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THE EFFECT OF TONAL KEYBOARD PATTERN INSTRUCTION ON THE SIGHT-READING ACHIEVEMENT OF COLLEGE CLASS PIANO STUDENTS

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Debra K. Pajtas

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THE EFFECT OF TONAL KEYBOARD PATTERN INSTRUCTION ON SIGHT-READING ACHIEVEMENT OF COLLEGE CLASS PIANO STUDENTS

By

Debra K. Pajtas

A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

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ABSTRACT

THE EFFECT OF TONAL KEYBOARD PATTERN INSTRUCTION ON SIGHT-READING ACHIEVEMENT OF COLLEGE CLASS PIANO STUDENTS

By

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Studies of eve movements in music readers suggest that strong sight-readers read groups of notes rather than single notes. The purpose of this research was to determine if regular instruction in the recognition and reading of groups of notes, or tonal patterns, in elementary college class piano students aids in developing sight-reading skills. The problems of the study were to determine if college class piano students receiving regular tonal pattern instruction become significantly stronger sight-readers than those receiving traditional instruction, and to determine if they read significantly better after practice. College students from two separate elementary piano classes were the subjects of this study. One class received traditional piano instruction. The second class received additional instruction in the recognition and reading of tonal patterns. Both groups were audio-taped sight-reading three piano selections and again after five minutes of practice. The performances were evaluated for tonal and rhythmic errors. T-tests were used to determine if there were significant differences in the mean ratings of the pieces. No significant difference was found in either the tonal or rhythmic accuracy overall. However, the means showed a consistent tendency for the experimental group to read with greater tonal accuracy than the control group. Individual measures with unfamiliar and complex notation were read better by the experimental group, particularly after practice. Tonal pattern instruction may assist beginners in the reading of piano music.

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This project would not have been possible without the help and encouragement of Dr. Midori Koga, Dr. Cynthia Taggart, and Professor Deborah Moriarty. They were available at each step of the study with invaluable suggestions and smiles. I am grateful to Dr. Taggart for introducing me to the world of music research, and for all the time she freely gave answering my questions. My appreciation goes to Dr. Koga for her wisdom and help. My deepest thanks go to Dr. Koga and Ms. Moriarty for granting me an extension on a teaching assistantship so that the research could continue for another year.

I am grateful for all the college students enrolled in Music 147 for the 2000 – 2001, and 2001 – 2002 school years. Special thanks go to those who volunteered their time to sight-read so that data collection could take place. My sincere thanks are extended to Meghan Robinson, Yilin You, and Minjeong Suh who assisted in data collection.

Finally, my thanks and appreciation are given to my husband, Tim, and my children who were so patient and encouraging as I spent hours locked away in front of the computer. Special thanks are extended to my sisters, brother, and parents who believed in me and encouraged me to be the best that I could be.

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Chapter 1

INTRODUCTION

I consider myself to be a strong sight-reader. However, there was a long period of time when I was not a good reader. Having been taught to read music the traditional way of finding the note on the staff then locating it on the keyboard, I struggled my way through piece after piece. Even throughout my undergraduate piano studies, I dreaded picking up a new piece to decipher. Upon leaving university studies, I began to teach my own piano students. I purchased volumes of easy and intermediate piano music and played it all in my quest to find new teaching repertoire. To my delight, within a couple of years I had been transformed from a weak reader to a strong one. What happened? One may answer, "You practiced the piano more during that period." However, I practiced much more during my undergraduate years. I believe that the transformation was due to constant practice of music containing basic keyboard patterns found in all piano repertoire, regardless of the difficulty. I was learning, storing, and assimilating melodic, harmonic and rhythmic patterns that had not been learned before in my piano studies. Does one have to go though the same method of learning that I did in order to become a strong sight-reader? Why are some pianists strong readers and others are not?

Literature Review

Many teachers today agree that there are two classifications of piano students. One group sight-reads easily but memorizes poorly. The other group memorizes easily but struggles to sight-read (Obenshain, 1993; Zagorski, 1994). Are we as piano teachers resigned to accept this division in reading ability as inevitable? Is there a remedy for the

weak reader? My own personal experience disproves the fact that weak readers will remain weak readers.

All music teachers realize the importance of producing strong sight-readers. Students with strong reading skills will perform better at recitals and learn more repertoire, which in turn will increase their enjoyment of music (Harrel, 1997). Sightreading fluency also enables students to take the important first steps toward a lifetime of piano playing and opens doors to broad musical interests (Harrel, 1996). It is a skill that offers a student access to all music literature, unaided by a teacher. Sight-reading is particularly important for the future chamber musician and accompanist (Deutsch, 1950). Since sight-reading skills are vital to the musical experience, it should be the experience of every student to learn to sight-read well and the goal of every teacher to make sure that his students learn to sight-read with ease. In fact, the best teacher is the one who trains the pupil to think for himself and become fully independent of the teacher (Tobin, 1957).

How should piano teachers reach this goal? We know that sight-reading can improve if it is approached in a structured way. "Without a structured method, sightreading is little more than an exercise in trial and error" (Ripley, 1997). The traditional method of teaching sight-reading on the keyboard contains several aspects. The student is taught to scan the piece silently, first noting the key signature, meter signature, any extra accidentals, patterns, dynamics, and anything unusual (Obenshain, 1993). Many teachers believe that reading ahead in the score is perhaps the most important aspect of sight-reading. Some recommend using a pencil to point ahead to where the student's eyes should be (Lewis, 1989). Slow reading, "arm-chair" reading away from the keyboard, and analysis of the score are other methods (Obenshain, 1993). Teachers agree

that keeping one's eyes on the score rather than looking back and forth from the hands to the music is essential to reading fluently (Fuszek, 1977). Most important, consistency and frequency of reading is proposed to be the best way to produce a strong reader (Haug, 1991).

Music reading is a complicated process involving not one, but several elements, including the eye, the ear, mental comprehension, memory, tactile knowledge of the keyboard, and technique (Rubinstein, 1950). Proficiency in sight-reading is the result of facility in relating both the mental and physical components of reading. The brain needs to understand what the eye sees in order for the fingers to be fluent on the keyboard in reproducing sounds represented on the page (Rubinstein, 1950). Audiation, or hearing and comprehending the notation in one's mind, should take place before effective musical decoding of notation can take place (Gordon, 1990). Proficiency in sight-reading occurs when one is fluent in translating ocular and aural impressions into tactile performance (Rubinstein, 1950). For pianists, these impressions include both rhythmic and tonal aspects, as well as the reading of notes on two staves.

In order to facilitate music reading, teachers have included the drill of individual notes, as well as common rhythm patterns, in piano lessons. Directional reading and the recognition of intervals have also been recommended and even incorporated into many piano method series. Pentascales, triads, scales, arpeggios, and chordal patterns have been assigned in all major and minor keys in order to train the fingers to play what will be encountered later in the musical score. In spite of these measures, many students have not mastered the art of sight-reading. What have good readers discovered or mastered that the poor readers have not? For many years some teachers felt that sight-reading was

a talent that could not be taught. A student either was or was not a good reader. However, in the past few decades, research has uncovered new evidence concerning eye movements while reading music. This research suggests that strong readers read groups of notes rather than individual notes (Sloboda, 1974; Haug, 1991; Goolsby, 1994; Smith, 1988; Waters, 1997, 1998). Studies have also been conducted with wind and string intrumentalists testing the effectiveness of teaching students to read common tonal patterns (Grutzmacher, 1987; Hahn, 1987; Gamble, 1989; Gaynor, 1995). Results of these studies indicate that students sight-read significantly better after tonal pattern instruction when compared to those who receive traditional instruction with no focus on patterns.

What defines a tonal pattern? What are common groupings of notes that the strong reader has been able to decode more rapidly than the weak reader? Although the term "tonal pattern" has been used by many teachers and researchers, there appear to be different definitions of the concept. Harrel (1996) advocates teaching piano students patterns based on major and minor pentascales, scales, triads and their inversion, and seventh chords and their inversions. Gordon (1990) has isolated what he believes are common tonal patterns based on the I, IV, and V7 chords, as well as step-wise patterns. He advocates teaching students to sing and audiate (hear internally) these patterns in order to build a vocabulary of tonal patterns. Tonal patterns, according to Gordon, are, "Two, three, four, or five pitches in a given tonality that are audiated sequentially and form a whole." Teachers such as Massoud (1995) and Pace (1979) define a tonal pattern as any grouping of notes that repeats within a piece. This final view appears to be the prevailing definition of a tonal pattern among piano teachers.

The concept of teaching piano students to read groups of notes has been used in a limited sense by only a few piano teachers and music publishers. A review of current piano method books revealed only two series that incorporated tonal pattern recognition into instruction. Berlin's series, *The ABC of Piano Playing*, was the first to pioneer this concept (Berlin, 1983; Beauchamp, 2001). Berlin believed that a student should see music as something that moves. He should see not single notes, but groups of notes that form some kind of a pattern (Beauchamp, 2001). Patterns to be played in a new piece are introduced first on the opposite page, practiced, and then applied to the piece to be learned. Pace (1979) also uses pattern instruction in the first book of the *Music for Piano* method series. Students are introduced to common tonal patterns before reading actual notation. Once notation is introduced in the book, students are asked to look for patterns and repetitions of patterns before playing new pieces.

A new piano method series, *Celebrate Piano!* by Albergo, Kolar, and Mrozinski and published by Frederick Harris Music, will be released in the spring of 2003 (Albergo, Kolar, and Mrozinski, 2002). This series also makes use of pattern instruction. Before the student is introduced to notation, the teacher is instructed to play specific patterns on the piano, have the student sing them, and then have the student play the patterns back. Three-note tonal patterns as well as rhythm patterns are taught in the first book. Once the student is reading notation, he is instructed to locate and circle tonal patterns that repeat in each piece. Patterns, according to this series, are defined as groups of notes that repeat within a piece and can be up to eight notes in length.

Outside of these three, there are no beginning piano method series known to the researcher that teach piano students to recognize or read groups of notes. However, there

are supplementary books and products available to the piano teacher that drill or teach tonal pattern recognition. Covello (1997) has written Step, Skip, and Repeat, Basic Patterns for Note Reading, Books One and Two. This set contains short musical excerpts for the beginning pianist that teach movement by step, skip, and repeat. In this set, Covello does not isolate common groupings of notes and label them as patterns, but rather labels steps (2nds), skips (3rds), and repeated notes as patterns. He appears to equate intervals and movement by certain intervals with pattern reading, without identifying specific combinations of these intervals as patterns to be recognized. Hal Leonard Corporation publishes supplementary flash cards that contain three-note tonal patterns displayed on one to three staff lines. A total of twenty-two tonal patterns are categorized, labeled, and displayed, with one pattern per card. These cards were published to encourage students to read directionally (Hal Leonard). FJH Music Company also publishes a set of flashcards containing tonal patterns (Faber and Faber, 1999). Twenty-seven of the cards contain a note on or near the treble or bass clef staff. Below the note is a four-note pattern beginning on the same note to sight-read, followed by a more challenging group of notes. The patterns do not appear to be organized in order of difficulty, but contain random mixings of repeated notes, small intervals, and larger intervals. However, the goal of the flashcards does not appear to be to teach pattern recognition but to give the student practice sight-reading a group of notes beginning on the featured note.

Considering the evidence that strong music readers read groups of notes, the positive outcome of studies conducted on wind and string students who received instruction in reading tonal patterns, and the lack of instruction among piano teachers in

tonal pattern recognition, the researcher felt that it was time to conduct a study using pattern instruction with beginning piano students. The purpose of this research was to determine whether regular tonal pattern instruction with college class piano students would be effective in developing sight-reading skills. The specific problems of the study were to determine if college class piano students receiving regular tonal pattern instruction would become significantly stronger sight-readers than those receiving traditional sight-reading instruction without pattern instruction, and to determine if these same students would read significantly better after a short period of practice than students who did not receive tonal pattern instruction..

Chapter 2

RELATED RESEARCH

In 1938, a study by Kenneth Bean revealed that short fragments of musical text displayed briefly were more accurately recorded by good sight-readers than by poor sight-readers. He also found that good sight-readers could record five notes accurately in any one fixation, whereas poor sight-readers could record only two or three with the same degree of accuracy (Sloboda, 1974). Levin and Kaplan, in 1970, coined the phrase "eyevoice span" to refer to the number of words one could see and remember after a light illuminating a text was turned off. In studies with readers of English text, it was discovered that the eye-voice span was longer for more experienced readers, shorter for more difficult material, and longer for structured material such as sentences rather than unorganized material (Sloboda, 1974). This technique of testing was applied to the reading of music by John Sloboda in 1974, who coined a new phrase, "eye-hand span," referring to the use of the hands in responding to the musical selection presented. Experiments were done in a similar manner as Levin's recording the number of pitches that one could remember and play or sing after music was removed from view. It was discovered that the best music readers had the largest eye-hand spans, with a mean span of six to eight notes, as compared to the poorer readers, whose span was as low as three notes. The eye-hand span varied for individual readers depending on the complexity of the notation. Sloboda concluded that good sight-readers make use of redundancies or structures to increase their capacities. He also referred to studies done by Reicher (1968) who, in working with the reading of language, has proposed that linguistic units, such as words, may be processed as single units. This notion is referred to as "chunking."

Sloboda proposed that good music readers "chunk" parts or all of musical phrases, perceiving them as a single unit rather than individual notes.

Studies have also been conducted on the actual eye movements of language and music readers. It has been found that the eyes do not move steadily from the left to the right when reading, as previously thought. Instead the eyes move in a series of jumps, called saccades. These saccades can be forward (progressive) in motion or backward (regressive) (Haug, 1991). The actual perception of notes takes place in pauses between saccades, called fixations. While reading, the eyes do not move steadily across the page but stop to fixate on particular notes before moving on. The eyes take in a visual picture and then move ahead for another picture (Harrel, 1996). These fixations are very brief. Studies reveal that the eye stops and perceives music or text three to six times per second (Goolsby, 1994).

Many teachers have thought that a good sight-reading strategy is to always look ahead and never look back at previously viewed notes. However, studies indicate the opposite. Good readers actually do more rereading than poor readers (Young, 1971). Tests reveal that the eye movement of music readers follows an irregular path, constantly jumping ahead and back (Young, 1971). Goolsby reports that skilled music readers use a greater number of both regressive and progressive fixations than do less skilled readers. He believes that the skilled music reader may use a reading strategy in which fixations are directed well ahead of the performance to perceive where the melody is "headed," then back to the point of performance (Goolsby, 1994). It has also been found that when the tempo is slower or the musical score is easier, there are more regressive eye movements in the reader (Haug, 1991).

Studies reveal that the accurate sight-readers use more visual information than inaccurate readers by fixating more frequently, at a faster rate, and by seeing more in each fixation (Smith, 1988; Waters, 1998). A study conducted by Goolsby (1987) revealed that less skilled music readers use fewer but longer progressive fixations across all levels of notation. While the less skilled reader fixates on virtually every note, the skilled reader does not. The less skilled readers also fixate longer on longer notes, while the skilled readers use the time provided by longer notes to explore the notation. Both groups use fewer and shorter fixations to read complex notation. It was found in the same study that the spacing of notation greatly affects eye movement and processing time as well.

What accounts for the differences in eye movements between good and poor music sight-readers? Haug (1991) believes that eye movements themselves are a result or symptom, not a cause of reading problems. Fluency of reading depends in part on how many notes the eyes can grasp in one glance (Harrel, 1996). Poor sight-readers are unaware of or are unable to use structures or redundancies found in musical texts (Sloboda, 1994). Two separate studies conducted by Andrew Waters (1997, 1998) investigated eye movements in skilled and novice music readers. In the first study, musicians were given a pattern-matching task and asked to indicate if two displayed patterns were the same or different. The expert groups performed the comparisons more quickly than the novices and used fewer flips, or large eye movements, back and forth between the patterns. The more experienced musicians used larger units to compare the melodies and processed those units with fewer fixations and in less time. Coherent material required fewer eye movements to compare than randomized material among the skilled readers. However, the novice readers showed no difference in the number of flips

required to compare coherent and randomized material. These results indicate that skilled readers have developed mechanisms by which they process groups of notes in a more efficient manner. This test, using single line melodies, indicates that more experienced musicians use larger units in reading.

The second study by Waters (1998) tested pianists by requiring them to match passages of piano music. All of the examples were of two-bar length and contained at least eighteen notes on two staves. Subjects were asked to indicate if the passages were the same or different. The more skilled readers were able to perform the comparisons more quickly than the less skilled readers, indicating that they can code music in larger chunks than the less skilled readers.

The reading of music is very similar to the reading of language text. When one first learns to read, he learns the letters of the alphabet, then sees groups of letters as words, then finally groups of words. In the same manner, a music student first sees individual notes, then learns to read groups of notes (Harrel, 1996). A language-reading student recognizes words by the shape of letter groups. In time, he can group words, paragraphs, and even pages at a glance (Zagorski, 1994). We read words by associating their appearance with their meanings. We also read music not by seeing individual notes but note patterns. We then associate them with functional keyboard behavior that is familiar to us (Giles, 1988). A note by itself has no meaning, just as single letters in a word have no meaning by themselves. If we read a sentence by looking at each letter of each word individually, the sentence becomes gibberish. If students read one note at a time, music also becomes gibberish for them (Giles, 1988).

Unfortunately, a large number of music students read only one note at a time. This may be the reason for their poor sight-reading ability. A student will never be able

to sight-read fluently as long as he sees only one note or chord at a time. Instead, he must learn to see combinations of notes and chords with tonal patterns suggesting a hand shape (Bryant, 1962). The eyes should take in groups of notes, not just one note at a time. The eyes should find a starting note and then see the others as a pattern (Harrel, 1996). Psychologists tell us that short-term memory can hold approximately seven bits of information at a time (Miller, 1956). If we see individual notes as part of a larger grouping, such as a triad, it is possible to increase the amount of information available to us at one time (Haug, 1991). Successful sight-readers have learned to increase the number of notes or information taken off of a page by "chunking" or grouping notes (Haug, 1991). The eyes of a good reader search first for familiar patterns and for deviations from them (Zagorski, 1994). The more basic patterns one incorporates into his musical comprehension, the more successful are his reading skills (Giles, 1988). At least part of sight-reading expertise is dependent on the acquisition of a vocabulary of commonly occurring note groups, or chunks, that can be rapidly encoded and processed in reading. Skilled readers appear to possess a larger vocabulary with larger chunks or may be able to process the chunks more rapidly (Waters, 1997).

The eyes perceive some patterns almost instantaneously, while others take longer to assimilate. For instance, it is more difficult for most musicians to read the music of Boulez than the music of Mozart. The notes of Boulez's score are not patterned in ways to which we are accustomed (Giles, 1988). Two recent studies conducted by Clifton (1986) with skilled pianists revealed that small intervals are read more accurately than large intervals under brief presentation conditions. A study by Chang (1993) comparing the eye movements of trained pianists reading contrapuntal, homophonic, and contemporary pieces revealed that eye movements differ in the reading of the different

styles. This indicates cognitive process of structural pattern recognition in music reading. The highest sight-reading error ratio occurred in contemporary music, and the lowest ratio was found in contrapuntal music.

Just as in the reading of language one samples the text for clues that make sense in light of the reader's experience in order to construct meaning, so also does a music reader search for clues in the musical score. Good music readers do not read every note but sample the score and predict continuations that are likely or appropriate within a certain musical idiom (Hahn, 1987). For example, when a student is aware of predictable cadence patterns at phrase ending, it allows him to predict or chunk information extending his eye-hand boundary to match phrase boundaries (Sloboda, 1977). A student who can readily recognize melodic patterns and perform them automatically will read music in larger units. This ability will allow him to look ahead, to perceive complete phrases, and to concentrate more on musical expression (Wolfe, 1989). Certainly, this ability to perceive and read music as a whole, rather than in minute parts, should be the goal of every teacher for his students.

What does this new information mean for the music teacher? How can we apply the concept of chunking or pattern reading to the teaching of music? Can a student be taught to read by patterns rather than by single notes as has been done for decades? Some students learn to read by patterns or groups without specific instruction, such as a young student of the researcher who has been able to sight-read hymns and relatively difficult music easily since she was six years of age. No specific instruction was given to her in sight-reading. However, the vast majority of music students do not learn to read patterns at such a young age, and many do not learn at all. Is it possible for *all* music students to learn to read patterns, just as language readers learn to read groups of letters

as words and phrases? In the past fifteen years several articles have appeared in music magazines, music journals, and books encouraging teachers to teach their students to read by groups of notes rather than individual notes (Giles, 1988; Haug, 1991; Zagorski, 1994; Harrel, 1996, 1997).

At the same time, several research studies have been done to determine if instruction in chunking or pattern reading will produce stronger sight-readers. Grutzmacher (1987) experimented with fifth and sixth grade brass and woodwind students by dividing them into two groups. The control group used the traditional singlenote identification approach to learn to read music. The experimental group received instruction in recognition of tonal patterns both aurally and from notation. These patterns were both isolated from and used within the context of melodies through performance activities involving harmonization and vocalization. Results indicated that the experimental group scored significantly higher than the control group on the aural identification of major and minor tonalities and in melodic sight-reading achievement. There was no significant difference between the two groups in reading recognition. This study indicates that a similar design using two different groups of beginning pianists may reveal similar results.

Similarly, Hahn (1987) designed a research study with two beginning public school elementary string classes. The classes were divided into a control group and an experimental group. The control group received instruction from a string method book with emphasis on recognition of isolated pitches and note values along with flashcards used to facilitate note recognition. Instruction of the experimental group was based on perception of melodic contour and rhythmic units, with no emphasis on exact pitch. A significant difference in favor of the experimental group showed that music-reading skill

could be facilitated by reading instruction with a focus on whole-to-part strategies. Students trained in these strategies were better able to read both familiar and unfamiliar music notation. This study indicates that students taught to observe larger units than the single note could grasp more on the written page. The beginning pianist with not one but two staves to read could also possibly benefit from instruction encouraging him to observe more on the page.

Gamble (1989) tested the effect of tonal pattern instruction on beginning clarinet students based on the music learning theory of Edwin Gordon. Seventy-six students were divided into three groups. Students in group one received traditional instrumental instruction, while those in groups two and three received tonal pattern instruction with arpeggio and diatonic patterns, respectively. The tonal pattern instruction included listening, singing, recognizing, playing and reading patterns both in major and minor tonalities. A significant difference was found between groups one and two indicating that those who learn sequential skills based on music learning theory containing arpeggio patterns obtain superior skills in tonal audiation and music reading. Gamble's study included the hearing and singing of tonal patterns as well as pattern recognition and performance. Perhaps pattern instruction apart from singing could still be effective for the beginning pianist.

Gaynor (1995) tested the proposition that students who were taught memory recall, eye movement as an aid to chunking, and the predictive structures of melody, would learn to incorporate those strategies into the music reading process. Seventh through twelfth grade flute students were given instruction to facilitate chunking and melodic predicting. Before being tested, the students were pre-tested and classified into two categories: more skilled and less skilled music readers. Results showed that the

instruction aimed at chunking and melodic predicting resulted in significantly better reading skills for the less-skilled readers. Melodic predicting instruction was more effective for the more-skilled readers. This study indicates that even older students may benefit from instruction in chunking and melodic predicting. Perhaps beginning collegeage piano students, even with previous musical training, would benefit as well.

A study involving college-age piano students was conducted by Beeler (1995). This study measured the effects of two sight-reading strategies used with group piano students. One involved the pre-study of melodic intervals and the other a cue for rhythmic continuity using an accompaniment by digital sequencers. The melodic interval pre-study was effective for improving sight-reading pitch accuracy. This study indicates that college-age piano students form effective subjects for a study using two different methods of musical instruction.

The study conducted by Beeler applied interval study to sight-reading but not tonal patterns. Even though the interval study was helpful, pattern instruction was not explored. The studies conducted with various beginning instrumental students indicated that pattern instruction is an aid to sight-reading fluency. However, sight-reading at the piano involves more than a single-line melody. To date, there has been no study conducted with piano students involving tonal pattern instruction in relation to sightreading fluency as far as the researcher is aware. The researcher is also unaware of any studies determining the exact common tonal patterns found in easy classical keyboard literature.

Chapter 3

METHODOLOGY

Subjects

Students from two separate college piano classes at Michigan State University served as the subjects of the study. The semester-long classes consisted of non-music majors who were taking elementary class piano as an elective course. Both classes were taught by the researcher during the 2001 - 2002 school year. Each class contained twenty students who were roughly between the ages of eighteen and twenty-two years of age. The Fall 2001 class also contained a graduate student in his mid-twenties and an older student in his thirties. The Spring 2002 class contained one student in his thirties.

Music 147, Elementary Class Piano, at Michigan State University is a onesemester course designed for the college student with no previous musical instruction. However, it has been the researcher's experience, after teaching the course for two years prior to the study, that many students in the class have previous musical training, and a few students even have previous instruction on the piano. In order to determine the nature and extent of that instruction, each student was asked to fill out a card on the first day of class briefly describing his or her musical background. The researcher wished to determine who would be eligible from the class to participate in data collection at the end of the semester. Those with previous musical instruction would not necessarily be excluded from the study, but those with previous piano experience would need to be tested early in the semester to determine if they were already able to sight-read piano music. Those who demonstrated the ability to sight-read piano music would be eliminated from data collection at the end of the semester. Although there were twenty students enrolled in the Fall 2001 class, ultimately only eleven from the class participated in the sight-reading, or data collection, portion of the study. The other nine members were either eliminated because they displayed proficient sight-reading skills on the piano prior to the study or chose not to participate in the study. Out of these eleven, all had previous musical instruction prior to taking the course. Two of these students could play the guitar by ear, but could not read musical notation. Three had minimal instruction on an instrument but had not continued their studies past middle school. Six students had continued their musical studies into high school. Out of these six, five played an instrument in high school band, and one had sung in high school choir. Two of these six students continued their musical studies while in college. One had taken a year of college music theory the previous year, and one was singing in the Michigan State University Men's Glee Club.

Out of the Spring 2002 class, ten students ultimately participated in the study. It was determined that all of these students, also, had some kind of previous musical instruction or experience prior to taking the course. Three of these students could not read musical notation. Two had not continued their musical instruction beyond elementary school, and one stopped after middle school. Only four continued instruction while in high school. Two of these were in high school band, and two in were in high school choir. This group had less previous musical instruction and experience than the control group.

Although nearly all of the students enrolled in the two classes had received previous musical instruction, the researcher did not find it necessary to exclude these students from the study or testing. It has been the researcher's experience, after teaching three years of studio piano lessons at Michigan State University to music majors who are

not pianists, that non-pianists have weak sight-reading skills on the piano in spite of their general musical education and facility in playing a different instrument. Although these students were fine musicians on their major instrument, they almost consistently displayed weak reading skills at the piano. The researcher believes that this is due to inexperience in transferring visual cues (notation) to the keyboard, as well as to the difficulty of coordinating the reading of two staves to performing with two hands. Since every other instrument involves the reading of only one staff, those with instrumental or vocal experience were only proficient in the reading of the staff of their instrument and could also only decode that notation on their major instrument. Because the previous musical instruction of the subjects in this study was quite minimal compared to the music majors referred to above, the researcher did not feel that it was necessary to exclude any student from the study who had not had previous piano experience, yet could perform music with ease on a different instrument.

The initial survey of class members also revealed that several had previous piano experience. Ten from each class as a whole indicated that they could either play the piano by ear or that they had received previous instruction on the piano. All of these students were given a sight-reading test early in each semester to determine their reading ability. A piece from the course text, "Italian Song", by Lynn Freeman Olson, was chosen. (See Appendix A.) The piece consisted of a right hand melody accompanied by intervals of a fifth, fourth, and third in the left hand. Movement in the melody was mostly by step, with a couple of skips of a third. Note values were mostly quarter notes, with a few half notes and one dotted-quarter/eighth note rhythm. Students were asked to read only the first line. The left hand remained in one hand position, while the right hand made a switch from C position to G position midway through the line. Those students

who could read the complete line, even with errors, were eliminated from the sightreading test to be given as part of the study at the end of the semester. Students who could not perform the complete line were not excluded from the study. It was obvious to the researcher that the students could not read the notation. In conferring with the students as well as observing their initial performances in class, it was determined that many who had taken piano lessons as a child had forgotten how to read notation. One student who had taken a semester of class piano in high school also had poor reading skills. Four students from the fall semester and two students from the spring semester were eliminated from the study based on the sight-reading test. These students demonstrated the ability to sight-read by performing the first line of "Italian Song" with few or no errors.

Four students from the Fall 2001 group with previous piano experience remained in the study. Two played the piano only by ear. One had taken piano lessons from second through fourth grade. One had taken three years of piano in middle school. None of these students were able to sight-read "Italian Song" proficiently. Five students from the Spring 2002 class with previous piano experience also remained in the study. Two of these played only by ear. Another had only taken two lessons prior to taking Music 147. One had taken piano lessons from age five to age eight. Another had taken one semester of class piano in high school, yet could not sight-read the example given.

<u>Design</u>

The students in the Fall 2001 class served as the control group for the study, receiving traditional, non-pattern instruction in music reading and sight-reading. The Spring 2002 class served as the experimental group. This class received the same

instruction with additional instruction in the recognition and reading of tonal keyboard patterns. During the final three weeks of each semester, the students from each class were invited to take two separate sight-reading tests. Participation in the sight-reading tests was voluntary. Twelve students from the control group and twelve students from the experimental group originally agreed to participate. One musical selection was read at the first performance, and two were read at the second performance for a total of three pieces. After sight-reading a piece, each student was given the opportunity to practice for a short period of time and to perform the piece again. Each performance was audio-taped by the researcher. The same musical selections were read by both the control group and the experimental group. The taped performances from each semester were randomly scrambled and dubbed onto one tape. Copies of the tape were given to two graduate students at Michigan State University for evaluation. Both students were piano majors with teaching experience. The judges evaluated the tapes for both tonal and rhythmic accuracy. Tonal accuracy was evaluated by keeping a tally of tonal errors in each performance. Rhythmic accuracy and fluency was evaluated on a five-point continuous rating scale.

Procedure

Prior to conducting the study, the researcher sought to define and identify common tonal patterns found in keyboard music. The literature review for the study revealed different definitions of common tonal patterns from patterns based on scales and triads (Harrel, 1996), groups of two to five pitches in a given tonality (Gordon, 1990), to any grouping of notes that repeats within a piece. This grouping could be from two to eight or more notes. Although the researcher believes that all of these views are valid,

she sought to identify patterns that are common in keyboard music. Since the early intermediate level repertoire written by respected classical composers from the 1600's to the present forms the foundation of most keyboard studies and has remained a standard of keyboard literature, the researcher examined two collections of this literature for common three-, four- and five-note patterns.

The collections examined were "Celebration Series, Piano Repertoire Album 1, 2nd Edition." Frederick Harris Music, 1994, and "Essential Keyboard Repertoire, Volume 1. 2nd Edition." Lynn Freeman Olson, editor, Alfred Publishing Company, Inc. 1995. The researcher compiled a list of the most common tonal patterns for keyboard found in these collections. These patterns are listed in Appendix B, along with the frequency of their usage. The number appearing with each pattern refers to the total number of compositions in which the pattern was found in both volumes of repertoire. The frequency of a pattern's appearance within a single piece is not indicated in this list. Since the researcher believes that different performers may view patterns differently, all different possible interpretations were included. The most common patterns discovered include the three-note descending scalar pattern, the three-note ascending scalar pattern, the three-note repeated-note pattern, the four-note descending scalar pattern, the descending broken triad, the descending one step, then ascending one step (D-C-D) pattern, and descending five-note scalar pattern. Sixty-eight patterns are listed in Appendix B. Although the most common tonal patterns identified were based on scalar or triadic patterns, the study also revealed many patterns that used combinations of intervals such as the second and third. Common examples are seen in pattern #13 (C-A-B) and #14 (A-B-G). A common keyboard cadential pattern was discovered consisting of a descending 4th followed by the descending 5th. (See example #9, Appendix B.) This

pattern is reversed to form a common keyboard accompaniment pattern (example #41). Many patterns were discovered that are not based solely on a scale or triad. The most common tonal patterns consisted of smaller intervals of a second or third. Patterns containing larger intervals were less common.

Based on the repertoire examination, the researcher did not include patterns over five notes in length. The vast majority of patterns found were three notes long. These patterns did not necessarily repeat within a piece, although some pieces were found to contain several patterns that formed the basis for the entire composition. (See Appendix F.) Patterns larger than five notes were found to consist of two or more smaller patterns already identified. Therefore, none above five notes in length were counted, with the exception of #68, a six-note ascending scalar pattern. (See Appendix B.) Two-note patterns were also not included. The researcher believes that two-note patterns are broken intervals and could only be considered a pattern if the interval repeats within a piece. Based on the repertoire examination, the researcher believes that a tonal pattern for keyboard should not be merely defined as a group of notes that repeats within a piece. It is possible to find groups of notes that occur only once in a particular composition; yet these same patterns are found again and again in written music. This concept can be compared to a single written word occurring only once in a written statement, yet read, not as a group of letters, but as one unit that has meaning for the reader. The researcher sought to discover common groups of notes that also have meaning for the music reader. regardless of the frequency of their usage within a piece. The patterns discovered in the repertoire examination were presented to the experimental group as the treatment for this study.

Music 147 met three times a week for fifteen weeks each semester. Class sessions lasted fifty minutes each. Each student sat at his own electronic keyboard that could be played with or without headphones. The class curriculum was based on the class text, "Piano for Pleasure, A basic Course for Adults, 4th Edition," co-authored by Martha Hilley and Lynn Freeman Olson (2002). All of the basic fundamentals of music reading were taught in the course and applied to keyboard performance. The recognition and reading of treble and bass clef notes, notes up to three leger lines above and below the staves, intervals up to an octave, triads and their inversions, and seventh chords were introduced, drilled, and applied to repertoire and sight-reading. Intervals and chords, broken and blocked, were learned and performed. Major and minor pentascales major and minor scales, the chromatic scale, and the I - IV6/4 - I - V6/5 I chord progression were taught in several keys. Note values from the whole note to the 32nd note, rests, upbeats, dotted rhythms, syncopation, triplets, simple and compound meters, and some irregular meters were taught and applied to repertoire and sight-reading. Musical form was introduced with the identification of motives, sequences, phrases and common large forms, such as through-composed, binary, rounded binary, ternary, rondo, and theme and variations. Common musical terminology and directions were taught. The identification of keys and tonalities, and the function of the primary triads (I, IV, and V) were explored. Sight-reading and the study of repertoire from the text were assigned regularly. Sightreading took place during the class sessions. Repertoire was introduced in class and assigned for weekly repertoire quizzes. Much of the repertoire used in the class came from the class text, but some supplementary pieces were assigned from the Bastien "Piano for Adults, Books 1 and 2," method books (1999). Students in both classes also

had limited opportunities to write musical notation, harmonize simple melodies, improvise, transpose and play by ear.

The class text introduced music reading in the following manner and was used in both the control and experimental classes. Simple repertoire using only finger numbers was taught first, along with note values from the eighth note to the whole note. The musical alphabet and the names of the white keys were introduced next, and the students were given repertoire to practice using simple rhythms and note names. By the third week of classes, students were reading notes on and around one or two staff lines, followed by the complete treble and bass staves. Intervallic reading by steps (2nds) and skips (3rds) on single and double lines was introduced in the text before actual reading on a staff took place. Repertoire was initially written on single and double lines. The treble and bass staves were introduced by learning treble clef G and bass clef F, then the C's from middle C to two octaves above and two octaves below middle C. All other notes were learned by their proximity to these notes. By the fourth week of classes, all repertoire was read on both the treble and bass staves and consisted of single melodic lines or melodies accompanied by single notes and/or intervals up to a fifth. As the semester progressed, larger intervals, triads, inversions of triads, and finally seventh chords were used to harmonize simple melodies. As a new concept was introduced, it was applied to repertoire to be practiced and learned.

Common tonal patterns for keyboard found in beginning method books were taught in both classes, such as major and minor pentascales, scales, triads and inversions, and seventh chords. As each pattern was introduced, passages containing the patterns were identified in assigned repertoire. Some repertoire featured these patterns, giving the student practice in applying the new concept to keyboard playing. The curriculum for

both classes was identical until the third week of classes, when additional tonal patterns for keyboard were introduced to the experimental group.

Pattern instruction for the experimental group began the third week of classes when the text introduced note reading on and around a single line. The control group was instructed to look for directional movement by 2nds and 3rds, or notes that repeated. The experimental group received the same instruction, but was also presented with three- and four-note tonal patterns that appeared in the first reading assignment in the text. (See Appendix C.) The patterns were initially presented to the class on 7" by 11" flash cards designed by the researcher. The cards each contained one pattern drawn with quarter notes on and around a single or double line. Each pattern was identified or labeled (three repeated notes, three-note descending, step-up-step-down), and then instructions were given about how to decode or perform the pattern. The students were asked to perform each pattern beginning on different, random notes. Then the musical exercises on page 43 of the text were examined, line by line, for the same patterns. (See Appendix C.) After the patterns were verbally identified, the students were instructed to perform one line at a time. It was pointed out to the students that although many patterns were confined to a measure, some patterns could extend over a barline into another measure or more. Patterns could also be found, not only as equal quarter notes, but in rhythms of differing note values. Exercise "a" from page 43 of the text, for example, contained five different tonal patterns. (See Appendix C.) These included the three repeated-note pattern (measures one and five), the ascending three-note pattern (measure two), the repeat-once-step-up pattern (measures three and four), the descending three-note pattern (measure six), and finally the step-up-step-down pattern (measures seven and eight). Some of these patterns were confined to one measure and consisted of quarter notes.
Two were extended over two measures and consisted of a half note, quarter note, and dotted-half note.

Example "b" on the same page addressed different issues. (See Appendix C.) Two of the patterns in this example combined the intervals of a second and a third. These patterns (down-a-third-up-a-step) were found in measures one and two, and seven and eight. One pattern immediately repeated a step higher (measures five and six). One pattern was an elaboration of the first pattern (measures three and four). The patterns were identified, practiced beginning on random notes, and then performed as written. This activity was repeated in each of the exercises to follow, as well as in each sightreading and repertoire assignment throughout the semester.

Beginning repertoire for both groups was found in the text and was written on one or two staff lines. "Round Dance" was one of the first repertoire pieces for both groups. (See Appendix D.) While the control group read by interval and directionally, the experimental group identified and practiced the following patterns contained in the piece: Step-up-step-down (measures one and two, and nine and ten), five-note ascending (measures six, and fourteen and fifteen), the "musical frown" (measures seven and eight), ascending three-note, descending third (measure eleven), and three-note ascending (measures twelve and thirteen). Once the patterns were drilled and learned, students were asked to locate them in "Round Dance" before performing the piece.

A similar teaching process was followed after the students began reading on the treble and bass clef staves and had learned the names of the notes on each staff. Common tonal patterns were drawn on 7" by 11" cards near the bottom of the narrow end. The cards were inserted into a transparent photo album sleeve that had the treble and bass staves drawn on one side. The pattern could be moved up and down to start on any line

or space of either staff. Students practiced identifying the starting note of a pattern, finding that note on the keyboard, and then performing the pattern. Patterns to be performed in new repertoire were practiced independently first, then identified in the new piece. Finally, the new piece would be performed. One example is seen in "Lightly Row," a duet found on page 126 in the text. (See Appendix E.) Part one was examined first for patterns. Once the initial pattern in measure one (down-a-third, repeat) was identified, the students were asked to scan the piece to see if and where the pattern repeated (measures two, five, six, thirteen, and fourteen). The starting notes of the patterns were identified, and then the students practiced playing the patterns beginning on those notes. The process was completed by a performance of all of part one. Part two was also examined for a repeating pattern. The entire piece consisted of only one pattern played between the two hands beginning on either bass clef C or F. The pattern was practiced, and then part two was performed. The class was then divided in half, and the piece was performed as a duet.

Some pieces, such as "Rigaudon" were discovered to contain only four or five patterns that repeated throughout the entire piece. (See Appendix F.) Once the patterns were identified and located in the piece, the piece was performed.

As the class progressed, patterns containing larger intervals were identified, drilled, and applied to repertoire and sight-reading. The sight-reading examples on page 167 of the text were approached in a similar manner as the performance repertoire. (See Appendix G.) Students were instructed to scan the exercise for patterns following identification of the key. Example "e" contains patterns using a fourth and a fifth. The blocked thirds and fourths in the treble clef were also identified as a repeating pattern with rhythmic and tonal qualities. Each time the class was asked to sight-read new

material, this process was repeated. "Night Flight" was used to introduce the cadential/ accompaniment pattern of an ascending fifth and fourth, or descending fourth and fifth. (See Appendix H.) Once again, the pattern was introduced, practiced, and then applied to the piece.

Occasionally, as time allowed, patterns were randomly practiced in class using either the flash cards inserted into the photo album sleeve or by drawing various patterns on the staves painted on the chalkboard at the front of the classroom. When the latter method was used, the researcher randomly pointed at a pattern, skipping from pattern to pattern. Students were asked to verbalize the starting note, locate that note on the keyboard, and then perform the pattern together as a class. As the semester progressed, the students were no longer asked to verbalize the starting note but were given four beats to find the next pattern before performing it together as a class. The researcher would point to the pattern, count four beats, and then cue the class to perform during the next four beats. The new pattern was indicated during the next four beats of rest, followed by the performance of the new pattern. This process continued until all of the patterns were performed.

In order to begin data collection, the researcher obtained approval from the University Committee on Research Involving Human Subjects (UCRIHS). (See Appendices I and J.) The researcher had originally conducted a pilot study the previous year with permission from UCRIHS. This permission was extended for a second year when actual data collection for this study took place. Late in each semester, the researcher invited those participating in the study to take two separate sight-reading tests that would be audio-taped. Participation in data collection was voluntary, and consent forms were signed by each student who agreed to participate.

(See Appendix K.)

During the final three weeks of each semester, twelve students from each group were tested in two different sessions that were two weeks apart. The students were taped one at a time in the piano pedagogy library where they had privacy and no distractions from other students. The process was as follows:

- 1. Each student read one piece at the first session and two pieces at the second session.
- 2. The student was given two minutes to scan a piece before sight-reading it. He was not allowed to play during this time, but could trace the notes silently on the tops of the keys. The researcher left the room during the scanning period so that the student would feel more at ease.
- 3. The student was audio-taped sight-reading the piece. The researcher remained in the room during the taping.
- 4. The researcher left the room for five minutes during which the student practiced the piece that he just sight-read. The student was allowed to practice in any manner that he chose.
- 5. After practicing, the student was audio-taped performing the piece in the presence of the researcher.
- 6. The same process was followed at the second session for each piece.

The piece read at the first session was, "Carefree," by Daniel Gottlob Turk. (See Appendix L.) At the second session, "Polka," by Dmitri Kabaevsky, and "Fifes," by the researcher were taped. (See Appendices M and N.) This repertoire was selected as a result of a pilot study conducted on class piano students the year before. It was discovered that the repertoire previously chosen was too difficult for students from both classes to read comfortably, so easier pieces were chosen for this study.

"Carefree," by Turk, was chosen based on the patterns present in the piece. (See Appendix L.) The researcher was also curious to see how the students from each group would perform the final two measures of the piece. Previous teaching experience had revealed that beginning students have difficulty reading contrapuntal keyboard music, particularly when the two hands are playing two independent patterns or lines. It was hoped that those students who had received pattern instruction would read these two measures with greater success than those who had not received pattern instruction. Instruction was given to the experimental group at one point late in the semester concerning the reading of music with two independent lines in the two hands. Students were told to look for patterns in both clefs. Often one clef would contain a pattern that was easier to read and play. If a mental note were made of that pattern, then the student could direct his conscious attention to the more difficult pattern, while playing the easier pattern in the other hand from memory.

The researcher chose "Polka," by Kabalevsky, because of the unique challenges for the beginner of reading both hands in the treble clef, as well as playing a melody in the left hand and an accompaniment in the right hand. (See Appendix M.) It was hoped that pattern reading would help the experimental group read the left hand with greater ease than the control group.

The researcher sought in vain to find a simple piano composition to read consisting of leger-line notes, so she composed "Fifes" to test the students' ability to sight-read notes above the treble clef staff. (See Appendix N.) It had been the researcher's experience that students with previous piano and general musical instruction

had little or no experience reading notes above or below the staves, since most beginning literature is limited to notes on the staff. The researcher sought to discover if those students with pattern instruction would be able to read leger-line notes with greater accuracy than those who did not have pattern instruction. It was the researcher's belief that those who decoded musical notation solely by recognizing note names would have a more difficult time reading unfamiliar notes than those who could also read patterns.

Following the sight-reading test, the researcher discovered that one of the students who participated in the study from the control group had more previous piano experience than she had revealed on the first day of class. Her response on the musical experience card indicated that she had no previous piano experience. However, upon hearing her sight-read with greater ease than her classmates, the researcher questioned the student and found that she had taught herself to play the piano prior to taking the course. This student was eliminated from the study based on her prior piano experience. The control group now contained eleven subjects.

The researcher also found it necessary to remove two students from the experimental group who had participated in data collection. These students had a high number of absences from the class and were not present for much of the pattern instruction. It was felt that these students did not accurately represent the experimental group. This left the experimental group with ten subjects.

The recordings of the sight-reading sessions were randomly scrambled so that the subjects from the control group and the experimental groups were interspersed throughout the master tape. The researcher had introduced each subject during the initial taping by assigning a number to the student. The number of the student was announced on the tape each time before he performed. The researcher was able to determine which

student belonged to each group by the number assigned. After the students were randomly scrambled on a master list, each was assigned a new number in the order of his performance on the new tape. The recordings of "Fifes" were dubbed first on the master tape, followed by "Carefree" and "Polka."

The master tape was copied and distributed to two graduate students from Michigan State University during the summer of 2002. Both students were piano performance and/or piano pedagogy majors with previous teaching experience. The performances were evaluated based on two dimensions: a) tonal accuracy, and g) rhythm accuracy and fluency. The criterion measures used for this study were a tally of incorrect notes for tonal accuracy, and a five-point continuous rating scale for rhythm accuracy and fluency. Dimension one, tonal accuracy, was evaluated by keeping a tally of each of the following errors:

- 1. Incorrect notes
- 2. Omitted notes
- 3. Extra notes
- 4. Missed accidentals
- 5. Repetitions of a note
- 6. "Start-overs": One tally per "start-over" was given even if two or more notes were replayed. If in both the initial performance and in the "start-over" a mistake was made and repeated, the mistake was tallied each time.

Barely perceptible "stumbles," such as a quick "grace" note effect from a finger that bumped another key while attempting to play the correct note, were not tallied as incorrect notes. Dimension two, rhythmic accuracy and fluency, was evaluated with the following five-point rating scale:

5 – Uses all correct rhythms and plays with a steady tempo with barely perceptible pauses, if any.

4 – Plays with few (up to 3) incorrect rhythms and/or few pauses and "startovers." The performance is basically steady.

3 – Plays with several incorrect rhythms and/or several pauses and "start-overs."

The performance is somewhat halting.

2 - Plays with many incorrect rhythms and/or many pauses and "start-overs."

The performance is not fluent, but halting and unsteady.

1 – Plays with mostly incorrect rhythms and/or very many pauses and "startovers." The pauses are often long. The performance is not fluent, but halting and "painful" to listen to.

<u>Analysis</u>

One-tailed t tests were used to determine whether there were significant differences in the mean ratings of the pieces as performed by those subjects who received pattern instruction and those students who did not.

Chapter 4

RESULTS AND INTERPRETATIONS

Inter-judge Reliability

In order to determine the reliability of the ratings between the two judges, their results were correlated using the Pearson Product Moment Formula. Below are tables of the correlations between the judges for each of the two performance conditions.

Table 1

INTER-JUDGE RELIABILITY

TONAL (Dimension 1)

	"Fifes"	"Carefree"	"Polka"
Sight-reading	.782	.825	.853
Practice	.831	.917	.877

The correlation was high in the tonal dimension.

Table 2

INTER-JUDGE RELIABILITY

RHYTHM (Dimension 2)

	"Fifes"	"Carefree"	"Polka"
Patterns	.819	.462	.808
Non-pattern	.810	.521	.782

The correlation between judges was high for "Fifes" and "Polka" in the rhythm dimension, but low in "Carefree." The low correlation in "Carefree" was due to a great

number of tonal errors, both in sight-reading and after practice. Because the subjects experienced great difficulty in reading the selection, it was impossible for them to maintain rhythmic regularity. It was equally as difficult for the judges to properly evaluate their rhythmic performance.

Tonal Accuracy Results

There were no statistically significant differences in the tonal accuracy of those who received pattern instruction and those who did not for individual songs or for the composite tonal ratings. (See Tables 3 through 7.) However, the means showed a tendency for the group receiving pattern instruction to read with greater tonal accuracy than the group that did not receive pattern instruction. This tendency was found in all three pieces, both when sight-reading and when reading after practice, as well as in the composite and total tonal ratings.

Table 3

"Fifes" Sight-readir	"Fifes" Sight-reading					
	М	SD	t	P		
Patterns	10.200	8.548		*		
			-1.152	.26		
Non-pattern	15.091	10.653				
"Fifes" After Practi	ce					
Patterns	3.300	3.164				
			-1.152	.26		
Non-pattern	5.364	4.154				
p > .05						

TONAL ACCURACY RESULTS (Dimension 1)

Table 4

"Carefree" Sight-re	ading			
	M	SD	t	Р
Patterns	44.200	17.637		
			409	.69
Non-pattern	46.909	12.534		
"Carefree" After Pr	actice			
Patterns	30.000	17.582		
			360	.72
Non-pattern	32.545	14.767		
p > .05				

TONAL ACCURACY RESULTS (Dimension 1)

Table 5

	TONAL ACCU	RACY RESULTS	(Dimension 1)	
"Polka" Sight-readi	ng M	SD	t	P
Patterns	30.500	10.886	654	.52
Non-pattern	35.455	21.556		
"Polka" After Pract	ice			
Patterns	20.500	14.624	524	.61
Non-pattern	24.273	18.001		
p > .05				

Table 6

COMPOSITE TONAL ACCURACY RESULTS (Dimension 1)

Sight-reading			•	,
	M	SD	t	Р
Patterns	84.900	30.461		
			979	.34
Non-pattern	97.545	28.721		
After Practice				
Pattern	53.800	30.331		
			633	.53
Non-pattern	62.182	30.245		
p > .05				

Table 7

TO	TAL TONAL AC	CURACY RESU	JLTS (Dimension	1)
	М	SD	t	Р
Patterns	138.700	57.948	- 852	41
Non-pattern	159.818	55.643	052	. 1 1
p > .05				

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Tonal Accuracy Interpretations

The means indicate that the experimental group, who received pattern instruction, read better in each piece, both while sight-reading and after practice. This was also true in the composite and total tonal results. However, the differences between the two groups were not enough to be significant. The researcher believes that there are several possible reasons for these results.

Although both groups began with twenty possible subjects per class, that number was cut in half by the time the researcher conducted the sight-reading tests. This was due to the preliminary sight-reading test given early in each semester that eliminated those with proficient sight-reading ability on the keyboard, the number of students per class that actually volunteered to participate in testing, and the further elimination of one student from the control group and two from the experimental group that did not accurately represent the rest of the class. The sample that remained was too small to reveal a significant difference in the tonal results. The researcher also found that two from the experimental group who participated in the reading tests, read considerably poorer than the rest of the subjects in that group, affecting the overall performance of the group. Again, a larger sample may have not been as affected by their performance.

Another possible explanation for the results could be the difference in the personality of each group. It had been the researcher's experience in teaching the class the previous two years, to find classes that were relatively equal in intelligence, motivation, and general attitude from semester to semester. This did not prove to be the case during the 2001 – 2002 school year. The control group as a whole contained a large number of students who were highly motivated and energetic. These students were quite vocal in class, displaying an unusual amount of curiosity and exuberance. Students would often arrive early and leave late in order to ask questions, practice, and interact with one another. Often, a more experienced student would be observed helping a less experienced student both during and outside of class. On a couple of occasions, various students asked the researcher for more difficult music to practice in place of the assigned repertoire. Class participation was high during tonal and rhythmic drills. Almost every student was prepared for both written and repertoire quizzes.

Almost the opposite was found to be true in the experimental group. In fact, this class was the most difficult class for the researcher to teach in all six semesters of teaching Music 147. A large number of students regularly displayed apathy by skipping class, skipping quizzes, and not preparing for written and repertoire quizzes. There were also a few students who were ill during the semester, which caused them to fall behind in their assignments. It was observed that during drill work in class, both pattern and non-pattern, a large number of students chose to sit and observe rather than to participate. Many students were not prepared for repertoire quizzes, indicating that they did not practice. Although the students who actually participated in the sight-reading test were largely the top students in the class academically, they did not display the attitude and preparation of the control group the semester before.

Another possible reason for the results could be the difference in the musical background of each group. All of the subjects for this study had some kind of previous musical training or experience. However, this background was not equal between the two groups. Out of those who actually participated in the study, it was found that the control group had a stronger musical background than the experimental group. Six members of the control group had a strong musical background, compared to three in the experimental group. Those students that the researcher considered to be strong were those who had participated in band or choir all through high school or even beyond. Three in the control group had minimal training in the reading of notation compared to four in the experimental group. The researcher defines minimal experience as those who had received musical instruction in elementary school or middle school, but had not continued instruction beyond that time. Two students in the control group could not read notation compared to three in the experimental group at the beginning of the class. This difference in background could explain the control group's ability to decode tonal notation with nearly equal ability as the experimental group.

It is possible that neither group received enough instruction before data collection. Music 147 is a fifteen-week course with one week at mid-term devoted to oral presentations on a topic of the student's choice and the final week devoted to final exams. Each subject had only been studying the piano for about three months when the sightreading tests were administered. In these three months, the students of Music 147 learned what a normal child would learn in approximately three years of piano instruction. The students had an insecure mental knowledge of the fundamentals of music and were novices when it came to reading and performing keyboard literature. The researcher noted that many mistakes were due to the students' inability to properly identify notes on

the staff under the pressure of testing. It is possible that different results could have been found had the study been conducted over an entire school year or longer. The subjects would have been more secure in both reading and pattern recognition.

Finally, the sight-reading repertoire that was chosen for collecting data may not have accurately measured the subjects' ability to recognize and sight-read patterns. The researcher had a difficult time finding repertoire that was simple enough to sight-read yet still contained patterns that the experimental group had learned throughout the semester. A pilot study conducted the year before with different repertoire revealed that the chosen repertoire was much too difficult for the subjects to read. The researcher attempted to use classical literature, but the subjects had read largely folk music and music from two different method series throughout the semester that contained many clear patterns. The students were not as experienced in the reading of classical literature. "Carefree" was particularly difficult for them to read, as evidenced by the high number of tonal errors and the judges' difficulty in rhythmic evaluation. (See Tables 2 and 4.) All three pieces contained tonal patterns that both groups had learned to recognize and read. (See Appendices L, M, and N.) The melody in "Fifes" was largely based on a pentascale. Both groups had been taught to recognize patterns based on pentascales. "Carefree" contained repeated-note patterns and a pentascale that both groups could recognize and play. "Polka" contained triadic patterns and a pentascale that, again, both groups had been taught to recognize and perform. Only measures two and three contained different patterns.

Tonal accuracy results and interpretations of individual pieces

The researcher asked the judges not only to evaluate the performances for tonal errors as a whole, but also measure by measure to see if pattern reading would assist in specific situations. "Fifes" was composed and selected by the researcher for its use of leger-line notes. It was the researcher's experience that students with previous musical training also had limited experience in reading notes off the staff. If students with a strong musical background were relying on individual note recognition to read, they would display difficulty in reading notes that were unfamiliar. Other methods of decoding would have to be used to read these notes with ease. Both groups were taught interval reading as well as the recognition of patterns based on pentascales and triads, since these methods are commonly used in piano instruction today. "Fifes" makes use of pentascale patterns as well as intervals from the second to the fifth. Both groups had equal success in the reading of the measures containing pentascales and larger intervals written in slower rhythmic notation. However, measure five contains a more complicated tonal pattern, not based merely on a pentascale. Because note values are quicker in this measure, interval reading would be not as useful in decoding the notation, particularly for the beginner. (See Appendix N.) It was found that the experimental group had greater success in the reading of the pattern in measure five than the control group, both while sight-reading and after practice. The greatest difference was seen after practice. (See Table 8.)

Table 8

	Sight-reading Judge 1	Sight-reading Judge 2	Practice Judge 1	Practice Judge 2
Patterns	2	1.7	.2	.2
Non-patterns	2.18	2.45	.91	1.09

AVERAGE TONAL ERRORS IN MEASURE FIVE OF "FIFES"

The numbers in Table 8 indicate the average number of errors per group in measure five of "Fifes". These trends indicate that those students who have been instructed to recognize and read patterns have greater success reading notation that is unfamiliar by using pattern recognition to decode notation. Since these students had not been reading keyboard music for very long, both groups were weak in sight-reading skills. Perhaps there would have been more of a difference in the sight-reading results, as there was after practice, if they had been playing longer prior to the testing.

"Carefree," by Turk, was selected to see if beginning piano students would have more success reading two independent lines if they were instructed in the recognition and reading of tonal patterns. The researcher was particularly interested in the students' ability to read measure 7. (See Appendix L.) It was found that both groups were fairly equal in their ability to sight-read the measure, but a noticeable difference was seen after practice. The difference was not as dramatic as seen in "Fifes," but the notation was much more complex in this case. (See Table 9.) The equal sight-reading ability may, again, be attributed to lack of experience coupled with the difficulty of the notation. However, the difference after practice indicates that the experimental group may have used pattern recognition to assist in practicing.

Table 9

	Sight-reading Judge 1	Sight-reading Judge 2	Practice Judge 1	Practice Judge 2
Patterns	6.6	6.5	3.5	4.3
Non-patterns	7.82	6.27	5.36	6.36

AVERAGE TONAL ERRORS IN MEASURE 7 OF "CAREFREE"

"Polka" by Kabalevsky was chosen for the left hand melody that was read in the treble clef rather than the usual bass clef, as well as for the patterns in the left hand. (See Appendix M.) The researcher did not find any notable difference in the reading of left hand patterns between the two groups. This is no doubt due to the fact that the patterns were largely triadic and based on a pentascale, and both groups knew how to read these patterns. In a couple of cases in this piece as well as the other two pieces, a student from the experimental group performed the correct pattern but began the pattern on the wrong note. The researcher believes that these students were still weak in identifying notes written on the staff. This tendency was usually corrected after practicing the piece. Many students in both groups read the accompanying intervals in the right hand of "Polka" incorrectly. It was most commonly observed that the thirds were played with incorrect notes, and the sixths were performed as fifths in these cases. This can be explained, again, as a weakness in identifying notes on the staff as well as inexperience in performing intervals of a sixth. Much of the repertoire used throughout the semester used the intervals of a fifth or smaller to accompany a melody.

Rhythm Accuracy Results

There were no statistically significant differences in the rhythmic accuracy and fluency of those who received pattern instruction and those who did not for individual

songs or for the composite rhythmic ratings. The mean trends varied from piece to piece between the two groups, with the control group reading with slightly better rhythmic fluency and accuracy than the experimental group in "Fifes" and "Polka," but the experimental group reading better in "Carefree." The composite and total mean differences indicated a slight tendency for the control group to read with greater rhythmic accuracy and fluency than the experimental group. (See tables 10 - 14.)

Table 10

H	RHYTHM ACC	URACY RESUL	ΓS (Dimension 2)	
"Fifes" Sight-readin	g			
	M	SD	t	Р
Patterns	6.150	1.334		
			727	.48
Non-pattern	6.636	1.690		
"Fifes" After Practic	ce			
Patterns	7.000	1.472		
			-1.087	.29
Non-pattern	7.682	1.401		
p > .05				

Table 11

1		UKACI KESULI	S (Dimension Z)	
"Carefree" Sight-rea	ading			
	М	SD	t	Р
Patterns	4.000	.577		
			1.668	.11
Non-pattern	3.318	1.168		
"Carefree" After Pra	actice			
Pattern	5.350	.851		
			1.696	.11
Non-pattern	4.455	1.457		
p > .05				

RHYTHM ACCURACY RESULTS (Dimension 2)

Table 12

-				
"Polka" Sight-readi	ng			
	М	SD	t	Р
Patterns	5.050	1.066		
			496	.63
Non-pattern	5.409	2.047		
"Polka" After Pract	ice			
Patterns	6.300	1.274		
			795	.44
Non-pattern	6.818	1.662		
p > .05				

RHYTHM ACCURACY RESULTS (Dimension 2)

Table 13

.

COMPO	OSITE RHYTHM	1 ACCURACY R	ESULTS (Dimens	sion 2)
Sight-reading				
	Μ	SD	t	Р
Patterns	15.200	2.312		
			131	.90
Non-pattern	13.364	3.287		
After Practice	· · · <u>· · ·</u> · · · · · · · · ·			
Patterns	18.650	2.636	· · · · · · · · · · · · · · · · · · ·	
			217	.83
Non-pattern	18.955	3.664		
p > .05				

Table 14

	Μ	SD	t	Р
Patterns	32.850	6.236	520	(1
Non-pattern	34.318	6.653	520	.01

Rhythm Accuracy Interpretations

The rhythm accuracy results appear to indicate that the control group read with greater rhythmic accuracy than the experimental group, with the exception of "Carefree."

This difference was slight, overall. The researcher believes, again, that this is due to the stronger musical background found in the control group as opposed to the experimental group. The control group would have had more experience reading rhythms than the experimental group. The reading of rhythm patterns would not be affected by a change in instrument as much as the reading of tonal patterns.

There was no difference in the amount of rhythmic instruction or testing between the two groups as there was in tonal keyboard pattern instruction. Both groups received the same instruction in the reading of rhythms. However, as stated earlier, the control group was observed to participate more in the actual clapping and counting of rhythms during rhythm exercises as opposed to the experimental group. Many in the experimental group refrained from active participation. The researcher believes that this contributed to a weakness in the experimental class as a whole in performing rhythms.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH

Purpose and Problems

The purpose of this research was to determine whether regular tonal pattern instruction with college class piano students would be effective in developing sightreading skills. The problems of the study were to determine if college class piano students receiving regular tonal keyboard pattern instruction would become significantly stronger sight-readers than those receiving traditional sight-reading instruction without pattern instruction and to determine if these same students would read significantly better after a short period of practice than students who did not receive tonal pattern instruction.

Design and Analysis

Twenty-one college students from Music 147, Elementary Class Piano, at Michigan State University participated in the study. Eleven students from the Fall 2001 class formed the control group and were taught the rudiments of music reading using traditional methods of piano instruction. Ten students from the Spring 2002 class formed the experimental group, receiving the same instruction as the control group with additional instruction in the recognition and performance of common tonal keyboard patterns. Prior to the experiment, the researcher identified common tonal patterns found in early-intermediate classical keyboard literature by examining two collections of repertoire. The patterns found in these collections were introduced and practiced throughout the spring semester. All performance repertoire and sight-reading exercises were examined for tonal keyboard patterns prior to reading. At the end of each semester, the subjects were audio-taped sight-reading three different selections. They were taped again after practicing each selection for five minutes. The recordings were given to two judges for evaluation on two dimensions: a) tonal accuracy and b) rhythm accuracy and fluency. The criterion measures consisted of a tally of tonal errors for dimension one, and a five-point continuous rating scale for rhythm accuracy for dimension two. One-tailed "t" tests were use to determine whether there were significant differences in the mean ratings between those who received traditional piano instruction and those who received pattern instruction.

<u>Results</u>

There were no statistically significant differences in the tonal or rhythm accuracies of those who received pattern instruction and those who did not. However the means showed a tendency for the group receiving pattern instruction to read with greater tonal accuracy than the group that did not receive pattern instruction in all three pieces. Individual measures isolated in two of the selections that contained more complex patterns written off the staff and contrasting patterns between the two hands also showed a greater degree of tonal accuracy for the group receiving pattern instruction than for those who did not receive pattern instruction, particularly after practice.

Conclusions and Recommendations for Future Research

Beginning piano students receiving tonal pattern instruction using patterns drawn from classical literature may read with greater tonal accuracy than those who do not receive pattern instruction. However, the results of this study were not significant and therefore not conclusive. Tonal pattern instruction for keyboard may be helpful with reading notation that is not familiar to beginning piano students, such as notes off the

staff. Tonal pattern instruction also may be helpful in reading complex notation such as two independent lines between the two hands. This is particularly true after a short period of practice. Tonal pattern instruction on the keyboard may help a student learn a new piece more quickly as he practices that piece. Rhythmic accuracy does not appear to be affected by tonal pattern instruction on the keyboard. Beginning piano students in both a studio and class setting may benefit from regular tonal pattern instruction on the keyboard along with traditional instruction.

The two groups used in this study were not equal in musical background, motivation, or attitude. This inequality, along with the small sample, a short period of instruction, and a poor choice of sight-reading repertoire for collecting data, may have affected the outcome of the results. Since previous studies involving beginning students on wind and string instruments found tonal pattern instruction to produce a significant improvement in reading skills, the researcher believes it is still possible for beginning pianists to experience the same improvement. Because the results of this study also indicated a consistent tendency for those receiving pattern instruction to read better tonally, the researcher believes that a study conducted under different circumstances could produce more conclusive results. Therefore, the researcher believes that future research is necessary to determine if tonal pattern instruction on the keyboard can produce a significant difference in the sight-reading and general reading ability of the beginning piano student.

The researcher recommends using children who have no musical background or training to draw upon, rather than college-age students with varying degrees of previous musical training. A larger sample may provide different results, as well as a study conducted over a longer period of time. Tonal pattern instruction may be more effective

if taught systematically. The researcher recommends teaching simple patterns first such as patterns based on repeated notes and seconds. One might progress to patterns containing thirds and larger intervals as the initial patterns are reviewed. Perhaps instruction would be more effective if the students were introduced to the patterns aurally before reading them in notation. Singing the patterns as well as learning them by rote or imitation could also precede reading notation. Once the students are reading patterns, constant practice both in isolation and in the context of musical selections may facilitate recognition and reading. Just as one does not learn to read language by reading the same paragraph over and over, perhaps piano students could benefit from reading patterns in a variety of musical examples. Since the pianist is faced with reading two staves at the same time, the researcher recommends incorporating the use of both hands into the practice of reading tonal patterns. The students could possibly practice patterns in one hand while playing a simple accompaniment in the other. Even during rote practice an open fifth or triad could accompany a pattern to prepare the student for reading both staves. Beginning piano students may also benefit from writing tonal patterns out in musical notation. Perhaps patterns could be assigned to be transposed or written through melodic dictation.

The patterns taught should be those actually found in keyboard literature, regardless of whether they repeat within a piece. The student should be able to recognize a tonal pattern as easily as a single note, interval, or chord. Three-note patterns and a few four- or five- note patterns should constitute the majority of patterns taught.

The researcher's own experience using tonal pattern instruction with younger students in a studio setting has indicated that piano students who are taught to recognize and read groups of notes tend to read with more confidence, accuracy, and fluency than those who

read single notes or intervals alone. Interviews with college-age students who did not participate in the study but were enrolled in Music 147 with previous piano experience also revealed that tonal pattern instruction aided them in learning to read with fluency. Based on this evidence, the tendency for the subjects in this study to read better tonally, and the results of studies conducted with other instrumentalists, the researcher believes that research involving the use of tonal pattern instruction with beginning piano students should continue and might eventually result in the improvement of sight-reading skills in beginning pianists. APPENDICES

APPENDIX A

SIGHT-READING SCREENING TEST



LYNN FREEMAN OLSON



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APPENDIX B

Patter	ns Frequency (# of	fpieces)	Pattern	ns	Frequency
1.		<u>79</u>	13.		<u>17</u>
2.		<u>73</u>	14.		<u>16</u>
3.		<u>49</u>	15.		<u>16</u>
4.		<u>45</u>	16.		<u>15</u>
5.		<u>39</u>	17.		<u>14</u>
6.		<u>39</u>	18.		<u>13</u>
7.		<u>28</u>	19.		<u>13</u>
8.		<u>21</u>	20.		<u>12</u>
9.		<u>20</u>	21.		<u>12</u>
10.		<u>18</u>	22.		<u>±</u> 11
11.		<u>17</u>	23.		
12.		<u>17</u>	24.		<u> </u>

TONAL PATTERNS

APPENDIX B

Patte	erns	Frequency (#	of pieces)	Patter	ns	Frequency
25.			10	38.		<u>8</u>
26.			<u>10</u>	39.		<u>8</u>
27.			<u>10</u>	40.		<u>8</u>
28.			10	41.		<u>8</u>
29 .			<u>9</u>	42.		8
30 .			9	43.		2
31.			9	44.		7
32.			9	45.		6
33.			9	46.		<u>6</u>
34.			8	47.		6
35.			8	48.		<u>6</u>
36.			8	49.		6
37.			8	50.		6

TONAL PATTERNS (CONTINUED)

APPENDIX B

Pattern	ns F	requency (# of pi	eces)	Patterr	1S	Frequency
51.			<u>5</u>	64.		<u>4</u>
52.			<u>5</u>	65.		<u>4</u>
53.			<u>5</u>	66.		<u>4</u>
54.			<u>5</u>	67.		<u>4</u>
55.			<u>5</u>	68.		
56.			<u>5</u>			
57.			<u>5</u>			
58.			<u>4</u>			
59.			<u>4</u>			
60.			<u>4</u>			
61.			<u>4</u>			
62.			<u>4</u>			
63.			4			

TONAL PATTERNS (CONTINUED)

n. 51

APPENDIX C

TEACHING REPERTOIRE: READING ON A SINGLE LINE



b. Begin on A



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APPENDIX D

TEACHING REPERTOIRE: ROUND DANCE



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APPENDIX F

TEACHING REPERTOIRE: RIGAUDON

Rigaudon

ALEXANDER GOEDICKE (1877–1957)





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APPENDIX G






APPENDIX H

TEACHING REPERTOIRE: NIGHT FLIGHT

Night Flight

LYNN FREEMAN OLSON





APPENDIX I

UCRIHS APPROVAL

MICHIGAN STATE

UNIVERSIIY

December 7, 2000

- TO: Midori KOGA 4665 Jadestone Dr. Williamston, MI 48895
- RE: IRB# 00-736 CATEGORY:1-A, 1-B

APPROVAL DATE: November 14, 2000

TITLE: THE EFFECT OF TONAL PATTERN INSTRUCTION ON THE SIGHT-READING ACHIEVEMENT OF COLLEGE CLASS PIANO STUDENTS

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project.

RENEWALS: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Projects continuing beyond one year must be renewed with the green renewal form. A maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for a complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of further assistance, please contact us at 517 355-2180 or via email: UCRIHS@msu.edu. Please note that all UCRIHS forms are located on the web: http://www.msu.edu/user/ucrihs

STUDIES University Committee on Research Involving

Human Subjects

Michigan State University 246 Administration Building East Lansing, Michigan 48824-1046

517/355-2180 FAX: 517/353-2976 5: www.msu.edu/user/ucrihs E-Mail: ucrihs@msu.edu Annin

Ashir Kumar, MD Interim Chair, UCRIHS

Sincerely



OFFICE OF

AND

RESEARCH

GRADUATE

UCRIHS RENEWAL

MICHIGAN STATE

November 27, 2001

- TO: Midori KOGA 4665 Jadestone Dr. Williamston, MI 48895
- RE: IRB # 00-736 CATEGORY: 1-A, 1-B EXEMPT RENEWAL APPROVAL DATE: November 26, 2001
- TITLE: THE EFFECT OF TONAL PATTERN INSTRUCTION ON THE SIGHT-READING ACHIEVEMENT OF COLLEGE CLASS PIANO STUDENTS

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS APPROVED THIS PROJECT'S RENEWAL.

This letter also approves the revised consent form.

RENEWALS: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Projects continuing beyond one year must be renewed with the green renewal form. A maximum of four such expedited renewal are possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.



PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of further assistance, please contact us at 517 355-2180 or via email: UCRIHS@pilot.msu.edu.

OFFICE OF RESEARCH AND GRADUATE STUDIES

Sincerely,

Ashir Kumar, M.D.

UCRIHS Chair

mutu

University Committee (n Research involving Human Subjects

Michigan State University 246 Administration Building East Lansing, Michigan 48824-1046

517/355-2180 FAX: 517/353-2976 AK:

K: bd

65

APPENDIX K

CONSENT FORM

Dear student.

I would like to invite you to participate in a study that I am conducting this year at Michigan State University. This study concerns the sight-reading and general music reading ability of college class piano students receiving two slightly different methods of music reading instruction in the two semester of class piano during the 2001-2002 school year. The purpose of the study is to improve music reading and sight-reading instruction for future piano students.

At the end of each semester I will be administering two separate music reading tests to each student in the Music 147 class. Students will be asked to sight-read one or two short piano selections at each session. They will be given two minutes to scan each selection before playing. The performances will be audio-taped. Following the initial reading, the student will be given five minutes per piece to privately practice the selections, followed by another taping of performances. There are no risks or benefits for you as a participant. The results of these tests will not influence or affect your grade in Music 147! It is hoped that your participation will result in better piano instruction for future piano students.

Full confidentiality will be maintained. Only I, as the researcher and examiner, will know the identity of each participating student. All students will remain anonymous in any report of research findings. Your privacy will be protected to the maximum extent allowable by law.

Participation in this study is voluntary, and you may withdraw at any time without penalty. If you have any questions or concerns about your rights as human subjects of research, please contact David Wright at:

> University Committee on Research Involving Human Subjects (UCRIHS) Michigan State University 246 Administration Building East Lansing, Michigan 48824-1046 (517) 355-2180

You may also direct any questions to me at (989) 288-5728 or paitasde@msu.edu.

I. (print name)

agree to participate in this study conducted by Debra Paitas by taking two music reading tests at the end of the semester in the Music 147 class.

(signature)

(date)

APPENDIX L

SIGHT-READING REPERTOIRE FOR DATA COLLECTION: CAREFREE

Carefree

Daniel Gottlob Türk (1756–1813)









APPENDIX M

SIGHT-READING REPERTOIRE FOR DATA COLLECTION: POLKA

Polka



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APPENDIX N

SIGHT-READING REPERTOIRE FOR DATA COLLECTION: FIFES

FIFES

DEBRA PAJTAS





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BIBLIOGRAPHY

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