriate competencies.

This study was conducted with the hope that it would help determine those areas of theory skills and knowledge which are most and least important in the work of public school teachers. Several questions served as the focal point of this study:

1. What areas of music theory are perceived by public school teachers as being the most important and least important in the work of public school instrumental music teachers in North Carolina?
2. What areas of music theory are perceived by public school teachers as being the most important and least important in the work of public school choral music teachers in North Carolina?
3. What areas of music theory are perceived by public school teachers as being the most important and least important in the work of public school elementary/general music teachers in North Carolina?

Null Hypothesis

The null hypothesis which was tested is stated as follows:

> There are no significant differences among the perceptions of public school music instrumental music teachers, choral music teachers, and elementary/general music teachers concerning selected knowledge and skills of music theory used in their work.

The findings of this study may be of value to colleges and universities in their periodic evaluation of instructional programs. The study may also be of value to individual teachers of music theory in their personal quests to make the study of music theory more relevant to the needs of all students including music education majors.

CHAPTER II

REVIEW OF LITERATURE

The review of literature will be divided into two major sections. The first section will consist of a succinct history of theory which has been of value to the researcher in gaining a historical perspective for the study. The second section will review the literature concerning music theory. Very few studies have been made that relate directly to the emphasis of the present study. The largest number of studies related to music theory pertains to computer-assisted instruction and other experimental projects related to the teaching of music theory. The emphasis of the present study was to survey music teachers as to their perception of the use of selected areas of music theory in their work. Studies related to this type of research will be reviewed.

History of Music Theory

The history of music theory extends at least as far back as the Greek philosopher and mathematician Pythagoras (582-500 B.C.) who based his harmonic science on numerical ratios. Pythagoras, Plato (427-347 B.C.) in The Republic, and Aristotle (384-322 B.C.) in The Politics, had much to say about the place of music in Greek civilization (Grout, 1980, pp. 2-4).

According to Grout (1980), medieval musical theory was based upon ancient theory (p. 3). Boethius (c. 480-c.524) in his De Institutione Musica, served as a transmitter of Greek music theory and

was not challenged until the 15th century when Greek manuscripts were again read by scholars (Sadie, 1980, p. 744). Most medieval theory treatises were devoted to a discussion of musical practices and were of a practical nature according to Sadie (1980, pp. 744-748) and Reese (1957, pp. 13-14).

Tractatus de Musica, a new type of treatise which summarized the contemporary state of music theory, was written by Jerome of Moravia in Paris shortly after 1272 (Sadie, 1980, p. 749). During the latter part of the Middle Ages or Gothic period (extending from about 1100-1400 A.D. [Hoffer, 1976, p. 88]), a number of these summas, as well as other treatises which gave fundamental revision to practical theory, were written (Grout, 1980, p. 118; Reese, 1957, pp. 24-27).

The 12 treatises of Johannes Tinctoris (1436-1511) provide a key to the music theory of the entire Renaissance (Reese, 1957, p. 34). These present a sequential exposition of musical knowledge of the time. After 1500, most music authors were influenced by ancient learning. Gafori (1451-1522) has been called by Sadie (1980) "the first real humanist in music" (p. 754). Sadie also states that humanism's greatest impact on music theory concerned the goals and effects of music. "A renewed emphasis was placed on the therapeutic value and the moral or corrupting effects of music" (p. 755).

The writings of Gioseffo Zarlino (1517-1590) are valuable because they contain insights into the musical practice of the mid-16th century as well as being extremely influential contributions to the historical development of music theory (Reese, 1957, pp. 48-49). Zarlino's Le Institutioni includes an historic statement about major

and minor triads as well as a reordering of the twelve modes, placing the Ionian mode first instead of last. Shirlaw (1969) stated that Zarlino

> discovered a definite principle of harmonic generation and . . . demonstrated that all the consonances (including major and minor triads), which formed the sole constitutive elements of polyphony were comprised and generated from the scenario, or arithmetical series of numbers 1:2:3:4:5:6. (pp. xii-xiv)

Shirlaw also stated that this discovery served as the starting point for Rameau in his theoretical research. This led to Rameau's principle of harmonic generation, the fundamental bass, the foundation for his theory of harmonic inversion--"his principle of principles" (p. xiv).

Sadie (1980) summarized the beginning of the Baroque in this way:

> In the first half of the 17th century, musical practice caught up with the aesthetic ideals proclaimed in the second half of the previous century and practical theory caught up with improvised practice. (p. 755)

In the early 17th century theorists wrote concerning the development of harmony, compositional techniques, instruments, contemporary genres, terms, and performance problems as well as theoretical subjects such as the overtone series (Reese, 1957, p. 61; Sadie, 1980, p. 757; Shirlaw, 1969, p. xiii). Treatise on Harmony (1722) by Jean Phillippe Rameau (1683-1764) completed the theoretical foundation of the major-minor system (Grout, 1980, p. 847). Apel (1972) indicated that this text is of great importance to the history of music theory (p. 847). Sadie (1980) described it as setting forth the principle of "notes and chords of a key as emanating from a single source pitch" (p. 756). Rosenstiel

(1982) characterized it as "the cornerstone of modern harmonic theory" (p. 311).

Johann Joseph Fux (1660-1741) in his Gradus ad Parnassum (1725) codified 18th century contrapuntal practice. This remained the most influential counterpoint text for the next two hundred years according to Grout (1980, p. 322). Rosenstiel (1982) reported that Haydn, Mozart, and Beethoven all used this text (p. 311). Hindemith (1942) wrote:

> Perhaps the craft of composition would really have fallen into decline (in the early decades of the 18th century) if . . . Fux's Gradus had not put a brake upon caprice and exaggeration and set up a standard of excellence in writing. For this was the first real textbook of composition in a time which had known on the one hand only the passing on from master to pupil of specific devices and tricks of the trade, or, on the other, deep-searching theoretical works that were of little help in learning the practical art of composition. (p. 2)

After Rameau's basic work and particularly after 1800, only a few texts were concerned with purely theoretical topics (Apel, 1972, p. 847). One of these was Lehre von den Torempfindungen als Physiologische Grundlage fur die Theorie der Musik (1863) by Hermann Ludwig Ferninand Helmholtz. According to Backus (1977), "This work is one of the landmarks in the literature of musical acoustics" (p. xiv [footnote]). Apel (1972) wrote that it makes a major contribution to the knowledge of the elements of music on both physical and psychological grounds (p. 847).

Heinrich Schenker (1868-1935) was one of the most influential theorists of the 20th century according to Apel (1972, pp. 847-848) and

Sadie (1980, p. 759). It is Sadie's opinion that probably the most radical feature of Schenker's approach was his view that each single movement of a major work can be explained within a single key by reducing the musical structure to its "background" or basic structure (p. 759). Forte (1959) indicated that Schenker was primarily an educator (p. 5). He listed four problems in music theory to which Schenker's methods can make a contribution:

1. Construction of a theory of rhythm for tonal music
    a. all rhythm comes from counterpoint
    b. at what level do rhythmic events begin to determine the tonal structure?
    c. what is the relationship between rhythmic levels?
2. Determining the sources and development of triadic tonality
    a. the concept of structure levels is invaluable. The underlying structure shows an orderly transformation from period to period.
    b. shows the development of chromaticism
3. Gaining information about compositional technique
4. Understanding the structure of problematic modern works. (pp. 20-30)

According to Grout (1980), Paul Hindemith (1895-1963) is notable "as a theorist who undertook to formulate a general system of composition, hoping to establish a basis on which the divergent practices of the time might find common ground for further progress" (p. 704). His harmonic method called "Harmonic Fluctuation" was characterized by Grout (1980) as beginning with relatively consonant chords and progressing toward greater tension and dissonance, which is resolved either suddenly or by slowly moderating tension until consonance is reached

(p. 706).. According to Sadie (1980), Hindemith's system is both analytical and prescriptive as far as composition is concerned (p. 760).

Thompson (1980) labeled Percy Goetschius (1853-1943) the "father of American theory" (p. 37). According to Thompson (1980), some of the main contributions of American theorists were the theory of harmonic progression, an acceptance of the influence of rhythm on harmony, a recognition of the function of many types of chromatic harmony "to cite only a few" (p. 186). Other influential early twentieth century theorists include Arnold Schoenberg (1884-1951), Alois Haba (1893-1973), Joseph Yasser (b. 1893), Oliver Messiaen (b. 1908), and Joseph Rufer who wrote a basic work for serial techniques (Apel, 1972, p. 848).

One of the most important developments in theory during the mid-20th century, according to Sadie (1980), is the development of an "objective theory in the work of Milton Babbitt and Allen Forte and their disciples" (p. 760). Babbitt's work was based upon strict adherence to the scientific method, while Forte developed a theory of set complexes which are effective in analyzing predodecaphonic atonal music. A growing reaction to some of these objective theories is also apparent (Sadie, 1980, p. 760). Sadie pointed to a trend which seems to be developing that will consider not only the objective theories--pitch and interval class of Babbitt and set complexes of Forte, among others--but will consider historical, stylistic, and sociological contexts of music as well (p. 760).

Studies Concerning Music Theory

Boyer (1959) examined the course content of the basic theory required in a music education curriculum. Using criteria formulated

from data collected on questionnaires completed by selected secondary school music educators in the state of Oregon, he analyzed selected music theory texts. From the data collected from his questionnaires he found three areas of music theory to be of major importance: aural skills, pianistic skills, and sightsinging skills. Scales, intervals, kinds of triads, construction of major scales, and rules of part writing were also stated to be of importance in teaching music in public schools. Little use was made of playing and reading figured bass, eleventh and thirteenth chords, augmented sixths, six-four chords, and secondary dominant triads.

McMullin and Bauman (1975) attempted to obtain a "profile" of the theory knowledge and skills needed and actually used by beginning music teachers in the areas of aural and written skills and to determine if the "profile" will vary when examined by area of specialization and level of teaching duties. The results of a survey showed that skills associated with score reading, score preparation and transposition appeared to be most needed and used. Harmonization, editing, analysis, and skills related to reducing and simplifying scores seemed to be used and needed to a lesser degree than those in the previously named group. Composing figured bass and counterpoint appeared to be the least needed and used of the written skills.

Sightsinging and error detection of all types were the aural skills needed most. Error detection skills were used more than sightsinging. Dictation skills were indicated to be least needed and used. Instrumental music teachers were more concerned with skills associated with score preparation. Choral/vocal and general music teachers tended

to use traditional theory skills such as harmonization and analysis to a greater extent than instrumental teachers. Senior high school teachers used score preparation, transposition, and score reading more than elementary, middle, or junior high school teachers.

Taylor (1970) surveyed music teachers in Maryland relative to their preparation for work in music education. According to respondents, five of the most valuable undergraduate courses were harmony, sightsinging, eartraining, methods, and music history. Taylor used the 60 competencies describing the musical and teaching behaviors identified by the Teacher Education in Music: Final Report of the Teacher Education Commission of the Music Educators National Conference as the basis for her survey of choral-general music teachers. Musical behaviors of sightsinging, accompanying, analysis of musical form, arranging and adapting music to the needs and ability level of students, and the teaching behavior of recognizing each music student by name were the competencies on the final listing of important and frequently used competencies for each level of respondent. The study revealed that musical behaviors which are generally recognized by the Teacher Education Commission as important to music teaching situations, are not frequently used in the classes of the choral-general music teachers responding to this survey. Taylor concluded that there is a need in the profession to identify the musical behaviors that are employed in the classroom.

Coleman (1979) used a questionnaire to survey public school music teachers in selected school districts of Tennessee with reference to their perception of the effectiveness of their undergraduate training

in music education. This study was also designed to discover the competencies considered to be essential for well-trained music teachers and to identify areas in which more preparation is needed. He found that medieval music, ability to compose using contemporary devices, and ability to compose settings for texts were designated unimportant in the training of music teachers.

Soderblom (1982) surveyed three groups--experienced music teachers, first-year music teachers, and university teachers of music--by means of a questionnaire as to their opinion about music and music-teaching competencies considered essential for first-year elementary school general music teachers. All three groups gave high priority to skills used directly in the classroom such as singing, conducting, skills on ancillary instruments, and lesson planning. All groups gave low priority to background knowledge.

Summary of Studies Concerning Music Theory

In studies by Boyer (1959), McMullin and Bauman (1975) and Taylor (1970), the following were found to be of major importance to music teachers: aural skills; pianistic and accompanying skills; sightsinging skills, skills associated with score reading, score preparation, transposition, and error detection; and analysis of musical form, arranging and adapting music to the ability level of students.

Boyer (1959), McMullin and Bauman (1975), Taylor (1970), and Coleman (1979) identified the following as least important to music teachers: figured bass; eleventh and thirteenth chords; augmented sixths; six-four chords; secondary dominant triads; skills used in composing--both traditional and with contemporary devices, counterpoint

and dictation; knowledge of medieval music; and the ability to compose settings for texts. Soderblom (1982) found that elementary teachers gave high priority to singing, conducting skills, skills on ancillary instruments, and lesson planning. They gave low priority to background knowledge (such as music theory).

CHAPTER III

PROCEDURES

Individuals from a random sample of music teachers in the public schools of North Carolina served as subjects in this study. A copy of the 1982-83 Music Teachers section of the Professional Personnel Activity Report was obtained from the North Carolina Department of Public Instruction. This document listed the employee name, grade level, and subject or position title as well as other information by geographical school units.

It was determined by actual count that in the 145 different school units there were 1,495 music teachers. Instrumental music teachers made up 39% (n = 580), choral music teachers made up 23% (n = 351), and elementary/general music teachers made up 38% (n = 564) of this population. By actual count it was determined that approximately 60% (n = 892) of the population were female and 40% (n = 603) were male. In this study a sample of 10% (n = 149) was decided upon for reasons of expediency and economy as well as effectiveness. Ary (1972) suggested that the sample be from 10 to 20% of the population. By consulting a table of random numbers (Gay, 1981), it was determined to begin with the fourth name on the list. Every tenth name was chosen for the sample.

Addresses of those in the sample were obtained by consulting the 1980-81 edition of the North Carolina Music Personnel Directory. In the event that an address was not available from this source, or the address proved inaccurate (questionnaires were returned as

undeliverable), the school unit was contacted by telephone to obtain the correct address.

The data-gathering instrument was a self-designed questionnaire. The items on the questionnaire were intended to be representative of areas of theory and theory skills taught in typical college freshman- and sophomore-level theory classes.

Representative music theory texts listed in the 1982-83 edition of Books in Print, having been published or edited since 1975, were obtained and consulted. Since the subjects of this study were music teachers who have majored in music as undergraduates, it was decided to eliminate all texts intended for use by high school classes or college classes for students other than music majors. This was determined by an examination of the author's preface or introduction. Therefore, the texts selected which met the criteria adopted for the study were Aldwell and Schachter (1978), Benjamin, Horvit, and Nelson (1979), Benward (1981), Christ, Delone, Kliewer, Roweall, and Thompson (1980), Cooper (1981), Forte (1979), Harder (1980), Kraft (1976), Ottman (1983), Piston (1978), and Spencer (1983).

By comparison of the table of contents, headings, and subheadings of the representative music theory textbooks, a list of theory skills was compiled. When an area was included in at least a majority (six) of the texts it was included in the list. The list was arranged into groups under seven headings: rudiments, diatonic materials, chromatic materials, twentieth-century materials, form, instrumentation, sightsinging, and eartraining. The headings were selected by the researcher from the representative texts as being descriptive of each

group of items. The list was examined for face validity by the researcher and three other professors who have extensive knowledge of theory and/or research procedures. Panel members formed their judgments independently. Items were changed or deleted upon recommendation of this panel.

A questionnaire was constructed using the 45 items which the panel recommended (see Appendix B). A section containing descriptive items was included in the questionnaire. The first three variables--instrumental music, choral music, and elementary/general music--were used as a basis for the study. Other items--sex, length of teaching experience, highest degree achieved, area of performance, and type of undergraduate institution--were used to describe the sample. An open-ended question was included on the questionnaire to allow respondents to comment on areas of music theory needs which were not met in their undergraduate theory courses.

Two pilot studies of the questionnaire were conducted. The purposes of the pilot studies were (a) to examine the questionnaire for clarity of the items and instructions and (b) to determine the approximate time required to complete the questionnaire. A maximum time of five minutes to complete the questionnaire was set as desirable by the researcher before the pilot studies.

The first pilot study was conducted individually with six selected experienced music educators as subjects. Three of these were college professors and three were elementary/general specialists. Each was given an opportunity to complete the questionnaire without verbal instructions and then was interviewed by the researcher for suggestions

as to clarity and revisions. The responses on the questionnaires were measured and tabulated by the researcher. The questionnaire was revised on the basis of the findings from this study.

The revised questionnaire was then administered to two graduate classes at the University of North Carolina at Greensboro (n = 20). The time used by each individual to complete the questionnaire was recorded on the questionnaire. After all respondents had completed the questionnaire, the group was asked to make suggestions about the clarity of the instrument. The responses on the questionnaire were measured, tabulated, and revision of the questionnaire was made. The revised form was printed in its final form.

The questionnaire and a cover letter (see Appendix A) were mailed to the persons selected for the study. The subjects were asked to indicate the rating of importance of each item in their work by making a vertical mark on a five centimeter continuous line scale beside each item. The subjects' responses were quantified by measuring the length in centimeters from the point "Of No Importance" on the continuum to the point where the vertical mark intersects the horizontal continuum.

Of Greatest Importance — Of No Importance

Figure 1. Example of the continuous line scale

This type of scale was used by Hedden (1971). It was selected for this study for two reasons: (a) the difficulty of devising response categories which are appropriate and meaningful to all respondents (Pace & Friedlander, 1982), and (b) scaled responses of this type can be considered to be a ratio measurement.

As questionnaires were returned, the date of receipt was recorded on the questionnaire. This date was also noted on the mailing list. Each questionnaire was numbered and then coded to the mailing list so follow-up mailings could be made if necessary. The subjects were informed of this procedure in the cover letter. Next, the responses were quantified on each of the 45 items. Three responsible college students were selected to quantify the responses. They were given the following instructions:

1. Sit so that you are looking directly down on the row of marks indicating "Of No Importance."
2. Measure the distance, in centimeters, from the vertical mark made by the respondent to the mark "Of No Importance."
   A. Place the beginning mark of the clear plastic ruler against the inside of the vertical mark made by the respondent at the point where the mark intersects the horizontal line.
   C. Read the measurement indicated by the end of the line indicating "Of No Importance."
   D. If the end of the line is clearly in between the tenths of centimeter indicators on the ruler, consider the measurement to be the .05 measurement. Otherwise, measure only in tenths of centimeters.

The measurements were covered and an independent measurement was made by the researcher to determine accuracy. If a discrepancy was found to exist between the first and second measurement, a third measurement was made by the researcher to determine which was correct.

Two weeks after the questionnaires were mailed, a follow-up postal card (see Appendix A) was mailed to those subjects who had not yet returned a questionnaire. Twenty days later a second postal card (see Appendix A) was mailed.

After a reasonable period of time (two weeks after the second follow-up), the questionnaires were divided into groups by work area--instrumental music teachers, choral music teachers, and elementary/general music teachers. The scores of each item were recorded on data sheets and read into a computer program for analysis. Analysis of the data by work areas was accomplished using the Statistical Package for the Social Sciences (SPSS) (Spearman & Kandall, 1975). The subprograms ANOVA, Condescriptive, Crosstabulation and Frequencies were used to analyze data in this study. For the purpose of this study, it was assumed that those areas of music theory which had means of 0.00 to 1.99 were perceived to be of least importance, those areas of music theory which had means of 2.00 to 2.99 were perceived to be of moderate importance, and those areas of music theory which had means from 3100 to and including 5.00 were perceived to be of greatest importance. For the purpose of this study only two categories, most important and least important, were needed. However, at the suggestion of the computer analyst, the researcher decided to include a third category which would serve to separate the central means, therefore differentiating more

clearly those items perceived to be of least and greatest importance. In doing so, none of Kerlinger's (1973) Rules of Categorization were violated.

Post hoc $\underline{t}$ tests were conducted to determine statistically significant differences, if any, between the means of instrumental music teachers, choral music teachers, and elementary/general music teachers. Using a standard formula (Cohen, 1976, p. 334) $\underline{t}$ tests were conducted between the means of instrumental music teachers and choral music teachers ($\underline{t}_1$); instrumental music teachers and elementary/general music teachers ($\underline{t}_2$); and between choral music teachers and elementary/general music teachers ($\underline{t}_3$). The results of these tests appear in Table C-5 (Appendix C).

CHAPTER IV

RESULTS

In the random sample selected for this study (n = 149), 40% (n = 60) were teachers of instrumental music, 26% (n = 39), and 34% (n = 50) were teachers of elementary/general music. This compares favorably with the population of music educators in North Carolina which was divided 39% (n = 580), 23% (n = 351), and 38% (n = 564) respectively. Fifty-nine percent (n = 88) of the sample were females and 41% (n = 61) were males. This compares to 60% (n = 892) female and 40% (n = 603) male in the population. The sample is representative of the population.

Of the 149 questionnaires mailed, 76.51% (n = 114) were returned. Two of these were returned blank. The usable responses were 75.17% (n = 112) of those questionnaires mailed.

Of the usable responses to the questionnaire (n = 112), 41% (n = 46) were teachers of instrumental music, 27.7% (n = 31) were teachers of choral music, and 31.1% (n = 35) were teachers of elementary/general music. Female respondents constituted 59.8% (n = 67) of the usable responses and males 40.2% (n = 45).

Teaching experience of from 0-5 years was indicated by 23.2% (n = 26) of the respondents; 27.7% (n = 31) indicated 6-10 years; and 19.6% (n = 22) indicated 11-15 years experience. The largest percentage, 29.5% (n = 33), indicated teaching experience of 16 or more years.

The bachelor degree was the highest degree held by the largest percentage, 64.3% (n = 72), of the respondents. Those indicating that they held a master's degree constituted 33% (n = 37) of the respondents. The specialist certificate was held by 1.8% (n = 2) and the doctorate by .9% (n = 1) of the respondents.

Vocalists constituted the largest percentage, 30.4), of the performance areas indicated by respondents. Keyboard performers were next, 28.6% (n = 32), followed by brass, 18.8% (n = 21); woodwinds, 12.5% (n = 14); strings, 8% (n = 9); with percussion having the lowest percentage of 1.8% (n = 2).

Graduates of state colleges or universities were the largest percentage of the respondents, 53.6% (n = 60). Private liberal arts college graduates constituted 33% (n = 37) of the respondents and graduates of private universities made up 10.7% (n = 12) of the respondents. Conservatory graduates made up 2.7% (n = 3) of the total respondents.

Of the 37 nonrespondents, 59.5% (n = 22) were female and 40.5% (n = 15) were male. Instrumental music teachers made up 35.1% (n = 13) of the group. Vocal teachers constituted 16.2% (n = 6) and general music teachers 51.4% (n = 19) of the nonrespondents.

Table 1 contains a listing by work area, sex, years of teaching experience, highest degree or certificate, major area of performance, and type of undergraduate institution both by percentage and number of respondents in each category.

Table 1

Descriptive Summary of Respondents

Independent Variable	%	n
Work area		
Instrumental music	41.1	46
Vocal music	27.7	31
General music	31.1	35
Sex		
Female	59.8	67
Male	40.2	45
Years of teaching experience		
0-5	23.2	26
6-10	27.7	31
11-15	19.6	22
16-over	29.5	33
Highest degree or certificate		
Bachelor	64.3	72
Master	33.0	37
Specialist	1.8	2
Doctorate	.9	1
Major area of performance		
Brass	18.8	21
Keyboard	28.6	32
Percussion	1.8	2
Strings	8.0	9
Voice	30.4	34
Woodwind	12.5	14
Type of undergraduate institution		
State college or university	53.6	60
Private university	10.7	12
Private liberal arts college	33.0	37
Conservatory	2.7	3

The null hypothesis which was tested in this study was:

> There are no significant differences among the perceptions of public school music instrumental music teachers, choral music teachers, and elementary/general music teachers concerning selected knowledge and skills of music theory used in their work.

To test this null hypothesis the means of the three groups were compared for each item by an analysis of variance. The results of this analysis are shown in Table C-3 (Appendix C). It was found that in 44% (n = 20) of the items the differences were statistically significant at or beyond the .05 level of significance. Following are those items:

Item 1. the great staff

Item 2. accidentals

Item 4. key signatures

Item 8. triads and seventh chords: construction, quality, and inversions

Item 9. harmonic or overtone series

Item 12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.

Item 13. intervals: consonant or dissonant, construction, inversions, quality, and recognition

Item 14. circle of fifths

Item 15. procedures of vocal part writing

Item 18. figured bass and triad analysis symbols

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 23. ninth, eleventh, and thirteenth chords

Item 24. neapolitan or the phrygian II

Item 26. harmonic basis other than tertian such as secundal, quartal and quintal

Item 27. pandiatonicism

Item 31. tone clusters and stacked chords

Item 40. instrumental transposition

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 42. melodic dictation

Item 45. error detection

Differences in 29% (n = 13) of the items were found to be statistically significant at or beyond the .01 level of significance. Following are these items:

Item 2. accidentals

Item 9. harmonic or overtone series

Item 12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.

Item 15. procedures of vocal part-writing

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 23. ninth, eleventh, and thirteenth chords

Item 24. neapolitan or the phrygian II

Item 26. harmonic basis other than tertian such as secundal, quartal and quintal

Item 27. pandiatonicism

Item 40. instrument transposition

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 42. melodic dictation

Item 45. error detection

Differences in 11% (n = 6) of the items were found to be statistically significant at or beyond the .001 level of significance. Following are these items:

Item 9. harmonic or overtone series

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 23. ninth, eleventh, and thirteenth chords

Item 40. instrument transposition

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 45. error detection

To determine which areas of music theory were perceived to be the most important and least important in the work of public school music teachers in North Carolina, the means of the items on the questionnaire were listed in rank order. Table C-4 (appendix C) shows the rank order of means. For the purposes of this study those means from 0.00 to 1.99 are considered to be least important, those means from 2.00 to 2.99 are considered to be of moderate importance, and those means from 3.00 through 5.00 are considered to be of most importance. Those areas of music theory perceived by instrumental music teachers in North Carolina as most important in their work (n = 18) follow (in rank order):

Item 4. key signatures

Item 2. accidentals

Item 7. rhythmic notation

Item 5. meter signatures

Item 6. pitch notation

Item 3. major and minor scales

Item 40. instrument transposition

Item 39. instrument and vocal ranges

Item 45. error detection

Item 1. the great staff

Item 33. motive, phrase, period

Item 35. historical style periods

Item 44. rhythmic dictation

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 34. binary and ternary (2 and 3 part) form

Item 37. texture such as homophonic and polyphonic

Item 21. modulation

Item 13. intervals: consonant or dissonant, construction, inversions, quality and recognition

Those areas of music theory perceived by instrumental music teachers in North Carolina as least important in their work (n = 6) follow (in rank order):

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 15. procedures of vocal part writing

Item 26. harmonic basis other than tertian such as secundal, quartal and quintal

Item 27. pandiatonicism

Item 24. neapolitan or the phrygian II

Item 30. twelve-tone serialism

Those areas of music theory perceived to be most important in the work of choral music teachers in the state of North Carolina

(n = 23) follow (in rank order):

Item 5. meter signatures

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 6. pitch notation

Item 1. the great staff

Item 7. rhythmic notation

Item 2. accidentals

Item 4. key signatures

Item 45. error detection

Item 44. rhythmic dictation

Item 3. major and minor scales

Item 39. instrument and vocal ranges

Item 42. melodic dictation

Item 13. intervals: consonant or dissonant, construction, inversions, quality and recognition

Item 35. historical style periods

Item 37. texture such as homophonic and polyphonic

Item 19. various chord functions in a key such as I, IV, and V and their use

Item 33. motive, phrase, period

Item 11. elements of melodic construction such as step progression, arpeggiation, etc.

Item 34. binary and ternary (2 and 3 part) form

Item 8. triads and seventh chords: construction, quality, and inversions

Item 17. cadences

Item 21. modulation

Item 15. procedures of vocal part writing

Those areas of music theory perceived by choral music teachers in the state of North Carolina to be least important in their work (n = 8) follow (in rank order):

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 23. ninth, eleventh, and thirteenth chords

Item 38. clefs other than treble and bass such as alto and tenor

Item 28. polytonality and polychords

Item 24. neapolitan or the phrygian II

Item 26. harmonic basis other than tertian such as secundal, quartal, and quintal

Item 27. pandiatonicism

Item 30. twelve-tone serialism

Those areas of music theory perceived by elementary/general music teachers in the state of North Carolina to be most important in their work (n = 17) follow (in rank order):

Item 7. rhythmic notation

Item 5. meter signatures

Item 6. pitch notation

Item 1. the great staff

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 33. motive, phrase, period

Item 4. key signatures

Item 3. major and minor scales

Item 19. various chord functions in a key such as I, IV, and V and their use

Item 34. binary and ternary (2 and 3 part) form

Item 2. accidentals

Item 11. elements of melodic construction such as step progression, arpeggiation, etc.

Item 39. instrument and vocal ranges

Item 35. historical style periods

Item 37. texture such as homophonic and polyphonic

Item 44. rhythmic dictation

Item 36. formal compositional structures such as rondo, sonata-allegro, etc.

Those areas of music theory perceived by elementary/general music teachers of North Carolina to be least important in their work ($n = 17$) follow (in rank order):

Item 12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.

Item 32. atonality, bitonality, polytonality

Item 20. tonicization or secondary dominants and applied chords

Item 10. octave or register identification (subcontra, contra, great, etc.)

Item 29. parallel chord motion

Item 31. tone clusters and stacked chords

Item 38. clefs other than treble and bass such as alto and tenor

Item 28. polytonality and polychords

Item 9. harmonic or overtone series

Item 18. figured bass and triad analysis symbols

Item 40. instrument transposition

Item 30. twelve-tone serialism

Item 26. harmonic basis other than tertian such as secundal, quartal, and quintal

Item 23. ninth, eleventh, and thirteenth chords

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 27. pandiatonicism

Item 24. neapolitan or the phrygian II

Table C-8 (Appendix C) shows the percentage of those in each work area--instrumental music, choral music, and elementary/general music--who perceive each item as least important, moderately important, and most important in the work of public school music teachers in North Carolina.

Comments on the open-ended question included at the end of the questionnaire (Have you discovered any areas of music theory which you need in your work but were inadequately prepared in by your undergraduate theory classes?) were made by 39.3% (n = 44) of the respondents. A list of these responses appears in Table C-7 (Appendix C).

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The findings of this study lead to the conclusion that there are statistically significant differences at or beyond the .05 level of significance in 44% (n = 20) of the items included on the questionnaire used to evaluate the perception of the importance of various areas of music theory used in the work of public school instrumental music teachers, public school choral music teachers, and public school elementary/general music teachers in the state of North Carolina. In view of these findings, the null hypothesis--there are no significant differences among the perceptions of public school music instrumental music teachers, choral music teachers, and elementary/general music teachers concerning selected knowledge and skills of music theory used in their work--is rejected.

Table C-5 (Appendix C) contains the results of a post hoc analysis of the differences in the means using t tests. The means of instrumental music teachers were compared to the means of choral music teachers (t_1); the means of instrumental music teachers were compared to the means of elementary/general music teachers (t_2); and the means of choral music teachers were compared to those of elementary/general music teachers (t_3). In the 20 items where differences were found to be statistically significant among the three groups, the following

results were observed:

Item 1. the great staff - The difference between the means of instrumental music teachers and choral music teachers was statistically significant at or beyond the .01 level of significance.

Item 2. accidentals - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance. The difference between the means of choral and elementary/general music teachers was statistically significant at or beyond the .05 level of significance.

Item 4. key signatures - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 8. triads and seventh chords; construction, quality, and inversions - The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 9. harmonic or overtone series - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance. The difference between the means of choral music teachers and

elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc. - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 13. intervals: consonant or dissonant, construction, inversions, quality, and recognition - The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 14. circle of fifths - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 15. procedures of vocal part writing - The difference between the means of instrumental music teachers and choral music teachers was statistically significant at or beyond the .01 level of significance.

Item 18. figured bass and triad analysis symbols - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 22. augmented triads and augmented sixths such as French, German, and Italian - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance.

Item 23. ninth, eleventh, and thirteenth chords - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 24. neapolitan or the phrygian II - The difference between the means of instrumental music teachers and

elementary/general music teachers was statistically significant at or beyond the .01 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .05 level of significance.

Item 26. harmonic basis other than tertian such as secundal, quartal and quintal - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 27. pandiatonicism - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 31. tone clusters and stacked chords - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .05 level of significance.

Item 40. instrumental transposition - The difference between the means of instrumental music teachers and choral music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance. The

difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers - The difference between the means of instrumental music teachers and choral music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 42. melodic dictation - The difference between the means of instrumental music teachers and choral music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .01 level of significance.

Item 45. error detection - The difference between the means of instrumental music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance. The difference between the means of choral music teachers and elementary/general music teachers was statistically significant at or beyond the .001 level of significance.

See Table 2 for a summary of the results of the t tests on these items.

Table 2

Summary Table of Post Hoc Analysis

Questionnaire Item		t_1	t_2	t_3
1.	the great staff	2.95**	-	-
2.	accidentals	-	3.00**	2.51*
4.	key signatures	-	2.76**	-
8.	triads and seventh chords: construction, quality and inversions	-	-	3.11**
9.	harmonic or overtone series	-	2.88**	2.92**
12.	embellishments of nonharmonic tones, neighboring tones, etc.	-	3.94**	3.05**
13.	intervals: consonant or dissonant, construction, inversions, quality and recognition	-	-	2.90**
14.	circle of fifths	-	2.78**	-
15.	procedures of vocal part writing	3.12**	-	-
18.	figured bass and triad analysis symbols	-	2.55*	2.58*
22.	augmented triads and augmented sixths such as French, German, and Italian	-	4.05***	3.50***
23.	ninth, eleventh and thirteenth chords	-	4.42***	3.04**
24.	neapolitan or the phrygian II	-	3.33**	2.10*
26.	harmonic basis other than tertian such as secundal, quartal and quintal	-	3.01**	-
27.	pandiatonicism	-	3.21**	-
31.	tone clusters and stacked chords	-	2.54*	2.21*
40.	instrument transposition	4.76***	8.73***	2.83**

Questionnaire Item	t_1	t_2	t_3
41. sightsinging, solmization or solfeggio with syllables and/or numbers	4.19***	3.11**	-
42. melodic dictation	3.49***	-	3.12**
45. error detection	-	3.45***	4.17***

*$p < .05$

**$p < .01$

***$p < .001$

t_1 = means of instrumental music teachers versus choral music teachers.

t_2 = means of instrumental music teachers versus elementary/general music teachers.

t_3 = means of choral music teachers versus elementary/general music teachers.

All music teachers surveyed perceived 29% (n = 13) of the areas of theory to be of greatest importance in their work. Table C-6 (Appendix C) shows these areas as well as those perceived to be of least importance. Those areas of theory perceived to be of most importance to all music teachers surveyed are the following:

Item 1. the great staff

Item 2. accidentals

Item 3. major and minor scales

Item 4. key signatures

Item 5. meter signatures

Item 6. pitch notation

Item 7. rhythmic notation

Item 33. motive, phrase, period

Item 34. binary and ternary (2 and 3 part) form

Item 35. historical style periods

Item 37. texture such as homophonic and polyphonic

Item 41. sightsinging, solmization or solfeggio with syllables and/or numbers

Item 44. rhythmic dictation

Those items perceived to be least important to all music teachers surveyed are the following:

Item 22. augmented triads and augmented sixths such as French, German, and Italian

Item 26. harmonic basis other than tertian such as secundal, quartal, and quintal

Item 27. pandiatonicism

Item 30. twelve-tone serialism

Only 9% (n = 4) of the areas of theory were perceived to be least important by all music teachers surveyed. This would seem to indicate that music teachers perceived most areas of music theory to be at least moderately important in their work. While this may seem contradictory to the rejection of the null hypothesis, in fact the null hypothesis has little to do with the relative importance ascribed to the selected areas of music theory. The null hypothesis was concerned with the differences among groups of music educators in their perception of the use of these selected areas of music theory in their work. Differences could be great and not necessarily mean that an area was considered least important.

Seven of the items perceived to be of greatest importance were in the category of rudiments on the questionnaire. The items under the heading rudiments were selected from those areas of theory most often included in the first semester of theory study and considered by most authors of theory texts to be basic to the development of musicianship. It is interesting to note that 50% (n = 7) of these basic areas of theory were not perceived to be of greatest importance:

Item 8. triads and seventh chords: construction, quality, and inversions

Item 9. harmonic or overtone series

Item 10. octave or register identification (subcontra, contra, great, etc.)

Item 11. elements of melodic construction such as step progression, arpeggiation, etc.

Item 12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.

Item 13. intervals: consonant or dissonant, construction, inversions, quality, and recognition

Item 14. circle of fifths

In fact, elementary/general music teachers perceived three of these items to be least important:

Item 12. embellishments of nonharmonic tones such as passing tones, neighboring tones

Item 10. octave or register identification (subcontra, contra, great, etc.)

Item 9. harmonic or overtone series

Instrumental music teachers perceived item 13--intervals: consonant or dissonant, construction, inversions, quality, and recognition--to be of greatest importance ($\bar{x}$ = 3.02). Choral music teachers perceived item 11--elements of melodic construction such as step progression, arpeggiation, etc. ($\bar{x}$ = 3.37)--and item 13--intervals: consonant or dissonant, construction, inversions, quality, and recognition ($\bar{x}$ = 3.61)--to be of greatest importance. The remaining items--item 8, triads and seventh chords: construction, quality, and inversions and item 14, circle of fifths--in the rudiments category were perceived to be of moderate importance. This may be of value in determining the weight of emphasis to be placed upon some of these rudiments in the teaching sequence of first-year theory classes. Of particular interest is item 10--octave or register identification (subcontra, contra, great, etc.)--the mean of which was ranked at or below 29 in the responses of all three groups. Perhaps this concept is not as important as once was believed. The mean for item 9, harmonic or overtone series, was also ranked low (32 and 37, respectively) in the responses of choral and elementary/general music teachers. This could lead to the conclusion that this concept is more important to instrumentalists than it is

to teachers of choral or elementary/general music. It would seem, however, that since the harmonic series is such a basic physical phenomenon concerning all music, the problem may not be with the area of theory itself but with the failure of the individuals to understand its vital importance in music. This may be an area of theory which needs more emphasis in theory classes to increase the students' awareness of the importance of this foundational principle of music. It may be that instrumentalists seem to attach more importance to it ($\bar{x}$ = 2.71) due to direct application of the harmonic series to instrument sound production, i.e., brass open tones and overblowing on woodwinds.

Three of the four items perceived to be of least importance to all music teachers were from the category Twentieth Century Materials on the questionnaire. This represents 38% of the entire category. The fourth item perceived to be of least value to all music teachers was from the category Chromatic Materials which is often considered preparatory to the study of Twentieth Century Materials since it is included in the second year of many theory courses of study (see Benward, Vol. II, 1982; Christ, Delone, Kliewer, Rowell, & Thomson, Vol. II, 1981; Ottman, 1972). This seems to contradict the concern expressed by 16% (n = 7) of those responding to the open-ended question, for more familiarity with twentieth-century techniques. A confusion of terms exists. Three of the respondents to the open-ended question expressed a desire for more experience in popular musical theory. It may be that this is the meaning attached, consciously or unconsciously, to the meaning of Twentieth Century Materials. If so, then, items such as "harmonic basis other than tertian," "pandiatonicism," and "twelve-tone

series" are rejected as irrelevant. It may be that the selection of twentieth century materials for inclusion in theory texts needs to be reexamined for relevancy. This reexamination is, admittedly, difficult because of the state of flux of twentieth century music. Music teachers appear to be asking for at least an introduction to the basics in understanding the theoretical concepts involved in the popular music with which their students are so familiar.

The results of this study tend to confirm the findings of Boyer (1960). Aural skills were perceived to be important to the present respondents. Rhythmic dictation was perceived to be of greatest importance by all music teachers. The need for more skill on the piano was mentioned by the largest percentage (18%) of the respondents to the open-ended question. Sightsinging was perceived to be of greatest importance by all music educators surveyed. In addition, scales were also perceived to be of greatest importance by all teachers. Intervals were of greatest importance to instrumental and choral teachers and of moderate importance to elementary/general music teachers. Various chord functions in a key (kind of triads) were of greatest importance to choral and elementary/general music teachers and of moderate importance to instrumental music teachers. Rules of part-writing were of greatest importance to choral and elementary/general music teachers and of least importance to instrumental music teachers. Terminology probably contributed to this, since the item on the present questionnaire was worded "rules of vocal part-writing." The greatest divergence between the two studies came in the areas of figured bass and secondary dominants. Boyer (1960) found little use made of these two items. The

present study found that instrumental and vocal teachers perceived both these items to be of moderate importance and general music teachers perceived them to be of least importance. Boyer (1960) found eleventh and thirteenth chords to be of little use while the present study shows instrumental teachers perceive them to be of moderate importance. Vocal and general music teachers perceived them to be of least importance. The divergence could be a result of the time elapsed between the two studies. However, the areas of basic theory study are relatively stable and have not changed greatly in the intervening years. Perhaps the most significant concurrent finding may be that the respondents in both studies attached little importance to augmented sixth chords. This may be significant to the teachers of theory because in many classes this is a major topic for consideration.

The importance of sightsinging found by McMillen and Bauman (1971) was confirmed in the present study. Error detection, on the other hand, was perceived to be of greatest importance only by instrumental and vocal teachers. General music teachers perceived error detection to be only of moderate importance. The present study seems to confirm that vocal and general music teachers tend to use traditional theory skills such as harmonization and analysis to a greater extent than instrumental teachers. Items 8, 15, 16, 17, 18, and 19 reflect these traditional theory skills:

Item 8. triads and seventh chords: construction, quality, and inversions

Item 15. procedures of vocal part-writing

Item 16. diatonic sequences

Item 17. cadences

Item 18. figured bass and triad analysis symbols

Item 19. various chord functions in a key such a I, IV, and V chords and their use

In 67% of these (Items 15, 16, 17, and 19), vocal and general music teachers' means were higher in rank order than instrumental music teachers' means. The present study found, in contrast to McMillen and Bauman (1971), that all music teachers perceived rhythmic dictation to be of greatest importance. Vocal music teachers perceived melodic dictation to be of greatest importance while general and instrumental teachers perceived it to be of moderate importance. All teachers surveyed perceived harmonic dictation to be of moderate importance. This apparent conflict in findings needs further study, particularly in view of the importance attached to dictation skills in most theory programs.

The importance of sightsinging is again confirmed by comparing this study to Taylor (1970). In fact, if sightsinging needed a defense, the fact that this study and four others find it to be of prime importance should be convincing evidence.

This study confirms, in a general way, Soderblom's (1982) finding that first-year elementary school general music teachers give low priority to background knowledge. The general music teachers in this present study generally had lower means than either vocal or instrumental teachers. The lowest mean in the instrumental group was 1.48; the lowest mean in the vocal music group was 1.20, while the lowest mean in the general music group was .83. Instrumental music teachers perceived only 13% (n = 6) of the 45 items on the questionnaire to be

of least importance. Vocal music teachers perceived only 18% (n = 8) of the 45 items to be of least importance. However, general music teachers perceived 38% (n = 17) of the 45 items to be of least importance. This was equal to the number which they perceived to be of greatest importance. In contrast, vocal music teachers perceived 51% (n = 23) of the 45 items to be of greatest importance. Instrumental music teachers perceived 47% (n = 21) to be of moderate importance and 40% (n = 18) to be of greatest importance. The low means and the high percentage of least important items seem to confirm that general music teachers do place less importance on background theory knowledge.

Recommendations

Due to the differences detected among the three work areas represented in this study (instrumental music teachers, choral music teachers, and elementary/general music teachers) in their perception of the use of theory in their work, perhaps it would be profitable to study the feasibility of offering separate sections of theory for these three groups. This might be a way of meeting the need for different emphases. While this study does not lead to any conclusions about the relative merits of various areas of theory as presently taught, it does seem to have some insights to offer as far as the emphasis on various areas are concerned. This needs further study.

Additional study is also needed as to the amount of emphasis to be placed on augmented sixth chords in second year theory. Since this is a major topic with functional and historical significance in music and the results of two studies (Boyer, 1960, and the present study) indicate that this topic is perceived to be of little importance,

further investigation is warranted. Perhaps an improved method of teaching can be developed which will help students to perceive the importance and relevance of this topic.

This present study should be expanded to determine differences, if any, between the other variables--sex, teaching experience, highest degree, and type of undergraduate institution. There is also a need to replicate this study with other geographical populations. Replication with graduates of one or more institutions would also prove interesting and helpful.

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APPENDIX A

FACSIMILES OF COVER LETTER AND FOLLOW-UP CARDS

August 17, 1983

Name of Music Educator
Name of School
Address of School
Town, State, Zip Code

Dear (first name of music educator):

You were selected at random from among North Carolina Music Educators to participate in this survey which may help make college music theory courses more relevant to the needs of future music educators. This study is being conducted to determine the relative importance of various areas of music theory in the work of music educators. The study will serve as the basis for my dissertation at the University of North Carolina at Greensboro. I also hope to use the data to write a music theory text from the music educator's viewpoint.

The questionnaire has been pilot tested and should take no more than five minutes of your time. Please complete it now and return it to me as soon as possible in the enclosed stamped envelope. The questionnaires are number so they can be identified for possible follow-up, but your name will not be associated with your completed questionnaire so confidentiality is assured.

Having been involved in music education in public schools for many years, I know the many demands made on your limited time. I can appreciate your effort in helping me with this project.

Sincere thanks,

Robert L. Decker

Facsimile of postal card mailed as the first follow-up to the cover letter. Mailed on September 1, 1983.

> The response to the theory questionnaire which I mailed recently to North Carolina music educators has been gratifying. I need to start compiling the results soon and would like to include the data from your questionnaire. If you have mailed it--thanks; if not, won't you take five minutes and complete it?
>
> It is humbling to know that so many of one's colleagues will take time from busy schedules to assist in a project such as this.
>
> Sincerely,

Facsimile of postal card mailed as the second follow-up to the cover letter. Mailed on September 20, 1983.

> The response to the music theory questionnaire has been overwhelming--over 70% response. Of course, I would still like to include data from your questionnaire. However, even if you cannot fill it in completely, it would help greatly if you just check the demographic data and mail it back. Thanks.

APPENDIX B

FACSIMILE OF SURVEY QUESTIONNAIRE

SURVEY QUESTIONNAIRE TO DETERMINE THE USE OF

MUSIC THEORY KNOWLEDGE AND SKILLS

Instructions. Please place an X in the appropriate blank (X).

A. The work area in which most of your time is spent.

( ) Instrumental music
( ) Vocal music
( ) General music

B. Sex.

( ) Female
( ) Male

C. The number of years of your teaching experience.

( ) 0-5
( ) 6-10
( ) 11-15
( ) 16-over

D. The highest degree or certificate you have earned.

( ) Bachelor
( ) Masters
( ) Specialist
( ) Doctorate
( ) Other (specify) _____

E. Your major area of performance.

( ) Brass
( ) Keyboard
( ) Percussion
( ) Strings
( ) Voice
( ) Woodwind

F. The type of institution from which you received the bachelor's degree.

( ) State college or university
( ) Private university
( ) Private liberal arts college
( ) Conservatory
( ) Other (specify) _____

Theory Knowledge and Skills. Please indicate the degree of importance each of the areas of theory knowledge and skills listed below plays in the performance of your work as a music educator. Place a vertical mark ( ) through the horizontal line beside the area at the place which indicates the extent of importance the knowledge or skill plays in your work.

Example: _____

Note: The right side of the line is "of no importance," and the left side of the line is "of greatest importance."

	of greatest importance	of no importance
Rudiments		
1. the great staff	_____	
2. accidentals	_____	
3. major and minor scales	_____	
4. key signatures	_____	
5. meter signatures	_____	
6. pitch notation	_____	
7. rhythmic notation	_____	
8. triads and seventh chords: construction, quality and inversions	_____	
9. harmonic or overtone series	_____	
10. octave or register identification (subcontra, contra, great, etc.)	_____	
11. elements of melodic construction such as step progression, arpeggiation, etc.	_____	
12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.	_____	
13. intervals: consonant or dissonant, construction, inversions, quality and recognition	_____	

	of greatest importance	of no importance
14. circle of fifths	_____	

Diatonic Materials

15. procedures of vocal part-writing	_____	
16. diatonic sequences	_____	
17. cadences	_____	
18. figured bass and triad analysis symbols	_____	
19. various chord functions in a key such as I, IV and V chords and their use	_____	

Chromatic Materials

20. tonicization or secondary dominants and applied chords	_____	
21. modulation	_____	
22. augmented triads and augmented sixths such as French, German and Italian	_____	
23. ninth, eleventh and thirteenth chords	_____	
24. neapolitan or the phrygian II	_____	

Twentieth Century Materials

25. scales other than diatonic such as church modes, pentatonic, chromatic, exotic and synthetic	_____	
26. harmonic basis other than tertian such as secundal, quartal and quintal	_____	
27. pandiatonicism	_____	

	of greatest importance	of no importance
28. polytonality and polychords		
29. parallel chord motion		
30. twelve-tone serialism		
31. tone clusters and stacked chords		
Form		
33. motive, phrase, period		
34. binary and ternary (2 and 3 part) form		
35. historical style periods		
36. formal compositional structures such as rondo, sonata-allegro, etc.		
37. texture such as homophonic and polyphonic		
Instrumentation		
38. clefs other than treble and bass such as alto and tenor		
39. instrument and vocal ranges		
40. instrument transposition		
Sightsinging and Ear Training		
41. sightsinging, solmization or solfeggi with syllables and/or numbers		
42. melodic dictation		
43. harmonic dictation		
44. rhythmic dictation		

	of greatest importance	of no importance
45. error detection	_____	

Have you discovered any areas of music theory which you need in your work but were inadequately prepared in by your undergraduate theory classes? (specify)

_____

_____

_____

_____

APPENDIX C

TABLES

Table C-1

Means and Standard Deviations

Questionnaire Item	Work Area					
	Means			SD		
	Instru. Music	Vocal Music	General Music	Instru. Music	Vocal Music	General Music
1. the great staff	3.50	4.21	4.00	1.29	0.82	0.85
2. accidentals	4.14	4.07	3.47	0.98	0.93	1.01
3. major and minor keys	3.94	3.84	3.59	1.01	1.00	0.84
4. key signatures	4.20	3.98	3.62	0.98	1.01	0.90
5. meter signatures	4.04	4.34	4.15	1.07	0.79	0.68
6. pitch notation	4.01	4.24	4.13	1.09	0.91	0.59
7. rhythmic notation	4.09	4.20	4.28	1.02	0.97	0.56
8. triads and seventh chords: construction, quality and inversions	2.67	3.75	2.04	1.47	1.51	1.37
9. harmonic or overtone series	2.71	2.30	1.42	1.28	1.35	1.06
10. octave or register identification (subcontra, contra, great, etc.)	2.39	2.43	1.67	1.24	1.49	1.31
11. elements of melodic construction such as step progression, arpeggiation, etc.	2.95	3.37	3.39	1.34	1.29	1.29
12. embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.	2.56	2.90	1.93	1.39	1.31	1.27
13. intervals: consonant or dissonant, construction, inversions, quality and recognition	3.02	3.62	2.63	1.31	1.30	1.47
14. circle of fifths	2.96	2.50	2.07	1.44	1.45	1.42

Questionnaire Item		Work Area					
		Means			SD		
		Instru. Music	Vocal Music	General Music	Instru. Music	Vocal Music	General Music
15.	procedures of vocal part-writing	1.94	3.00	2.26	1.47	1.46	1.59
16.	diatonic sequences	2.39	2.91	2.08	1.39	1.33	1.44
17.	cadences	2.81	3.06	3.00	1.49	1.35	1.16
18.	figured bass and triad analysis symbols	2.02	2.11	1.31	1.47	1.43	1.03
19.	various chord functions in a key such as I, IV, and V chords and their use	2.95	3.41	3.58	1.42	1.36	1.05
20.	tonicization or secondary dominants and applied chords	2.47	2.38	1.87	1.39	1.32	1.51
21.	modulation	3.05	3.03	2.50	1.32	1.23	1.98
22.	augmented triads and augmented sixths such as French, German, and Italian	1.97	1.91	0.94	1.30	1.23	0.99
23.	ninth, eleventh and thirteenth chords	2.16	1.84	0.96	1.43	1.30	1.01
24.	neapolitan or the phrygian II	1.66	1.38	0.83	1.30	1.16	0.94
25.	scales other than diatonic such as church modes, pentatonic, chromatic, exotic and synthetic	2.25	2.34	2.35	1.36	1.26	1.57
26.	harmonic basis other than tertian such as secundal, quartal and quintal	1.73	1.31	0.99	1.24	0.96	0.97
27.	pandiatonicism	1.67	1.23	0.92	1.29	0.99	0.80
28.	polytonality and polychords	2.11	1.67	1.44	1.53	1.22	1.14
29.	parallel chord motion	2.27	2.08	1.58	1.44	1.33	1.29
30.	twelve-tone serialism	1.48	1.20	1.11	1.18	1.01	0.96

Questionnaire Item		Work Area					
		Means			SD		
		Instru. Music	Vocal Music	General Music	Instru. Music	Vocal Music	General Music
31.	tone clusters and stacked chords	2.24	2.20	1.50	1.48	1.40	1.14
32.	atonality, bitonality, polytonality	2.23	2.07	1.89	1.51	1.24	1.31
33.	motive, phrase, period	3.47	3.39	3.72	1.29	1.17	1.24
34.	binary and ternary (2 and 3 part) form	3.12	3.23	3.58	1.37	1.22	1.45
35.	historical style periods	3.42	3.47	3.21	1.31	11.30	1.26
36.	formal compositional structures such as rondo, sonata-allegro, etc.	2.97	2.62	3.18	1.45	1.24	1.22
37.	texture such as homophonic and polyphonic	3.05	3.45	3.21	1.53	1.22	1.48
38.	clefs other than treble and bass such as alto and tenor	2.06	1.75	1.48	1.55	1.43	1.47
39.	instrument and vocal ranges	3.66	3.80	3.38	1.34	1.25	1.22
40.	instrument transposition	3.86	2.29	1.30	1.29	1.50	1.32
41.	sightsinging, solmization or solfeggio with syllables and/or numbers	3.17	4.32	3.99	1.54	0.86	0.79
42.	melodic dictation	2.54	3.70	2.73	1.71	1.21	1.32
43.	harmonic dictation	2.42	2.99	2.29	1.60	1.61	1.46
44.	rhythmic dictation	3.18	3.89	3.21	1.54	1.22	1.47
45.	error detection	3.58	3.94	2.50	1.40	1.09	1.39

Table C-2

Results of Analysis of Variance

Questionnaire Item	SS	DF	MS	F	Signif. of F
1. the great staff	100496.438	2	50248.219	4.538	0.012*
2. accidentals	110063.313	2	55031.656	5.787	0.004**
3. major and minor scales	24674.602	2	12337.301	1.325	0.270
4. key signatures	76215.375	2	28107.688	4.089	0.019*
5. meter signatures	16408.758	2	8204.379	1.034	0.359
6. pitch notation	11539.367	2	5769.684	0.680	0.509
7. rhythmic notation	8235.242	2	4117.621	0.525	0.593
8. triads and seventh chords: construction, quality and inversions	198621.813	2	99310.875	4.713	0.011*
9. harmonic or overtone series	292001.813	2	146000.875	9.397	0.000***
10. octave or register identification (subcontra, contra, great, etc.)	111724.000	2	55862.000	3.056	0.051
11. elements of melodic construction such as step progression, arpeggiation, etc.	44678.039	2	22339.020	1.292	0.279
12. embellishments of nonharmonic tones, neighboring tones, etc.	173709.625	2	86854.813	5.002	0.008**
13. intervals: consonant or dissonant, construction, inversions, quality and recognition	157959.063	2	78979.500	4.323	0.016*
14. circle of fifths	166681.500	2	83340.750	4.059	0.020*
15. procedures of vocal part-writing	226117.813	2	113058.875	5.002	0.008**

Questionnaire Item		SS	DF	MS	F	Signif. of F
16.	diatonic sequences	96520.188	2	48260.094	2.525	0.085
17.	cadences	7443.055	2	3721.527	0.201	0.818
18.	figured bass and triad analysis symbols	110672.875	2	55336.438	3.125	0.048*
19.	various chord functions in a key such as I, IV, and V chords and their use	86574.938	2	43287.469	2.534	0.084
20.	tonicization of secondary dominants and applied chords	70379.813	2	35189.906	1.770	0.175
21.	modulation	84319.375	2	42159.688	1.796	0.171
22.	augmented triads and augmented sixths such as French, German, and Italian	166458.188	2	133229.063	9.586	0.000***
23.	ninth, eleventh, and thirteenth chords	300875.875	2	150437.938	9.367	0.000***
24.	neapolitan or the phrygian II	140829.750	2	70414.875	5.226	0.007**
25.	scales other than diatonic such as church modes, pentatonic, chromatic, exotic and synthetic	509.778	2	254.889	0.013	0.987
26.	harmonic basis other than tertian such as secundal, quartal and quintal	137516.813	2	68758.375	5.940	0.004**
27.	pandiatonicism	135131.563	2	67565.750	5.959	0.004**
28.	polytonality and polychords	96706.813	2	48353.406	2.722	0.070
29.	parallel chord motion	102048.313	2	51042.156	2.743	0.069
30.	twelve-tone serialism	37948.508	2	18974.254	1.662	0.195
31.	tone clusters and stacked chords	123609.125	2	61804.563	3.282	0.041*
32.	atonality, bitonality, polytonality	22677.480	2	11338.738	0.592	0.555
33.	motive, phrase, period	14923.992	2	7461.996	0.483	0.618

Questionnaire Item		SS	DF	MS	F	Signif. of F
34.	binary and ternary (2 and 3 part) form	41358.652	2	20679.324	1.151	0.320
35.	historical style periods	11190.605	2	5595.301	0.331	0.719
36.	formal compositional structures such as rondo, sonata-allegro, etc.	29507.305	2	14753.652	0.854	0.429
37.	texture such as homophonic and polyphonic	23314.074	2	11657.035	0.563	0.571
38.	clefs other than treble and bass such as alto and tenor	66530.750	2	33265.375	1.490	0.230
39.	instrumental and vocal ranges	24767.926	2	12383.961	0.748	0.476
40.	instrument transposition	1349468.000	2	674734.500	36.570	0.000***
41.	sightsinging, solmization or solfeggio with syllables and/or numbers	276536.250	2	138268.125	9.963	0.000***
42.	melodic dictation	266935.688	2	133467.813	6.168	0.003**
43.	harmonic dictation	94270.000	2	47135.000	1.920	0.152
44.	rhythmic dictation	108810.938	2	54405.469	2.639	0.076
45.	error detection	361976.438	2	180988.188	10.390	0.000***

*Significant at or beyond the .05 level of significance

**Significant at or beyond the .01 level of significance

***Significant at or beyond the .001 level of significance

Table C-3

Rank Order of Means

Rank	Instrumental Music Item	Mean	Vocal Music Item	Mean	General Music Item	Mean
Most Valuable Items for the Three Work Areas						
1.	4. key signatures	4.20	5. meter signatures	4.34	7. rhythmic notation	4.28
2.	2. accidentals	4.14	41. sightsinging	4.33	5. meter signatures	4.15
3.	7. rhythmic notation	4.09	6. pitch notation	4.24	6. pitch notation	4.13
4.	5. meter signatures	4.04	1. great staff	4.21	1. great staff	4.00
5.	6. pitch notation	4.01	7. rhythmic notation	4.20	41. sightsinging	3.99
6.	3. major and minor scales	3.94	2. accidentals	4.07	33. motive, phrase, period	3.72
7.	40. Instrumental transposition	3.86	4. key signatures	3.98	4. key signatures	3.62
8.	39. instrument and voice range	3.66	45. error detection	3.94	3. major and minor scales	3.59
9.	45. error detection	3.58	44. rhythmic dictation	3.89	19. chord functions in key	3.58
10.	1. great staff	3.50	3. major and minor scales	3.84	34. 2- and 3-part form	3.58
11.	33. motive, phrase, period	3.47	39. instrument and voice range	3.80	2. accidentals	3.47
12.	35. historical styles	3.42	42. melodic dictation	3.70	11. melodic construction	3.39

Rank	Instrumental Music Item	Mean	Vocal Music Item	Mean	General Music Item	Mean
13.	44. rhythmic dictation	3.18	13. intervals	3.62	39. instrument and voice range	3.38
14.	41. sightsinging	3.17	35. historical styles	3.47	35. historical styles	3.21
15.	34. 2- and 3-part form	3.12	37. texture	3.45	37. texture	3.21
16.	37. texture	3.05	19. chord functions in key	3.41	44. rhythmic dictation	3.21
17.	21. modulation	3.05	33. motive, phrase, period	3.39	36. compositional structure	3.18
18.	13. intervals	3.02	11. melodic construction	3.37		
19.			34. 2- and 3-part form	3.23		
20.			8. triads and seventh chords	3.15		
21.			17. cadences	3.06		
22.			21. modulation	3.03		
23.			15. vocal part-writing	3.00		
Moderately Valuable Items for the Three Work Areas						
18.					17. cadences	3.00
19.	36. Forms as rondo, etc.	2.97			42. melodic dictation	2.73
20.	14. circle of fifths	2.96			13. intervals	2.63
21.	11. melodic construction	2.95			45. error detection	2.50

Rank	Instrumental Music Item	Mean	Vocal Music Item	Mean	General Music Item	Mean
22.	19. chord functions in key	2.95			21. modulation	2.50
23.	17. cadences	2.81			25. nondiatonic scales	2.35
24.	9. harmonic series	2.71	43. harmonic dictation	2.99	43. harmonic dictation	2.29
25.	8. triads and seventh chords	2.67	16. sequences	2.91	15. vocal part-writing	2.26
26.	12. embellishments	2.56	12. embellishments	2.90	16. sequences	2.08
27.	42. melodic dictation	2.54	36. form as rondo, etc.	2.62	14. circle of fifths	2.07
28.	20. tonicization	2.47	14. circle of fifths	2.50	8. triads and seventh chords	2.04
29.	43. harmonic dictation	2.42	10. octave identification	2.43		
30.	10. octave identification	2.39	20. tonicization	2.38		
31.	16. sequences	2.39	25. nondiatonic scales	2.34		
32.	29. parallel chord motion	2.27	9. harmonic series	2.30		
33.	25. nondiatonic scales	2.25	40. instrumental transposition	2.29		
34.	31. tone clusters	2.24	31. tone clusters	2.20		
35.	32. atonality	2.23	18. figured bass	2.11		
36.	23. 9th, 11th and 13th chords	2.18	29. parallel chord motion	2.08		
37.	28. polytonality	2.11	32. atonality	2.07		

Rank	Instrumental Music Item	Mean	Vocal Music Item	Mean	General Music Item	Mean
38.	38. alto and tenor clefs	2.06				
39.	18. figured bass	2.03				

Least Valuable Items for the Three Work Areas

29.					12. embellishments	1.93
30.					32. atonality	1.89
31.					20. tonicization	
32.					10. octave identification	1.67
33.					29. parallel chord motion	1.58
34.					31. tone clusters	
35.					38. alto and tenor clefs	1.48
36.					28. polytonality	1.44
37.					9. harmonic series	1.42
38.			22. augmented sixths	1.91	18. figured bass	1.31
39.			23. 9th, 11th & 13th chords	1.84	40. instrumental transposition	1.30
40.	22. augmented sixths	1.97	38. alto and tenor clefs	1.75	30. twelve-tone serialism	1.11
41.	15. vocal part-writing	1.94	28. polytonality	1.67	26. nontertain harmony	1.00

Rank	Instrumental Music		Vocal Music		General Music	
	Item	Mean	Item	Mean	Item	Mean
42.	26. nontertian harmony	1.73	24. neapolitan	1.38	23. 9th, 11th & 13th chords	.95
43	27. pandiatonicism	1.67	26. nontertian harmony	1.31	22. augmented sixths	.94
44.	24. neapolitan	1.66	27. pandiatonicism	1.23	27. pandiatonicism	.92
45.	30. twelve-tone serialism	1.48	30. twelve-tone serialism	1.20	24. neapolitan	.83

Table C-4

Complete Results of Post Hoc t Tests

Questionnaire Item		t_1	t_2	t_3
1.	the great staff	2.95**	2.10*	1.02
2.	accidentals	.32	3.00**	2.51*
3.	major and minor keys	.43	1.70	1.09
4.	key signatures	.95	2.76**	1.52
5.	meter signatures	1.41	.56	1.04
6.	pitch notation	1.00	.63	.58
7.	rhythmic notation	.48	1.07	1.07
8.	triads and seventh chords: construction, quality, and inversions	1.38	1.98	3.11**
9.	harmonic or overtone series	.42	2.88**	2.92**
10.	octave or register identification (subcontra, contra, great, etc.)	.12	2.51*	2.19*
11.	elements of melodic construction such as step progression, arpeggiation, etc.	1.38	1.50	6.29***
12.	embellishments or nonharmonic tones such as passing tones, neighboring tones, etc.	1.09	3.94***	3.05**
13.	intervals: consonant or dissonant, construction, inversions, quality and recognition	1.98	1.24	2.90**
14.	circle of fifths	1.37	2.78**	1.21
15.	procedures of vocal part writing	3.12**	.93	1.97
16.	diatonic sequences	1.65	.97	2.44*

Questionnaire Item		t_1	t_2	t_3
17.	cadences	.76	.65	.65
18.	figured bass and triad analysis symbols	.27	2.55*	2.58*
19.	various chord functions in a key such as I, IV, and V chords and their use	1.43	2.30*	.56
20.	tonicization or secondary dominants and applied chords	.29	1.83	1.46
21.	modulation	6.79***	1.42	1.32
22.	augmented triads and augmented sixths such as French, German, and Italian	.21	4.05***	3.50***
23.	ninth, eleventh, and thirteenth chords	1.02	4.42***	3.04**
24.	neapolitan or the phrygian II	.99	3.33***	2.10*
25.	scales other than diatonic such as church modes, pentatonic, chromatic, exotic and synthetic	.30	.30	2.87**
26.	harmonic basis other than tertian such as secundal, quartal, and quintal	1.67	3.01**	1.35
27.	pandiatonicism	1.69	3.21**	1.39
28.	polytonality and polychords	1.40	2.26*	2.26*
29.	parallel chord motion	.59	2.27*	1.55
30.	twelve-tone serialism	1.11	1.56	.37
31.	tone clusters and stacked chords	.12	2.54*	2.21*
32.	atonality, bitonality, polytonality	.51	1.08	.57
33.	motive, phrase, period	.28	.88	1.11
34.	binary and ternary (2 and 3 part) form	.37	1.45	1.06

Questionnaire Item		t_1	t_2	t_3
35.	historical style periods	.17	.73	.86
36.	formal compositional structures such as rondo, sonata-allegro, etc.	1.13	.71	1.85
37.	texture such as homophonic and polyphonic	1.27	.47	.72
38.	clefs other than treble and bass such as alto and tenor	.90	1.72	.75
39.	instrument and vocal ranges	.47	.98	1.38
40.	instrument transposition	4.76***	8.73***	2.83**
41.	sightsinging, solmization or solfeggio with syllables and/or numbers	4.19***	3.11**	1.62
42.	melodic dictation	3.49***	.56	3.12**
43.	harmonic dictation	1.53	.38	1.84
44.	rhythmic dictation	2.25*	8.91***	2.05*
45.	error detection	1.27	3.45***	4.71***

*$p < .05$

**$p < .01$

***$p < .001$

t_1 = means of instrumental music teachers versus choral music teachers.

t_2 = means of instrumental music teachers versus elementary/general music teachers.

t_3 = means of choral music teachers versus elementary/general music teachers.

Table C-5

Items Perceived to be of Greatest and Least Importance to all Music Educators Surveyed

		Rank Order by Work Area		
		Inst. Mus.	Voc. Mus.	Gen. Mus.
Items of Greatest Importance				
1.	the great staff	10	4	4
2.	accidentals	2	6	11
3.	major and minor scales	6	10	8
4.	key signatures	1	7	7
5.	meter signatures	4	1	2
6.	pitch notation	5	3	3
7.	rhythmic notation	3	5	1
33.	motive, phrase, period	11	17	6
34.	binary and ternary (2 and 3 part) form	15	19	10
35.	historical style periods	12	14	14
37.	texture such as homophonic and polyphonic	16	15	15
41.	sightsinging, solmization or solfeggio with syllables and/or numbers	14	2	5
44.	rhythmic dictation	13	9	16
Items of Least Importance				
22.	augmented triads and augmented sixths such as French, German, and Italian	40	38	43
26.	harmonic basis other than tertian such as secundal, quartal and quintal	42	43	41
27.	pandiatonicism	43	44	44
30.	twelve-tone serialism	45	45	40

Table C-6

Responses to tne Open-Ended Question[a]

Response	%	n
A need for more keyboard harmony including improvisation	18	8
More familiarity with twentieth century techniques	16	7
More preparation in jazz-pop music theory	7	3
More work in arranging and orchestration including transposition	9	4
More skill in teaching theory (pedagogy)	7	3
Deficiency in score reading and analysis	7	3
Need for greater facility in sightsinging or signtreading	7	3
Need in area of composition	5	2
Ear training	5	2
Harmonic dictation	5	2
Greater intensity in training in theory and/or composition	5	2
Also mentioned:		
basic intervals		
error detection		
form		
four-part writing		
modulation		
rhythmic study		

[a](Have you discovered any areas of music theory which you need in your work but were inadequately prepared in by your undergraduate theory classes?)

Table C-7

Perceived Importance of Items According to Work Areas

Questionnaire Item	Work Area								
	Instru. Music			Vocal Music			General Music		
	1	2	3	1	2	3	1	2	3
1. the great staff	18.1	18.2	63.6	3.2	3.2	93.6	2.9	8.6	88.6
2. accidentals	4.4	6.7	88.9	3.2	9.7	87.1	5.7	34.3	60.0
3. major amd minor scales	4.4	13.3	82.2	6.5	19.4	74.2	2.9	20.6	76.4
4. key signatures	4.4	6.7	88.9	6.4	9.7	83.9	2.9	22.9	74.3
5. meter signatures	6.6	2.2	91.7	3.2	0.0	96.8	0.0	8.6	91.5
6. pitch notation	6.8	9.1	84.1	6.5	3.2	90.6	0.0	5.7	94.3
7. rhythmic notation	4.5	6.8	88.6	6.7	6.7	86.6	54.3	22.9	22.9
8. triads and seventh chords: construction, quality and inversions	35.6	24.4	40.0	26.6	10.0	63.3	71.5	20.0	8.6
9. harmonic or overtone series	26.7	35.6	37.8	46.7	26.7	26.7	62.8	20.0	17.1
10. octave or register identification (subcontra, contra, great, etc.)	40.0	28.9	31.1	42.0	22.7	35.5	62.8	20.0	17.1
11. elements of melodic construction such as step progression, arpeggiation, etc.	25.0	27.3	47.7	16.2	29.0	54.8	17.2	14.3	68.6
12. embellishments of nonharmonic tones, neighboring tones, etc.	33.4	28.9	37.8	22.6	25.8	51.6	57.1	20.0	22.9
13. intervals: consonant or dissonant, construction, inversions, quality and recognition	26.7	20.0	53.3	12.9	9.7	77.4	51.5	17.1	42.9
14. circle of fifths	27.3	20.5	52.3	38.8	22.6	38.7	51.5	25.7	22.8

Questionnaire Item	Work Area								
	Instru. Music			Vocal Music			General Music		
	1	2	3	1	2	3	1	2	3
15. procedures of vocal part-writing	37.8	15.6	26.7	22.6	19.4	58.1	48.5	14.3	37.2
16. diatonic sequences	33.4	35.6	31.2	25.8	16.1	58.1	50.0	29.4	20.6
17. cadences	34.8	19.6	45.6	22.6	19.4	58.1	17.1	34.3	48.6
18. figured bass and triad analysis symbols	58.7	13.0	28.2	51.6	25.8	22.6	74.3	20.0	5.8
19. various chord functions in a key such as I, IV, and V chords and their use	26.1	23.9	50.0	13.4	20.0	66.7	8.6	14.3	77.2
20. tonicization of secondary dominants and applied chords	39.1	21.7	39.1	35.5	35.5	29.0	60.0	8.6	31.4
21. modulation	19.5	32.6	47.8	22.6	16.1	61.3	45.7	20.0	34.3
22. augmented triads and augmented sixths such as French, German, and Italian	48.3	26.7	24.5	53.3	23.3	23.3	88.6	5.7	5.8
23. ninth, eleventh, and thirteenth chords	48.9	20.0	31.2	56.6	20.0	23.3	88.6	8.6	2.9
24. neapolitan or the phrygian II	63.1	19.6	17.4	73.3	13.3	13.3	94.1	0.0	5.8
25. scales other than diatonic such as church modes, pentatonic, chromatic, exotic and synthetic	45.7	23.9	30.4	38.7	38.7	22.6	42.9	20.0	37.1
26. harmonic basis other than tertian such as secundal, quartal and quintal	63.0	19.6	17.4	74.0	22.6	3.2	88.6	5.7	5.8
27. pandiatonicism	64.5	17.8	17.8	79.3	13.8	6.8	85.7	14.3	0.0
28. polytonality and polychords	54.6	13.6	31.8	67.8	12.9	19.4	70.6	20.6	8.8
29. parallel chord motion	50.0	23.9	26.0	51.6	22.6	25.8	71.5	11.4	17.1
30. twelve-tone serialism	69.6	17.4	13.0	76.6	16.7	6.6	77.2	20.0	2.9

Questionnaire Item	Work Area								
	Instru. Music			Vocal Music			General Music		
	1	2	3	1	2	3	1	2	3
31. tone clusters and stacked chords	52.2	13.0	34.7	51.6	19.4	29.0	68.6	22.9	8.6
32. atonality, bitonality, polytonality	50.0	10.9	39.2	40.0	40.0	20.0	48.6	31.4	20.0
33. motive, phrase, period	13.0	19.6	67.4	9.7	16.1	74.2	17.1	2.9	80.0
34. binary and ternary (2 and 3 part) form	23.9	19.6	56.5	13.3	23.3	63.3	17.1	5.7	77.2
35. historical style periods	17.4	17.4	65.2	16.2	9.7	74.2	17.2	22.9	60.0
36. formal compositional structures such as rondo, sonata-allegro, etc.	23.9	21.7	54.4	35.5	16.1	48.4	14.3	25.7	60.0
37. texture such as homophonic and polyphonic	30.4	13.0	56.5	13.4	16.7	70.0	25.7	8.6	65.7
38. clefs other than treble and bass such as alto and tenor	54.4	13.0	32.6	58.1	19.4	22.6	71.4	5.7	22.9
39. instrumental and vocal ranges	15.2	8.7	76.0	12.9	3.2	83.9	11.4	28.6	60.0
40. instrument transposition	13.0	2.2	84.7	40.0	20.0	40.0	77.1	11.4	11.5
41. sightsinging, solmization or solfeggio with syllables and/or numbers	23.9	15.2	60.4	3.2	0.0	96.7	2.9	11.4	85.7
42. melodic dictation	43.5	10.9	45.6	12.9	12.9	74.2	28.5	25.7	45.7
43. harmonic dictation	41.3	19.6	39.1	29.0	19.4	51.6	40.0	25.7	34.3
44. rhythmic dictation	26.1	13.0	60.9	12.9	6.5	80.7	20.6	17.6	61.7
45. error detection	15.2	10.9	73.9	6.4	12.9	80.7	31.4	34.3	34.3

1 = % of those in the work area indicating the item is least important in their work (means 0.00-1.99)

2 = % of those in the work area indicating the item is of moderate importance in their work (means 2.00-2.99)

3 = % of those in the work area indicating the item is most important in their work (means 3.00-5.00)