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**The importance and usage of keyboard skills in public school  
music teaching according to public school music teachers and  
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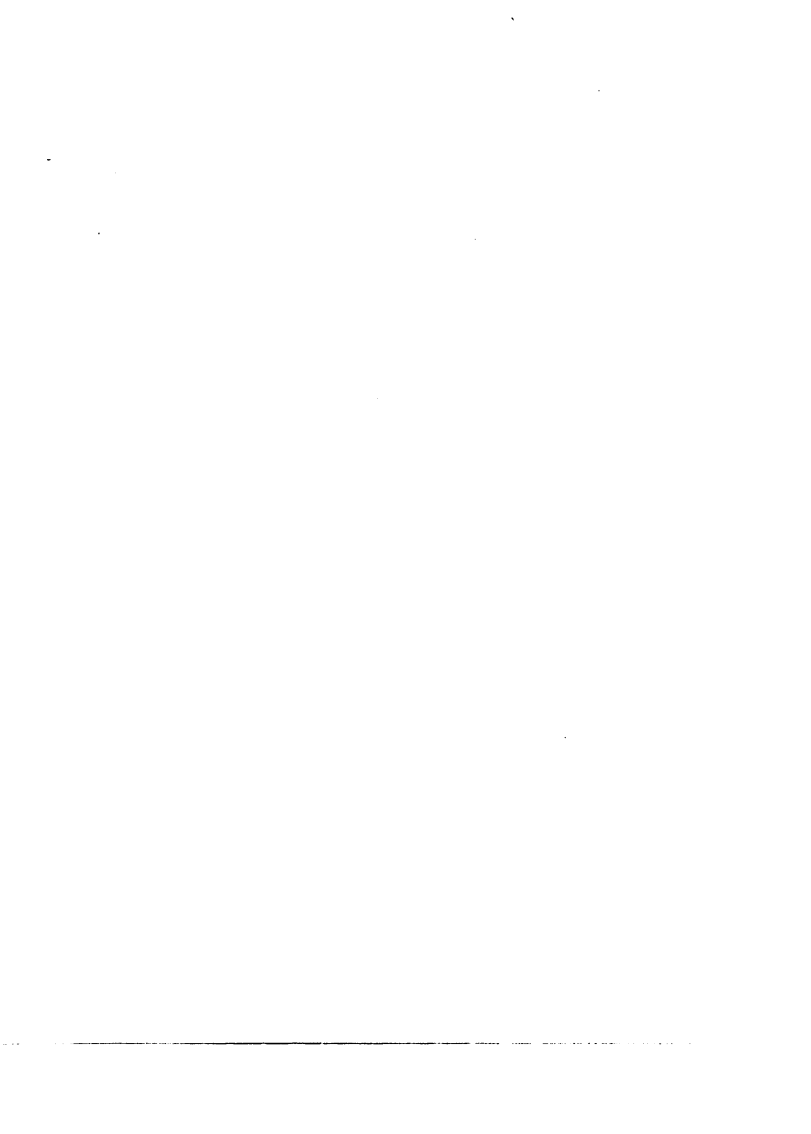
**Wells, Anna W., Ed.D.**

**The University of North Carolina at Greensboro, 1986**

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THE IMPORTANCE AND USAGE OF KEYBOARD SKILLS IN  
PUBLIC SCHOOL MUSIC TEACHING ACCORDING TO  
PUBLIC SCHOOL MUSIC TEACHERS AND  
COLLEGE OR UNIVERSITY  
MUSIC TEACHERS

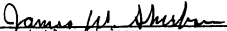
by

Anna W. Wells

A Dissertation Submitted to  
the Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

Greensboro  
1986

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APPROVAL PAGE

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WELLS, ANNA W., Ed.D. The Importance and Usage of Keyboard Skills in Public School Music Teaching According to Public School Music Teachers and College or University Music Teachers. (1986)  
Directed by Dr. James W. Sherbon. 63 pp.

The purpose of this study was to investigate which keyboard skills are rated as most important and which are most often used in public school music (PSM) teaching. (PSM as used in this study refers to K-6 music teaching.) Two groups that are able to evaluate the importance and utilization of keyboard skills in PSM teaching are PSM teachers and college or university music faculty members involved in teacher preparation.

Piano proficiency examinations from the 29 North Carolina colleges or universities offering degrees in music education were collected and a rating list of skills was compiled. This list, in addition to a questionnaire was mailed to 115 North Carolina college or university music faculty and 116 North Carolina PSM teachers. With regard to PSM teaching, subjects evaluated the importance of skills and subsequently evaluated the usefulness of skills by appropriately placing numbers 1 through 13.

Out of the 231 surveys sent, usable responses were received from 182 (79%) persons, 89 (77%) of whom were PSM teachers and 93 (81%) of whom were college or university faculty members. Spearman's Rank Order Correlation Coefficients and t tests were used to determine whether significant correlations existed between ratings of groups.

The following hypotheses were rejected at the .001 level of significance: (1) no significant correlation exists between ratings of PSM teachers and college or university music teachers regarding the importance of keyboard skills in PSM teaching; and (2) no significant



correlation exists between ratings of PSM teachers and college or university music teachers regarding the usage of keyboard skills in PSM teaching. Findings imply that there is an agreement among respondents regarding piano skills which are important and useful in PSM teaching.

The 182 responses were also examined according to the following variables: highest degree obtained (undergraduate/graduate); major area of concentration (piano principal/nonpiano principal); piano proficiency examination requirement (tested/not tested); type of college or university piano study (class/private). Results indicate that ratings of both the importance and usage of keyboard skills in PSM teaching are not influenced by these variables. A replication of this investigation in different states is recommended.

## ACKNOWLEDGMENTS

The completion of this study was dependent upon the encouragement and support of numerous people. I wish to thank Dr. Walter L. Wehner for being my adviser until his retirement. Sincere gratitude is expressed to Dr. James W. Sherbon who willingly accepted the responsibility of advising me during the summer of 1985 and continued his invaluable assistance throughout the research project. Mrs. Barbara B. Bair, Mr. Robert A. Darnell, and Dr. D. Michelle Irwin deserve special acknowledgment for providing unique assistance when it was especially needed.

Sincere appreciation is expressed to Dr. Gerald L. White who continually provided encouragement and optimism throughout my entire doctoral program. I want to deeply thank him for devoting countless hours to assist in my work; particularly during the difficult times, his support was invaluable.

Finally, to my parents, Robert R. and Ruth W. Wells, I express sincere gratitude. I could not possibly have accomplished this task without their love and support. With undying adoration, I dedicate this research project to my mother and father.

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CHAPTER I  
INTRODUCTION

Music instruction is becoming increasingly more important in the education of America's children. According to Pierce (1959), the major objectives of music instruction in many elementary schools are as follows:

To help develop in boys and girls a desire for an understanding of music; to teach them to sing, play, listen, create, and read music according to their individual interests and abilities; to discover and train pupils of special talent; to furnish opportunities for individual and group development of all boys and girls so that music may provide a pleasurable and worthy occupation in leisure time; and to further an understanding of the contribution of music to the civilization of the world. (p. 3)

In order to attain these goals and assure students their "musical rights," carefully planned instruction is necessary. Underlying the successful implementation of planned instruction must be the demonstration of musical skills by those who are teaching. One of the basic skills necessary for a successful general music teacher appears to be in the area of piano performance. Many general music teachers are frequently required to accompany, harmonize, improvise, sightread, and transpose. Thus, it appears logical to conclude that K-6 music teachers utilize piano skills in their daily teaching. A general acceptance of this premise justifies the importance of piano skills in music teaching. According to Robinson and Jarvis (1967), "the teacher who has had good piano instruction is fortunate, because this instrument can be his servant" (p. 6).

Robinson and Jarvis (1967) have listed several ways in which piano skills can aid a K-6 music teacher:

1. Often, the school music teacher must play assembly songs by ear, by sight, or by memory, and frequently needs to transpose and to improvise chordal accompaniments. In addition, he or she must be prepared to play written accompaniments for groups or soloists in emergencies when regular accompanists are unavailable.
2. Piano skill provides a way of teaching songs, especially part-songs. For a teacher whose vocal pitch is not entirely dependable, the piano is indispensable.
3. In the classroom, the pianist can furnish many services that may not be available otherwise. These would include playing a harmonic part, playing intervals for the class to identify, playing themes from compositions to be heard in "listening lessons," and playing and harmonizing original tunes created by the class. Although bells are also useful in class, their softer volume, thinner tone quality, and indistinctness of pitch are not always easy for a child to hear and follow.
4. Piano accompaniments enrich the singing of the class. Children enjoy hearing the piano, which provides a greater variety of chords and keys and a more extensive pitch range than the autoharp. (pp. 6-7)

The purpose of this study was to investigate which keyboard skills are rated as most important and which skills that are most often used in public school music (PSM)<sup>1</sup> teaching. These skills may include transposition, harmonization, improvisation, accompanying, sightreading, open score reading, and the ability to perform scales, arpeggios, and standard piano literature. Two groups which are best able to evaluate the importance and utilization of keyboard skills in PSM teaching are PSM teachers and college or university music education faculty members

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<sup>1</sup>PSM, as used in this study, refers to elementary school music teaching.

directly involved in the preparation of teachers. Research objectives for the study were as follows:

1. To determine which keyboard skills PSM teachers rate as important in their daily instruction.
2. To determine which keyboard skills college or university music teachers rate as important to PSM teachers.
3. To compare PSM teachers' ratings and college or university music teachers' ratings of the most important keyboard skills needed in PSM teaching.
4. To determine which keyboard skills PSM teachers rate as most often used in their daily instruction.
5. To determine which keyboard skills college or university music teachers rate as most often used by PSM teachers.
6. To compare PSM teachers' ratings and college or university music teachers' ratings of the most often used keyboard skills in PSM teaching.

According to Lyke (1967), most PSM teachers demonstrate piano skills in their daily teaching. Buchanan (1964) stated the following:

The ability to play the piano is an asset to a regular classroom teacher, and oftentimes it is the determining factor in being selected for a job. It is of even greater importance to the school music teacher, since playing the piano is an accepted criterion for a teacher of elementary music, junior high school general music, or for a director of chorus, orchestra, or band. Even though graduates in music education have indicated what they hope to teach, they actually find themselves dependent upon the piano either for personal benefit in becoming familiar with choral, band, or orchestral literature or for direct classroom use. (p. 134)

Are keyboard skills such as improvisation, score reading, harmonization, and transposition both useful and important in PSM teaching? In Buchanan's (1964) survey involving 312 music educators, he found that 1% indicated that performing piano solos was a useful skill for their teaching. Teachers in grades K-6 stated that the ability to transpose was their most often used skill. Buchanan suggested the need for colleges and universities to emphasize aspects of piano performance specifically applicable to school music teaching.

Enoch and Lyke (1977) stated that nearly all institutions of higher education offer piano instruction for music education majors. According to Enoch and Lyke, music majors whose principal performing medium is voice or an orchestral instrument are usually required to enroll in piano instruction for a minimum of four semesters. Although many music departments require music education students to enroll in piano instruction as a part of the music education curriculum, is this content of instruction valid when associated with teaching applications? Enoch and Lyke stressed the need for college and university teachers to determine carefully the piano requirements for future public school music teachers. Are college and university curricula meeting functional pianistic needs of PSM teachers?

To meet the pianistic requirements of our present day music education majors, it is necessary to consider their needs and teach accordingly. "Education," says Will Earhart, "has been defined as analysis of experience." Unless a person has had experience in improvising, playing by ear, harmonizing, playing accompaniments, reading scores, and sightreading, he is not sufficiently educated in piano performance to be a music educator. (Buchanan, 1964, p. 138)



In 1977 the piano class faculty at California State University conducted a survey of music graduates for the purpose of determining whether course content was useful to music teachers. As a result of this survey, increased emphasis was placed on instruction in accompanying, sightreading, and score reading, while instruction in scales, piano literature, and patriotic songs was deemphasized.

According to Richards (1977), many keyboard skills required in college curricula are seldom used by school music teachers. College and university music faculties should be aware of important and useful keyboard skills in PSM teaching since they determine which keyboard skills future PSM teachers will learn during their course of study. According to Robinson and Jarvis (1967), institutional members of the National Association of Schools of Music have piano proficiency requirements in all music major curriculums. Enoch and Lyke (1977) listed typical piano requirements for music education majors in colleges and universities in the United States: play from memory four pieces from different stylistic periods in music, transpose prepared harmonized pieces; perform the progressions I, vi, IV, ii, I<sub>4</sub><sup>6</sup>, V<sup>7</sup>, I, and I, IV, V<sup>7</sup>/V, V<sup>7</sup>, I in major and minor keys; play major and minor scales (two octaves, hands together); play major, minor, augmented, dominant 7th and fully diminished 7th arpeggios (two octaves, hands together); play major, minor, augmented, dominant 7th, and fully diminished 7th chords in inversions (two octaves, hands together). Regardless of the apparent value of the development of these skills, the obvious question remains: are the majority of these keyboard skills frequently utilized in PSM teaching?

Enoch and Lyke (1977) indicated that keyboard curriculum emphasis should be different for music education majors than for piano performance majors. They suggested that piano performance majors need to acquire a virtuosic technique and perform standard piano literature, while music education students should develop practical keyboard skills relevant to future professional needs. Enoch and Lyke stated that development of the following skills is particularly important for music education students: sightreading, transposition, harmonization, improvisation, accompanying, playing by ear, and score playing. Their research reveals that numerous colleges and universities require both piano performance majors and music education majors to demonstrate a variety of keyboard skills.

According to Bastien (1977), there is agreement among most musicians regarding the piano skills music education majors should possess. These include the ability to sightread, harmonize, transpose, improvise, play by ear, perform standard piano literature, and play scales, arpeggios, chord progressions, and blocked chords. With regard to school music teaching, the present literature reveals much disagreement among music educators' ratings of both the importance and usage of the skills listed above.

According to Robinson and Jarvis (1967), successful piano instruction is vital in preparing future PSM teachers for certification. There should be more agreement among college and university faculties as to which keyboard skills are important and useful, resulting in more uniform proficiency requirements for music education students. Since

this study focuses on the identification of keyboard skills that are most important and most often used in PSM teaching, the outcome should be of importance to college or university music faculties which are involved in educating future PSM teachers.

The null hypotheses for the present study are as follows:

1. There will be no significant correlation between ratings of public school music teachers and college or university music teachers regarding the importance of keyboard skills in PSM teaching.
2. There will be no significant correlation between ratings of public school music teachers and college or university music teachers regarding the usage of keyboard skills in PSM teaching.

Secondary areas of study involved PSM teachers' and college or university music teachers' responses to questions such as whether they held a bachelor's or a master's degree. The following secondary research questions determined how music teachers with varying educational backgrounds rate the importance and usage of keyboard skills in PSM teaching.

1. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who hold a bachelor's degree and ratings by those who hold a master's degree or higher?
2. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who hold

a bachelor's degree and ratings by those who hold a master's degree or higher?

3. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were piano principals in college and ratings by those who were not?
4. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were piano principals in college and ratings by those who were not?
5. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and ratings by those who were not?
6. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and ratings by those who were not?
7. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to take college class piano and ratings by those who studied privately?
8. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to take college class piano and ratings by those who studied privately?

Various music educators are encouraging institutions of higher education to revise courses to meet students' needs more clearly. Stacy's (1967) research reveals that "some state education departments now specify that music education students must have a course in piano that will enable them to use the piano functionally in the public school music classroom" (p. 18). In agreement with this, Robinson and Jarvis (1967) stated that "piano study is valuable for every music student, including those who have no desire to become expert pianists, because it is a basically functional tool in the study of all music" (p. 10). Since many educators proclaim that piano instruction is basic to music education, college teaching should primarily concentrate on areas that will be both important and useful to students who are studying to become PSM teachers.

CHAPTER II  
REVIEW OF RELATED LITERATURE

Literature Pertaining to Functional Skills  
for Music Education Students

Lyke (1968) investigated first- and second-year piano programs for music education majors in the six state universities of Illinois. He also analyzed educational backgrounds of piano teachers hired by these institutions. Lyke formulated a set of criteria for first- and second-year programs and used these to judge whether piano instruction was adequate or inadequate in meeting needs of music education majors. The six universities' programs were evaluated according to the criteria from data collected by interviews with piano teachers, observation of lessons, and collection of syllabi and piano proficiency examinations. Lyke devised a rating scale listing 20 keyboard skills which was completed by piano teachers and music educators in the six state universities. Each response was analyzed and compared to determine which items should receive highest priority in piano instruction. Results revealed the following weaknesses in instructional areas: vocal and instrumental score reduction, improvisation, aural dictation, musical analysis, and basic keyboard patterns such as the construction of scales. The majority of piano teachers lacked training in educational psychology and piano pedagogy. Both music educators and piano teachers considered the following skills to be necessary: sightreading, harmonization,

playing by ear, accompanying, critical listening, chord progressions, transposition, technical development, improvisation, and analysis. One of Lyke's most important recommendations involved the teaching of practical keyboard skills and literature which, he stated, could have relevance for future needs of music educators.

Buchanan (1964) conducted a survey of "Basic Skills of Piano Performance Essential to Teachers of All Phases of Music." He constructed a questionnaire which was returned by 312 individuals involved in teaching chorus, band, orchestra, K-6 level music, and college level music. Results were examined under the following headings: degree to which ability to play the piano is regarded as essential, average number of years of piano study of music educators who indicated their preparation was adequate and inadequate, percentage of music educators required to pass a piano proficiency test, and basic piano skills considered necessary by music educators. In the last category, Buchanan found that a relatively small percentage of teachers thought that performing piano solos was a desirable skill for their teaching. According to this survey, the following skills were considered most necessary in all areas of music teaching: accompanying, score playing, sightreading, improvising, playing by ear, and harmonizing. Choral and instrumental directors indicated that there is a definite need for more proficiency in accompanying. Teachers of K-6 proclaimed that the ability to transpose is their most pressing need. Buchanan suggested a separate class called "Functional Piano" which would emphasize music literature and functional aspects of piano performance that are applicable to public school music instruction.

According to Stacy (1967), numerous state education departments require music education majors to enroll in a functional piano course. Waller (1949) expressed the belief that many pianistic needs of students may be met by means of a class in functional piano. The following are some of her ideas:

Functional, in this connection, simply means usable. To work with children, teachers must have enough facility to play accompaniments as found in the various songbooks published for use in schools and to play octavo accompaniments in a musicianly way. They must be able to transpose simple melodies and accompaniments, to harmonize simple melodies, choosing an appropriate style; and to read well at sight. They must have a memorized repertoire of easy piano pieces for rhythmic work, or else be able to create simple improvisations for this purpose. Last but not least--"America," "The Star-Spangled Banner," and "America the Beautiful"--memorized! Remember the Rotary Club. (pp. 48-49)

Sonntag (1980) analyzed piano instruction for music education students enrolled at 28 selected colleges and universities in the state of Ohio. A questionnaire was developed and mailed to the piano coordinator at the institutions selected for this survey. Analysis of specific requirements revealed that functional skills most frequently required in proficiency examinations were sightreading instrumental accompaniments, hymns, and community songs; harmonizing melodies; and transposing. Much emphasis was placed on developing the ability to perform various types of standard piano literature. The majority of schools in the survey required music education majors to demonstrate competencies through a proficiency examination. Sonntag suggested that proficiency requirements in the surveyed schools need to be more functional and effective.



Case (1977) sought to investigate whether piano performance standards imposed on music education majors are comparable to performance standards demonstrated in their teaching. He primarily attempted to determine whether a sample of North Carolina public school music education teachers demonstrated 19 piano skills which were emphasized in their college piano study. Case constructed a questionnaire and rating sheet which were mailed to 278 music teachers in the areas of band, orchestra, choral, elementary, and general music. A panel of music specialists used the rating sheet to evaluate piano skills of 58 individuals in a teaching situation. An audio tape was also made to aid the music specialists in evaluating the teaching session. Piano skills most emphasized in participants' training were note accuracy, fingering, rhythm, scales, and technique. Skills least emphasized in training were score reduction, improvisation, sightreading, open score reading, and transposition. Case also found that piano skills most emphasized in teaching were chords, note accuracy, rhythm, accompanying, and sightreading. Skills least emphasized in teaching were score reduction, ensemble playing, open score reading, piano compositions, and pedaling. According to Case, the following conclusions were made:

1. The public school music teachers participating in the study were trained to teach in more than one area of music, but certain skills stressed in piano study had little relationship to the actual teaching situation.
2. The literature the public school music teachers indicated as having performed in college were unrelated to their teaching situations.
3. There was a relationship between what the music teachers reported and what the observer and music specialists heard in the use of piano skills.

4. There was a significant relationship between the specific skills most frequently demonstrated by the public school music teachers in teaching and what the observer and music specialists heard from the tape recordings. (pp. 87-88)

Dominick (1956) developed a first-year text to be used for teaching nonpiano majors in college. He primarily focused on the functional aspects of piano playing. In each unit of Dominick's text, the introduction of a musical concept is followed by its keyboard application. For example, when a scale is presented, it is studied through a chosen piece. According to Dominick, this text is particularly meaningful to nonpiano majors since musical concepts can usually be better understood through keyboard application. Kern (1965) applied functional piano teaching to the class situation.

If the piano class is made up of adults, they are likely to be college students who are required to develop functional piano skills, or they will be nonmusicians who desire the same skills. Regardless of whether they are specializing in teaching public school music literature, kindergarten, or selling insurance, their piano study must be practical. All teachers of piano try to develop in their students certain pianistic skills necessary to anyone who plays piano literature; but in the piano class there is a wonderful opportunity to develop the practical skills as well. (p. 44)

Freeburne (1952) surveyed selected public school music teachers and college music faculty members in 19 north central states. Since Freeburne was interested in determining the usefulness of the piano in teaching, he asked both groups to list keyboard skills in order of their utilization. Public school music teachers listed sightreading, keyboard harmony, accompanying, improvisation, transposition, and knowledge of effective practice technique. College music teachers listed the same skills in addition to open score reading. Both groups of teachers

indicated that they should have received more college instruction in the areas listed.

Webber (1958) investigated minimum piano requirements for music education majors at 395 teacher training institutions. She found support to indicate that the curricula at many of these institutions failed to meet functional pianistic needs of future music educators. Webber compiled a list of minimum piano requirements for music education majors at the surveyed schools. This list appears below with skills followed by the number of schools.

1. Sight read hymns	155
2. Sight read vocal accompaniments or pieces similar to those found in school music books	143
3. Harmonize melodies at sight using simple chords and accompaniment styles	127
4. Sight read simple instrumental accompaniments	102
5. Demonstrate technical proficiency in scales and/or arpeggios	100
6. Transpose simple songs and accompaniments	97
7. Perform from memory patriotic songs such as "Star-Spangled Banner," "America," or "America the Beautiful"	86
8. Perform from memory pieces representative of various styles	59
9. Improvise music suitable for rhythmic activity	38
10. Play by ear	36
11. Sight read three- and four-part choral scores	27

According to Webber, college music departments need to establish more uniform piano proficiency requirements and possibly incorporate these into state certification standards.

In 1977 the piano faculty at California State University conducted a survey of music graduates for the purpose of discovering whether their piano proficiency examination was educationally valid. According to Richards (1977), this survey also sought to determine whether the procedure of examining students was appropriate and whether the course content was meaningful to music educators. As a result of this survey, constructive changes were effected in the content of California State University's piano proficiency examination. A major change was the elimination of all memorization requirements. Increased emphasis was placed on sightreading, score reading, and accompanying. Decreased emphasis was in the areas of piano literature, patriotic songs, and scales. The following includes several of Richard's suggestions:

Development of the skills in music reading must be the highest item on the list of priorities throughout all four semesters of the piano instruction required of music majors in order for the student to be successful at the piano proficiency examination. If the emphases are on literature and scales for most of the students' training, one cannot expect them to pass functional reading skills. These reading skills take time to mature and must be begun in the first semester of piano instruction. (p. 31)

In Hunter's (1973) dissertation, his main purposes were to identify materials and techniques which functional piano instructors used in the teaching of 10 keyboard skills to undergraduate music education majors and to determine effectiveness ratings that teachers assigned to their materials and techniques. Hunter's survey of the literature included 10 functional piano skills ranked in order of importance for the public school music teacher by piano teachers and

music educators in the United States. These skills were sightreading, harmonization, playing by ear, improvisation, transposition, accompanying, technical study, critical listening, chord progressions, and analysis. These functional skills were analyzed to aid in determining the basic component techniques used to teach them. Skills and components were incorporated into an interview control instrument which was administered to 35 selected college and university functional piano teachers in California, Nevada, Oregon, Washington, and Idaho. After techniques and materials used in teaching the 10 skills were identified, conclusions from the analysis of the data were as follows: (1) sight-reading, technical study, critical listening, and analysis were meeting the instructional needs of students, and instructional techniques were uniform; (2) harmonization, playing by ear, transposition, improvisation, and accompanying were not meeting the instructional needs of students and, with the exclusion of improvisation, adequate teaching materials were needed. Hunter recommended a similar study for the purpose of obtaining data from public school music teachers to counter biases in data collected from college and university functional piano teachers.

Lancaster (1978) constructed a hypothetical model program for the education of the college and university functional piano teacher. The model was evaluated through opinions of a selected sample of those currently teaching in this area. Schools involved in the study were randomly chosen from a list of full members and all community-junior college members of the National Association of Schools of Music listed

in the 1977 directory. Lancaster sent questionnaires to music department chairpersons and functional piano teachers for the purpose of discovering the nature and extent of the present program. Results showed that the majority of functional piano teachers have degrees in applied piano, while most thought that a degree in piano pedagogy was most applicable to functional piano teaching. She stated that many teachers contend that professional training was lacking in the areas of improvisation and playing by ear. Lancaster's recommendations to the surveyed schools include the employment of a functional piano teacher to aid in insuring effective programs.

Exline (1977) sought to develop and implement original keyboard materials for a two-semester functional piano program. This program involved nonmusic majors at the State University College in Oswego, New York. A questionnaire concerning the relative importance of eight keyboard skills was administered to all students enrolled in functional courses at this institution during the 1973 spring semester. An identical questionnaire was circulated to members of the Oswego piano faculty and also to faculty members teaching functional piano at selected colleges and universities in the United States. Results were used in the development of materials for a new program of piano study.

Nicklett (1966) sought to study and evaluate the piano major program in music education at Ithaca College. His primary aim was to bring this program into focus with future professional needs in the area of school music teaching. After reviewing related literature, examining numerous college catalogs and syllabi, conducting interviews,

and gathering responses to questionnaires, Nicklett discerned that the piano program at Ithaca College lacked sufficient course offerings. The following proposals were made on the basis of findings from this study:

1. The addition of a two-year course for piano majors in functional piano skills and accompanying.
2. The addition of a two-semester piano pedagogy course, consisting of lectures, observations, and practice teaching.
3. The addition of a one-semester course in piano literature to supplement learnings in piano instruction and in piano pedagogy.
4. A change in the manner of instructing piano majors in music education in order to make piano instruction more effective. This would be accomplished through group lessons, which would increase the time spent with the major instructor. (p. 84)

#### Literature Pertaining to Class

##### Piano Instruction

According to many research studies, numerous colleges and universities utilize class piano instruction to aid in preparing music education students for public school music teaching. Duckworth's (1967) 16-state survey regarding trends in class piano teaching at the collegiate level revealed that 100% of the music education students in colleges and universities are enrolled in piano classes. The following articles are included since it is obvious that class piano methodology and technique are of importance in teacher education programs.

Vernazza (1967) conducted a study of basic piano instruction in California junior colleges. Of the 40 respondents to the questionnaire, 34 individuals taught at institutions where music education majors

studied piano in classes. Approximately half of these institutions offered two years of instruction and a third of them offered one year. Fifty-two texts by 36 authors were listed as teaching materials. The curriculum for these classes primarily included standard piano literature, technical exercises, sightreading, and some functional skills such as harmonization and transposition. Vernazza made the following conclusions on the basis of her observation and studies.

Theory and composition majors need emphasis on sightreading and score playing. Vocal majors need practice in reading open scores at the keyboard and in playing accompaniments and vocalises. Organ majors need to develop skills in modulation and improvisation. Instrumental majors need to review music fundamentals at the keyboard and to play easy piano accompaniments written for their own instruments. Music education majors, both instrumental and vocal, find it important to learn to sight read, to improvise accompaniments, and to harmonize and transpose melodies at the keyboard. All music students in basic piano classes need to develop basic techniques and a tactile sense. It is also important for all piano students to become proficient in reading easy literature at sight and to study literature written expressly for the piano. (pp. 17-18)

In the area of college basic piano study, Vernazza suggested that "music educators need to establish new guidelines for how much can be taught in a reasonable length of time, where the emphases shall be and what must be the core of study" (p. 45).

Oldfield (1978) conducted a survey for The Piano Quarterly as a guide to the recent trends and attitudes in the field of class piano teaching. A questionnaire was sent to the piano chairperson at 241 colleges and universities throughout the country. Responses were received from 168 subjects, with nine replying that the institution for which they worked did not incorporate class piano instruction. The



results are as follows:

1. Ninety-four institutions offered a sequence of piano classes for music majors only; 61, a sequence of classes for nonmusic majors only; 62, classes in which music majors and nonmajors were enrolled together; 36, a separate program in functional keyboard skills for piano performance majors.
2. Twenty-four institutions offered specialized classes for music majors with varying concentrations (music education, composition, conducting, etc.).
3. Ninety-two institutions offered a two-year class piano program for music majors; 38, one year; nine, three years; nine, four years.
4. Ninety-nine institutions offered piano classes which met two hours per week; 25, one hour per week; 22, three hours per week; six, four hours per week.
5. Eighty-seven institutions had an increase in the number of group piano classes in the three years prior to this study; 37, very little increase; 26, no increase.
6. Sixty-four institutions required the same proficiency examination for all music majors; 42, specialized examinations for different music majors; 29, a music education proficiency only; 18, no proficiencies.

Duckworth (1967) distributed a questionnaire to 26 teachers in 16 selected states throughout the country. His main purpose was to obtain information regarding present trends in class piano teaching at the collegiate level. Results can be summarized as follows:

1. Piano classes were offered for an average of two years.
2. Most classes met twice a week for 50 minutes.
3. Nonbeginning piano students were placed in an appropriate section following an audition.
4. Categories of students in piano classes were music education, 100%; applied, 75%; and nonmusic, 50%.
5. The majority of piano class students were required to take course examinations and also meet proficiency requirements according to their major.

6. There appeared to be no uniformity of class piano text usage.

Naudzius (1983) examined the musical content of the following class piano method books: Bastien and Bastien, Beginning Piano for Adults (General Words and Music, 1968); Clark et al., Keyboard Musician (Summy-Birchard, 1976); Lyke et al., Keyboard Musicianship, Book One (Stipes, 1979); Mach, Contemporary Class Piano (Harcourt, Brace, Jovanovich, 1976); McLain, Class Piano (Indiana University Press, 1974); Page, The Laboratory Piano Course, Book One (Harper and Row, 1974); Pyle, The University Piano Series, Books One and Two (Campus Publishers, 1976); and Robinson, Basic Piano for Adults (Wadsworth, 1964). The results reveal the following:

The findings indicated that the number of compositions varied from 25% in Bastien to 42% in Robinson. Technical exercises and exercise pieces were present in all texts, the number varying from 22% in Clark to 65% in Bastien. Harmonization experiences were included in eight texts (except Page), and varied from 5% in Mach to 17% in the Pyle II text. Sight-reading selections (in only six books) varied from 3% in Robinson to 20% in Clark. Transposition content ranged from 13% in Mach to 46% in Page. Playing by ear was recommended in four texts; 1 selection in Robinson; and 52 in Lyke. Improvisation was found in six books; 2% of the content in Page and 17% in Mach. (p. 73)

Watkins (1979) investigated 11 contemporary class piano courses by focusing on their approaches to music elements and concepts. The following three categories of keyboard study were included in each course: basic music elements (music reading, independence and coordination of fingers and hands, rhythm, and technique), functional keyboard skills (harmonization, transposition, and improvisation), and keyboard musicianship (interpretation and performance, memorization,

and sightreading). The findings in each category are shown by percentage rankings of courses devoted to instruction in specific areas.

Watkins stated the following results:

Statistical analysis indicated that keyboard musicianship studies were the most prominent feature in current class piano courses. In this category, interpretation and performance was a mean percentage of 41%, which was largely due to the extensive number of repertoire pieces included. This was followed by sightreading, which was a mean percentage of 2.9% and memorization was 0%. Keyboard musicianship was followed by Basic Music Elements. In this category, a mean percentage of 17.4% of the class piano courses investigated was devoted to technical studies; 5.6% was devoted to music reading; 3.4% was devoted to independence and coordination of fingers and hands; and 3.2% was devoted to rhythm. Functional Keyboard Skills ranked third in most contemporary class piano courses. Its prominent feature was harmonization (17%) in contrast to 4.1% for improvisation and 1.8% for transposition. (p. 60)

#### Literature Pertaining to Improvisation and Sightreading

Individuals vary in their opinions as to which piano skills are most beneficial to K-6 music teachers. Many suggest that improvisation and sightreading are the two skills which should be stressed more in undergraduate piano study. Considering all areas of musicianship, improvisation and sightreading seem to prevail in articles concerning basic functional skills most frequently needed by future music educators.

Trantham (1970) considered improvisation to be the most important skill within the realm of functional piano. He also stated that other skills within this realm include sightreading, playing by ear, harmonization, and accompanying. According to Trantham, improvisation and sightreading are the two categories of skills in functional piano which must be interrelated.

According to Wunsch (1972), improvisation skills are necessary to music educators. He stated that when individuals are encouraged to improvise, they are expressing themselves creatively, and these activities can serve as a release from mechanically imitating teachers. Keig (1972) expressed the belief that talent for improvisation must be nurtured and cultivated. "It is the teacher's responsibility to guide, to cajole, to urge the many ways of approach in this fascinating field. Creativity without structure may produce only vacuous, indeterminate nothings" (p. 43).

According to Lowder (1973), the ability to sightread is the most important pianistic skill within the realm of functional piano. He urges piano teachers to carefully assign pieces which are selected according to the capabilities of students involved. Lowder advocated sightreading assignments which include piano solos and duets, melodies, vocal scores, and instrumental scores. According to Kern (1965), reviewing assigned material will greatly improve an individual's sight-reading level. She stated:

Certain rhythmic figures, accompaniment figures, skips and leaps, will be encountered again and again, so by reviewing and mastering a particular figure in one composition, one will be much more proficient when reading new material which is similar. (p. 45)

Lowder (1973) also expounded that harmonization of melodies and performance of chord progressions must be an important part of piano activities and lessons. Chord progressions can be played in all keys and related constantly to other materials being studied. In addition to including the I, IV, V<sup>7</sup>, and I chords, progressions should include secondary dominant chords and jazz harmonies.

Hart (1958) and Stacy (1967) listed sightreading as the most important skill for a pianist and teacher to possess. Additional skills which they believe to be important are rhythmic awareness and ability to transpose, play by ear, harmonize, and improvise. According to Stacy:

the faster the students become versed in reading skills and capable of improvisation in all keys, meters and rhythms, styles, and the forms that they already know, the sooner they will become independent in their study and use of the piano. (p. 19)

The importance of developing sightreading skills is increasingly being recognized. Padwa (1968) advocated this development beginning early in an individual's piano study. Many students learn only a few pieces during the school year. When this is the case, a tremendous amount of piano literature can remain obscure. At best, they can only become acquainted with a variety of pieces by listening to performances of others. Padwa stated the following:

Music is a very important part of our culture, and it should not be the exclusive monopoly of professional pianists, who are in a position to spend hours and hours of practice, learning the great masterpieces of the past and the present. This music should be accessible to all, and anyone who plays the piano should not be limited to the few pieces he or she learns. The answer lies in the ability to sightread. (p. 38)

Padwa also contended that the ability to sightread allows one to explore the vast fields of chamber music and accompaniment. He stated that public school music teachers are continually confronted with the necessity of reading at sight and even transposing unfamiliar pieces. They cannot excuse themselves during class to find a practice room. According to Padwa, the ability to sightread is always greatly desirable and often indispensable.

Lowder (1973) sought to evaluate a sightreading test which was administered to four college freshmen piano classes at the culmination of their first semester of instruction. Both the experimental and control groups received the same basic instruction in sightreading and other areas of musicianship. However, the experimental group pursued a program which emphasized reading and performance skills according to the principles of intervallic relationships and figured bass. Lowder constructed a sightreading test which was administered individually to each student in the four piano classes. Sightreading proficiency was assessed according to pitch accuracy, rhythmic accuracy, steadiness of tempo, and selection of accompaniment chords.

For improvement of sightreading skills, Lowder (1973) recommended scale practice, chord analysis, and bass clef reading drills. He suggested the following:

A major objective in sightreading practice should be absolute rhythmic evenness, even at the occasional expense of pitch accuracy. Improvement in evenness of tempo and in the speed of eye fixations might be accomplished by having the teacher stress ensemble playing in a class piano situation; use a very slow tempo, insisting that students count, or leading the student through his own steady performance; teach students to read by interval and by direction of melodic movement, stressing the geometric pattern of certain melodic and chordal shapes; use a wide variety of sightreading materials, including music from all periods of history; encourage frequent sightreading, choosing materials that can be performed fairly accurately and slowly by class members. There should be a closer relationship between the fingering used for chord progressions and cadences and those used for hymns and other chordal textures. (p. 71)

The literature reveals that many music educators suggest that the development of sightreading skills is most important to piano students. There is a general agreement among most musicians as to the

piano skills which music education majors should possess. In addition to sightreading, these include the ability to harmonize, transpose, improvise, play by ear, perform standard piano literature, and play scales, arpeggios, chord progressions, and blocked chords. The present literature reveals substantial disagreement concerning the ordinal value of these skills in various areas of public school music teaching.

CHAPTER III  
PROCEDURES

Four-year colleges and universities in North Carolina offering degrees in music education were identified from the College Music Society Directory (1985). The Dean or Chairperson of the Music Department at 29 institutions was contacted by telephone, and a copy of the institution's proficiency requirements for future PSM teachers was requested. In some cases this individual agreed to send proficiency requirements, but often the name of the piano faculty member directly in charge of this area was suggested as the source to contact. When this was the case, the specified faculty member was contacted and proficiency requirements were requested. Since all institutions surveyed have piano proficiency requirements, 29 examinations were collected. The purpose of collecting these examinations was to compile a rating list of keyboard skills most often required of music education students in colleges or universities. If at least 33% (nine) of the colleges or universities required the same skill, this skill was placed on the rating list. This percentage represented a logical point whereby a representative sample of typical skills were provided.

Skills and frequency of appearance on the 29 proficiency examinations are as follows: harmonization (29), improvisation (29), sight-reading (27), scales (26), piano literature (25), transposition (22), accompanying (18), hymns (17), chord progressions (17), arpeggios (14),



blocked chords (12), patriotic songs (12), open score reading (9), and intervallic playing (3).

Four faculty members from each institution who were most often involved in determining or approving piano requirements for future PSM teachers were selected to participate in this study. When the Dean or Chairperson of the 29 colleges and universities was contacted for proficiency requirements, the following subjects were also identified: Chairperson, Music Education Department; Chairperson, Piano Department; and Director, Class Piano. When individuals at several of the institutions did not possess these specific titles, the Dean or Chairperson was asked to identify a faculty member teaching in the area where the title was nonexistent. The compiled list of keyboard skills, in addition to a questionnaire, was then mailed to 115 subjects which constituted four individuals at 28 of the institutions and the three music teachers at the remaining institution. This list included the following identified skills: accompanying, arpeggios, blocked chords, chord progressions, harmonization, hymns, improvisation, open score reading, patriotic songs, piano literature, scales, sightreading, and transposition. With regard to PSM teaching, these subjects evaluated the importance of the skills stated above and subsequently evaluated the usefulness of these skills by placing numbers 1 through 13 by the appropriate skill. A "1" indicated the most important skill, while a "13" indicated the least important skill. This rating system also applied to the most often used and least often used skill. Following the two rating lists, additional space was

provided and subjects were encouraged to comment on other skills which may be important and also useful in PSM teaching.

A table of random numbers was used to select names of 116 PSM teachers from the North Carolina Music Teachers Directory (1984-1985). This number was chosen to match the original number of college and university music teachers to be involved in this study. The compiled list of keyboard skills, in addition to a questionnaire, was also mailed to this sample. In reference to their daily teaching, PSM teachers were asked to rate first the importance and then the usage of identified skills. This sample received the same procedural instructions as the college and university music teachers. Additional space was also allowed for PSM teachers to comment on other skills which may be perceived as important and useful in their teaching.

Frequency distributions were compiled from ratings of PSM teachers and college or university music faculty members regarding both the importance and usage of keyboard skills in PSM teaching. According to the way in which PSM teachers and college or university music teachers responded to the questionnaire, frequency distributions were also compiled from ratings of the following: individuals who held a bachelor's degree and those who held a master's degree or higher; individuals who were piano principals in college and those who were not; individuals who were required to demonstrate college piano proficiency competencies and those who were not; and individuals who were required to take college class piano and those who studied privately.

With regard to the five pairs of variables (college/PSM, undergraduate/graduate, piano principal/nonpiano principal, tested/not tested, class/private), the respective ratings of keyboard skills were averaged to provide a mean rating score. Skills were ranked according to mean scores. Chapter IV includes a discussion of keyboard skills ranked in the upper and lower quartiles by the five groups compared.

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was calculated for each pair of rankings in order to determine whether there was a relationship between rankings of the aforementioned groups. This procedure was suggested by Kendall (1948) and Cohen (1976) when dealing with nonparametric data. When testing the significance of  $r_s$  a table is frequently used, but this procedure is only appropriate when the  $N$  is smaller than 10. According to Cohen, an alternative means of testing the significance of  $r_s$  with an  $N$  larger than 10 is the  $t$  test. Therefore, a  $t$  test was used in this study to determine whether any significant correlations existed between groups.

CHAPTER IV  
DATA AND ANALYSIS

Variables Investigated

The purpose of this chapter is to provide an account of the statistical analysis of the data gathered in this investigation. Information gathered from this study will be presented in the form of written narrative and appropriate descriptive tables. The original hypotheses will be restated, followed by a description of the statistical methods used and a presentation of the analyses.

Surveys were sent to 231 individuals in North Carolina. This sample included 116 PSM teachers and 115 college or university music teachers. Usable responses were received from 182 (79%) individuals, 89 (77%) of whom were PSM teachers and 93 (81%) of whom were college or university music teachers.

The 182 responses from PSM teachers and college or university music teachers were examined according to the following variables: highest degree obtained (undergraduate/graduate); major area of concentration (piano principal/nonpiano principal); piano proficiency examination requirement (tested/not tested); type of college or university piano study (class/private). These responses appear as follows: undergraduate (49)/graduate (133); piano principal (98)/nonpiano principal (84); tested (113)/not tested (69); class piano (19)/private piano (144)/both (19). In addition to comparing keyboard

skill ratings of PSM teachers and college or university music teachers, ratings of the aforementioned groups were compared, and mean ratings of each keyboard skill were tabulated. These were arranged from 1 to 13 in order of most important/least important in PSM teaching and most often used/least often used in PSM teaching. Table 1 shows the ordering of mean rank scores for importance.

As shown in Table 1, college and university music faculty members rated sightreading, harmonization, and accompanying in the upper quartile. PSM teachers rated the same skills with the order of importance being accompanying, sightreading, and harmonization. According to college and university music teachers, skills in the lower quartile are arpeggios, hymns, and piano literature. PSM teachers' ratings in this quartile are identical with the exception of open score reading appearing instead of arpeggios.

According to Table 1, individuals with undergraduate degrees and also those with graduate degrees rated the upper quartile identically: accompanying, sightreading, and harmonization. Individuals with graduate degrees rated patriotic songs, hymns, and piano literature in the lower quartile. Results indicate that those with undergraduate degrees rated open score reading, hymns, and piano literature in the lower quartile.

Table 1 reveals that those who were piano principals as undergraduates rated sightreading, accompanying, and harmonization in the upper quartile. Nonpiano principals rated these same skills with the order being accompanying, harmonization, and sightreading. Piano

Table 1

Mean Score Rankings of Keyboard Skills According to Importance in PSM Teaching

Skills	College/ Univer- sity	PSM	Grad- uate	Under- Graduate	Piano Principal	Nonpiano Principal	Tested	Not Tested	Class	Private
Accompanying	3	1	1	1	2	1	2	2	1	1
Arpeggios	11	9	10	10	11	10	10	11	11	10
Blocked Chords	6	6	6	8	7	5	5	6	6	6
Chord Progressions	4	4	4	4	4	4	4	4	4	5
Harmonization	2	3	3	3	3	2	3	3	3	3
Hymns	12	12	12	12	12	13	13	12	12	13
Improvisation	7	8	7	6	5	7	6	7	7	7
Open Score Reading	9	11	9	11	9	11	11	9	8	11
Patriotic Songs	10	7	11	5	8	9	8	10	5	9
Piano Literature	13	13	13	13	13	12	12	13	13	12
Scales	8	10	8	9	10	8	9	8	10	8
Sightreading	1	2	2	2	1	3	1	1	2	2
Transposition	5	5	5	7	6	6	7	5	9	4

principals rated arpeggios, hymns, and piano literature in the lower quartile. Nonpiano principals rated open score reading, piano literature, and hymns in this quartile.

Table 1 indicates that those who were required to take an undergraduate piano proficiency test and those who were not, rated sight-reading, accompanying and harmonization in the upper quartile. Individuals who were tested rated open score reading, piano literature, and hymns in the lower quartile. Those who were not tested rated arpeggios, hymns, and piano literature in this quartile.

According to Table 1, individuals who have studied private piano and also those who have studied class piano rated accompanying, sight-reading, and harmonization in the upper quartile. Those who have studied in piano classes rated arpeggios, hymns, and piano literature in the lower quartile. According to individuals who have studied privately, the lower quartile consists of open score reading, piano literature, and hymns.

Table 2 shows the ordering of mean rank scores for usage of keyboard skills in PSM teaching. According to this table, college and university music faculty members rated sightreading, accompanying, and harmonization in the upper quartile. PSM teachers rated these same skills, the order being accompanying, sightreading, and harmonization. College and university music teachers rated scales, arpeggios, and piano literature in the lower quartile, while PSM teachers rated open score reading, hymns, and piano literature in the lower quartile.

Table 2

Mean Score Rankings of Keyboard Skills According to Usage in PSM Teaching

Skills	College/ Univer- sity	PSM	Grad- uate	Under- Graduate	Piano Principal	Nonpiano Principal	Tested	Not Tested	Class	Private
Accompanying	2	1	1	1	1	1	1	1	1	1
Arpeggios	12	9	9	10	11	10	10	11	11	10
Blocked Chords	4	7	6	8	8	6	5	8	6	6
Chord Progressions	5	4	4	4	4	4	4	4	4	4
Harmonization	3	3	2	3	3	2	3	3	2	3
Hymns	10	12	12	13	12	12	13	10	12	12
Improvisation	7	8	7	6	7	7	8	7	7	8
Open Score Reading	9	11	10	11	9	11	12	9	8	11
Patriotic Songs	8	5	8	5	5	8	6	6	5	7
Piano Literature	13	13	13	12	13	13	11	12	13	13
Scales	11	10	11	9	10	9	9	13	10	9
Sightreading	1	2	3	2	2	3	2	2	3	2
Transposition	6	6	5	7	6	5	7	5	9	5



As shown in Table 2, individuals with graduate degrees rated accompanying, harmonization, and sightreading in the upper quartile. Those with undergraduate degrees rated these same skills, only reversing the order of harmonization and sightreading. Skills rated in the lower quartile by those with graduate degrees are scales, hymns, and piano literature. Individuals with undergraduate degrees rated open score reading, piano literature, and hymns in the lower quartile.

According to Table 2, individuals who were piano principals as undergraduates rated accompanying, sightreading, and harmonization in the upper quartile. Nonpiano principals rated these same skills, reversing the order of the latter two skills. Piano principals rated arpeggios, hymns, and piano literature in the lower quartile, while nonpiano principals replaced arpeggios with open score reading.

Table 2 indicates that individuals who were administered an undergraduate piano proficiency test and also those who were not tested rated accompanying, sightreading, and harmonization in the upper quartile. Those who were tested rated piano literature, open score reading, and hymns in the lower quartile. In this quartile, individuals who were not tested rated arpeggios, piano literature, and scales.

According to Table 2, individuals who have received private piano instruction rated accompanying, sightreading, and harmonization in the upper quartile. Those who have studied in piano classes rated these same skills, only reversing the order of sightreading and harmonization. According to those who have received class instruction, skills belonging in the lower quartile are arpeggios, hymns, and piano literature.

Individuals who have studied privately rated skills similarly, with open score reading appearing instead of arpeggios.

#### Test of Hypotheses

$H_1$ : There will be no significant correlation between ratings of public school music teachers and college or university music teachers regarding the importance of keyboard skills in PSM teaching.

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of these two groups. A  $t$  test was employed to test the significance of  $r_s$ . Results of this analysis are  $r_s = .923$  and  $t = 7.956$  (see Table 3). Since a  $t$  of 7.956 (11 df) is significant at the .001 level, hypothesis 1 is rejected.

$H_2$ : There will be no significant correlation between ratings of public school music teachers and college or university music teachers regarding the usage of keyboard skills in PSM teaching.

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was again computed to determine the relationship between ratings of these two groups. A  $t$  test was employed to test the significance of  $r_s$ . Results of this analysis are  $r_s = .889$  and  $t = 6.434$  (see Table 3). Since a  $t$  of 6.434 (11 df) is significant at the .001 level, hypothesis 2 is rejected.

Table 3

Spearman's Rank Order Correlation Coefficients and Results of  $t$  Tests

Groups	Important		Used	
	$r_s$	$t$	$r_s$	$t$
College/University and PSM Teachers	.923	7.956 <sup>a</sup>	.889	6.434 <sup>a</sup>
Graduate and Undergraduate	.863	5.668 <sup>a</sup>	.923	7.957 <sup>a</sup>
Piano Principal and Nonpiano Principal	.929	8.325 <sup>a</sup>	.940	9.154 <sup>a</sup>
Tested and Not Tested	.951	10.180 <sup>a</sup>	.863	5.668 <sup>a</sup>
Class and Private	.841	5.153 <sup>a</sup>	.907	7.150 <sup>a</sup>

<sup>a</sup> $p = .001$

### Secondary Research Questions

Secondary research questions determined how individuals with varying educational backgrounds rate the importance and usage of keyboard skills in PSM teaching.

Question 1. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who hold a bachelor's degree and ratings by those who hold a master's degree or higher?

The sample of PSM teachers and college or university music teachers indicated degrees obtained. A Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals with undergraduate degrees and ratings of those with graduate degrees. Results of this analysis reveal an  $r_s$  of .863 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 5.668$  (11 df) which indicates significance at the .001 level.

Question 2. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who hold a bachelor's degree and ratings by those who hold a master's degree or higher?

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals with undergraduate degrees and ratings of those with graduate degrees. Results of this analysis reveal an  $r_s$  of .923 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 7.957$  (11 df) which indicates significance at the .001 level.

Question 3. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were piano principals in college and ratings by those who were not?

The sample of PSM teachers and college or university music teachers indicated whether they were piano principals or nonpiano principals as undergraduates. Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals who were piano principals and ratings of those who were not. Results of this analysis reveal an  $r_s$  of .929 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 8.325$  (11  $df$ ) which indicates significance at the .001 level.

Question 4. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were piano principals in college and ratings by those who were not?

Spearman's Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals who were piano principals and ratings of those who were not. Results of this analysis reveal an  $r_s$  of .940 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 9.154$  (11  $df$ ) which indicates significance at the .001 level.

Question 5. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers

who were required to demonstrate college piano proficiency competencies and ratings by those who were not?

The sample of PSM teachers and college or university music teachers indicated whether they were required to take an undergraduate piano proficiency test. Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals who were tested and ratings of those who were not. Results of this analysis reveal an  $r_s$  of .951 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 10.180$  (11 df) which indicates significance at the .001 level.

Question 6. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and ratings by those who were not?

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals who were tested and ratings of those who were not. Results of this analysis reveal an  $r_s$  of .863 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 5.668$  (11 df) which indicates significance at the .001 level.

Question 7. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to take college class piano and ratings by those who studied privately?

The sample of PSM teachers and college or university music teachers indicated the type of piano study they received as an undergraduate. Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals who studied piano in classes and ratings of those who studied privately. Results of this analysis reveal an  $r_s$  of .841 which is a substantial correlation (see Table 3). Results from a  $t$  test are  $t = 5.153$  (11 df) which indicates significance at the .001 level.

Question 8. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to take college class piano and ratings by those who studied privately?

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was computed to determine the relationship between ratings of individuals who studied piano in classes and ratings of those who studied privately. Results of this analysis reveal an  $r_s$  of .907 which is a substantial correlation (see Table 3). Results from a  $t$  test are 7.150 (11 df) which indicates significance at the .001 level.

CHAPTER V  
SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate which keyboard skills are rated as most important and which are most often used in public school music (PSM) teaching as determined by PSM teachers when compared with college or university music teachers. (PSM as used in this study refers to music teachers who instruct students in elementary schools.)

A rating list of keyboard skills in addition to a questionnaire was mailed to 116 North Carolina PSM teachers and 115 North Carolina college or university music faculty members. This list included skills which appear on at least 33% (nine) of the piano proficiency examinations required by the 29 North Carolina colleges or universities that offer a degree in music education.

Subjects responding to this survey were 89 PSM teachers and 93 college or university music faculty members. Secondary areas of interest were investigated with the aid of a questionnaire concerning the following variables: highest degree obtained (undergraduate/graduate); major area of concentration (piano principal/nonpiano principal); piano proficiency examination requirement (tested/not tested); and type of college or university piano study (class/private).



Data from the rating list were collected and statistically analyzed for the purpose of testing the following hypotheses:

H<sub>1</sub>: There will be no significant correlation between ratings of public school music teachers and college or university music teachers regarding the importance of keyboard skills in PSM teaching.

H<sub>2</sub>: There will be no significant correlation between ratings of public school music teachers and college or university music teachers regarding the usage of keyboard skills in PSM teaching.

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was calculated to determine whether there is a significant correlation between ratings of the two groups. A t test was employed to test the significance of  $r_s$ , and the level established for rejecting both hypotheses was the .001 level of significance.

Testing of Hypothesis 1 revealed that there is a significant correlation between ratings of PSM teachers and those of college or university music teachers regarding the importance of keyboard skills in PSM teaching. Therefore, Hypothesis 1 is rejected. This finding implies that there is an agreement among North Carolina PSM teachers and college or university music faculty members regarding piano skills which are important in PSM teaching. The assumption can be made that college and university music faculty members are mutually aware of similar aspects of piano performance specifically important in PSM teaching. According to this study, PSM teachers and college or

university music teachers agree that accompanying, harmonization, and sightreading are the most important keyboard skills in PSM teaching. On the assumption that both groups are correct, these three skills should be primarily emphasized in future PSM teachers' undergraduate piano study. Since this study indicates that college or university music faculty members realize that these skills are most important in PSM teaching, development of these skills probably should be considered a factor in piano instruction of future PSM teachers. In addition to organizing piano study around these three skills, execution of these skills should be of paramount importance in piano proficiency examinations. If college or university music faculties are teaching the skills that they indicated were most important in PSM teaching, future PSM teachers in North Carolina are being pianistically prepared for their jobs.

Testing of Hypothesis 2 revealed that there is a significant correlation between ratings of PSM teachers and those of college or university music teachers regarding the usage of keyboard skills in PSM teaching. Therefore, Hypothesis 2 is rejected. This finding implies that there is an agreement among North Carolina PSM teachers and college or university music teachers regarding piano skills which are used in PSM teaching. The assumption can be made that college and university music teachers are aware of the aspects of piano performance specifically used in PSM teaching. According to this study, PSM teachers and college or university music teachers agree that accompanying, harmonization, and sightreading are the most useful keyboard skills

in PSM teaching. These skills are the same ones that PSM teachers and college or university music teachers rated as most important in PSM teaching. If both groups are correct with regard to their ratings, development of these skills should be emphasized in piano course contents and proficiency examinations for future PSM teachers.

The data from the rating list and questionnaire were statistically analyzed in order to test the following secondary research questions:

1. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who hold a bachelor's degree and ratings by those who hold a master's degree or higher?
2. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who hold a bachelor's degree and ratings by those who hold a master's degree or higher?
3. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were piano principals in college and ratings by those who were not?
4. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were piano principals in college and ratings by those who were not?

5. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and ratings by those who were not?
6. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and ratings by those who were not?
7. Is there a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to take college class piano and ratings by those who studied privately?
8. Is there a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to take college class piano and ratings by those who studied privately?

Spearman's ( $r_s$ ) Rank Order Correlation Coefficient was calculated and a  $t$  test was used to determine whether there is a significant correlation between ratings of each group examined. Results from the data analysis indicate the following regarding the importance of keyboard skills in PSM teaching.

1. There is a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who possess a bachelor's degree and by those who possess a master's degree or higher.

2. There is a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were piano principals in college and by those who were not.
3. There is a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and by those who were not.
4. There is a significant correlation between ratings of the importance of keyboard skills in PSM teaching by teachers who were required to take college class piano and by those who studied privately.

With regard to the importance of keyboard skills in PSM teaching, the following implications may be made.

1. Teachers who hold a bachelor's degree and those who possess a master's degree rate skills similarly.
2. Teachers who were piano principals in college and those who were not rate skills similarly.
3. Teachers who were required to demonstrate college piano proficiency competencies and those who were not rate skills similarly.
4. Teachers who were required to take college class piano and those who studied privately rate skills similarly.

According to this study, there is an agreement among the aforementioned groups regarding piano skills which are important in PSM teaching.

Ratings of the importance of keyboard skills in PSM teaching are not influenced by the variables examined in this study.

Results from Spearman's ( $r_s$ ) Rank Order Correlation Coefficients and  $t$  tests indicate the following regarding the usage of keyboard skills in PSM teaching.

1. There is a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who possess a bachelor's degree and by those who possess a master's degree or higher.
2. There is a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were piano principals in college and by those who were not.
3. There is a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to demonstrate college piano proficiency competencies and by those who were not.
4. There is a significant correlation between ratings of the usage of keyboard skills in PSM teaching by teachers who were required to take college class piano and by those who studied privately.

With regard to the usage of keyboard skills in PSM teaching, the following implications may be made:

1. Teachers who possess a bachelor's degree and those who possess a master's degree rate skills similarly.

2. Teachers who were piano principals in college and those who were not rate skills similarly.
3. Teachers who were required to demonstrate college piano proficiency competencies and those who were not rate skills similarly.
4. Teachers who were required to take college class piano and those who studied privately rate skills similarly.

According to this study, there is an agreement among the aforementioned groups regarding piano skills which are used in PSM teaching. Ratings of the usage of keyboard skills in PSM teaching are not influenced by the following variables: undergraduate/graduate, piano principal/nonpiano principal, tested/not tested, and class/private.

### Discussion

Results from this study vary from other studies involving public school music teachers. According to this study, PSM teachers and college or university music faculties agree that accompanying, harmonization, and sightreading are both the most important and most useful keyboard skills in PSM teaching. With regard to public school music teachers, only K-6 music teachers' ratings of keyboard skills were investigated in this study. Other studies such as those conducted by Buchanan (1964) and Case (1977) surveyed a wide variety of public school music teachers such as those involved in K-6 music teaching, general music teaching, and the teaching of band, orchestra, and chorus. Since Buchanan and Case investigated public school music teachers in general, the samples of K-6 music teachers were not as large as the sample in the present study.

The study conducted by Case (1977) is the only one found which involved North Carolina public school music teachers. His results indicated that piano skills most emphasized in music teaching were chords, note accuracy, rhythm, accompanying, and sightreading. Although Buchanan (1964) investigated public school music teachers in general, he analyzed his research according to different categories of teaching. Buchanan found that music teachers in grades K-6 stated that transposition was their most often used keyboard skill. According to Richards' (1977) survey of public school music teachers that were graduates of California State University, accompanying, score reading, and sight-reading were useful in their teaching.

The studies conducted by Buchanan (1964), Case (1977), and Richards (1977) did not compare public school music teachers with another group of teachers or professors. There have been no studies found that compare K-6 music teachers and college or university teachers with regard to rating the importance and usage of keyboard skills in PSM teaching. A uniqueness of this study is the investigation of ratings of the importance and usage of keyboard skills in PSM teaching with regard to the following groups: teachers who possess a bachelor's degree and those who possess at least a master's degree; teachers who were piano principals in college and those who were not; teachers who were required to demonstrate college piano proficiency competencies and those who were not; and teachers who were required to take college class piano and those who studied privately. There was a significant correlation between all groups investigated as to the importance and usage



of keyboard skills in PSM teaching. Results also indicated a similarity between ratings of importance and ratings of usage for all groups examined.

#### Recommendations

Based on the data collected from this investigation, numerous studies might be conducted. Since results vary from other similar studies, a replication of this investigation in different states and geographical areas would be appropriate. Similar studies may investigate music teachers in areas other than in public schools or on college or university music faculties. Studies could also involve undergraduate secondary piano students and college or university music faculty members. Since this investigation dealt with PSM teachers and selected college or university music teachers, similar studies may involve PSM teachers and college or university piano teachers. Researchers can also investigate variables other than those examined in the questionnaire included in this study.

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APPENDIX  
LETTERS AND SURVEYS

THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO  
SCHOOL OF MUSIC

December 3, 1985

Dear PSM Teacher:

I am an Ed.D. candidate in music education at The University of North Carolina at Greensboro. My study involves PSM teachers and college or university music faculty in North Carolina. The purpose of my study is to investigate which keyboard skills are rated as most important and also those that are most often used in public school music (PSM) teaching as determined by PSM teachers when compared with college or university music faculty. (PSM as used in this study refers to teachers who instruct students in elementary schools.) A table of random numbers was used to select 116 PSM teachers to complete the enclosed form.

Your participation is important to the study, and your cooperation will enable me to realize which keyboard skills are most important and most often used in PSM teaching. Please be as accurate as possible in rating each identified skill. Your name will not be associated with any of the responses, thus assuring confidentiality.

Your prompt response and assistance will be greatly appreciated. A stamped, pre-addressed envelope is enclosed for your convenience. Please return the form by December 20. If there is need for further clarification of study intent or procedures, you may call me collect at 704-487-8127. I believe that your efforts may contribute to a clearer understanding of the place of keyboard skills in PSM teaching.

Sincerely yours,

Anna W. Wells

Enclosures

## SURVEY OF PSM TEACHERS IN NORTH CAROLINA

Code: \_\_\_\_\_

School Telephone No.: ( ) \_\_\_\_\_ Home No.: ( ) \_\_\_\_\_

1. Degrees obtained: \_\_\_\_\_
2. Major area of concentration as an undergraduate student: (circle one)
  - a. piano principal
  - b. nonpiano principal
3. Type of piano instruction and number of semesters as an undergraduate student: (circle one)
  - a. private; \_\_\_\_\_ semesters
  - b. class; \_\_\_\_\_ semesters
4. Proficiency examination requirement as an undergraduate student: (circle one)
  - a. tested
  - b. not tested
5. Rate the following keyboard skills in order of their importance in your teaching by writing the numbers 1 through 13 in the appropriate blanks. Number 1 represents the most important skill in your teaching and number 13 represents the least important skill.
 

_____ a. Accompanying	_____ h. Open score reading
_____ b. Arpeggios	_____ i. Patriotic songs
_____ c. Blocked chords	_____ j. Piano literature
_____ d. Chord progressions	_____ k. Scales
_____ e. Harmonization	_____ l. Sightreading
_____ f. Hymns	_____ m. Transposition
_____ g. Improvisation	

Other: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. Rate the following keyboard skills in order of their usage in your teaching by writing the numbers 1 through 13 in the appropriate blanks. Number 1 represents the most often used skill in your teaching, and number 13 represents the least often used skill.

- |                             |                             |
|-----------------------------|-----------------------------|
| _____ a. Accompanying       | _____ h. Open score reading |
| _____ b. Arpeggios          | _____ i. Patriotic songs    |
| _____ c. Blocked chords     | _____ j. Piano literature   |
| _____ d. Chord progressions | _____ k. Scales             |
| _____ e. Harmonization      | _____ l. Sightreading       |
| _____ f. Hymns              | _____ m. Transposition      |
| _____ g. Improvisation      |                             |

Other: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Please complete and return this form in the enclosed pre-addressed envelope by December 20, 1985.



THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO  
SCHOOL OF MUSIC

December 3, 1985

Dear College/University Music Faculty:

I am an Ed.D. candidate in music education at The University of North Carolina at Greensboro. My study involves PSM teachers and college or university music faculty in North Carolina. The purpose of my study is to investigate which keyboard skills are rated as most important and also those that are most often used in public school music (PSM) teaching as determined by PSM teachers when compared with college or university music faculty. (PSM as used in this study refers to teachers who instruct students in elementary schools.) You have been selected to complete the enclosed form because of your position at the college or university at which you are employed.

Your participation is important to the study, and your cooperation will enable me to realize which keyboard skills college or university music faculty rate as most important and most useful to PSM teachers. Please be as accurate as possible in rating each identified skill. Your name will not be associated with any of the responses, thus assuring confidentiality.

Your prompt response and assistance will be greatly appreciated. A stamped, pre-addressed envelope is enclosed for your convenience. Please return the form by December 20. If there is need for further clarification of study intent or procedures, you may call me collect at 704-487-8127. I believe that your efforts may contribute to a clearer understanding of the place of keyboard skills in PSM teaching.

Sincerely yours,

Anna W. Wells

Enclosures

## SURVEY OF COLLEGE OR UNIVERSITY MUSIC FACULTY

Code: \_\_\_\_\_

College/University Telephone No.: ( ) \_\_\_\_\_

Home No.: ( ) \_\_\_\_\_

1. Degrees obtained: \_\_\_\_\_
2. Major area of concentration as an undergraduate student: (circle one)
- a. piano principal                      b. nonpiano principal
3. Type of piano instruction and number of semesters as an undergraduate student: (circle one)
- a. private; \_\_\_\_\_ semesters      b. class; \_\_\_\_\_ semesters
4. Proficiency examination requirement as an undergraduate student: (circle one)
- a. tested                                      b. not tested
5. Rate the following keyboard skills in order of their importance in PSM teaching by writing the numbers 1 through 13 in the appropriate blanks. Number 1 represents the most important skill in PSM teaching, and number 13 represents the least important skill.
- |                             |                             |
|-----------------------------|-----------------------------|
| _____ a. Accompanying       | _____ h. Open score reading |
| _____ b. Arpeggios          | _____ i. Patriotic songs    |
| _____ c. Blocked chords     | _____ j. Piano literature   |
| _____ d. Chord progressions | _____ k. Scales             |
| _____ e. Harmonization      | _____ l. Sightreading       |
| _____ f. Hymns              | _____ m. Transposition      |
| _____ g. Improvisation      |                             |

Other: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Rate the following keyboard skills in order of their usage in PSM teaching by writing the numbers 1 through 13 in the appropriate blanks. Number 1 represents the most often used skill in PSM teaching, and number 13 represents the least often used skill.

- |                             |                             |
|-----------------------------|-----------------------------|
| _____ a. Accompanying       | _____ h. Open score reading |
| _____ b. Arpeggios          | _____ i. Patriotic songs    |
| _____ c. Blocked chords     | _____ j. Piano literature   |
| _____ d. Chord progressions | _____ k. Scales             |
| _____ e. Harmonization      | _____ l. Sightreading       |
| _____ f. Hymns              | _____ m. Transposition      |
| _____ g. Improvisation      |                             |

Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please complete and return this form in the enclosed pre-addressed envelope by December 20, 1985.