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The Effects of Melodic Contour on Rhythm Pattern Identification Among Beginning Band Students

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By

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The accurate performance of melody and rhythm when playing a musical instrument is important for all instrumentalists. Although this is a primary component to most music education curricula, research investigating the effect of melody on rhythm reading is limited. Further understanding of this vital process in the performance of instrumental music would assist music educators in the development of effective lesson and rehearsal techniques to facilitate this process for their students.

The purpose of this study was to investigate the effect of melodic contour on rhythm pattern identification among beginning band students. Data were collected on participants’ ability to identify rhythm patterns from aural prompts consisting of either no melody, melody that moves by step, or melody that moves by leap. The researcher developed a fifteen question multiple choice rhythm pattern selection test. The subjects listened to a variety of rhythm patterns containing either no melodic movement, melody that moved by step, or melody that moved by leap. Subjects chose one of three possible non-melodic rhythm patterns for each question. Scoring was completed using a score of two points for each correct answer and one point for each incorrect answer. Scores were calculated and analyzed comparing the three presentation formats (no melody, melody by step, and melody by leap). Also compared were scores among the different elementary schools, instrument families, and reported previous instruction in instrumental music.

In the analysis of the data collected, a three-way ANOVA with repeated measures on three factors was conducted to determine differences among the groups. The repeated measures were the three scores received by each student reflecting the three melodic conditions, and the three factors were school attended, instrument family, and
previous experience. No significant differences were found for any comparisons, nor were there any significant interaction effects. While this study did not have any significant findings, further research is needed in the area of melodic and rhythmic processing in instrumental music performance.
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CHAPTER I

INTRODUCTION

For many musicians, the ability to read and comprehend music notation is of paramount importance for learning and performing music independently (Boyle, 1970; Petzold, 1966). This ability is often formed in the school music setting. For most school music programs, music literacy is one of the primary objectives of the music curriculum (Shehan, 1987). If the skill of music reading is not properly mastered by a student, he or she may become discouraged and frustrated, leading to a desire to discontinue participation in the school music program.

Frustration can be especially acute with beginning instrumental students. These students are typically required to learn how to read and comprehend music notation while in the process of learning the executive skills required to properly play an instrument. The amount of information a beginning instrumental student must process in order to produce one note is quite staggering. This list includes, but is not limited to: using correct posture, breath support, arm and hand position, fingerings, embouchure, tonguing, comprehending melodic pattern notation, as well as, rhythmic and stylistic symbols.

Rhythmic Reading Ability

Several factors must be taken into consideration when planning lessons for beginning instrumentalists. Among these, one of the most difficult is teaching rhythm reading and comprehension (Duke, 1994). According to Boyle (1970), “… there is general agreement among secondary instrumental teachers that it is during the first year or two of playing that the need for rhythm training is greatest” (p. 309). Students will face many problems with music reading if their rhythmic reading skills are not adequate
For example, errors in rhythm reading can also cause errors in sight-reading, tempo, and phrasing (Bebeau, 1982; Boisen, 1981; Boyle, 1970; Duke, 1994; Pierce, 1992).

Many researchers and music educators have attempted to devise procedures to assist the beginning instrumentalist develop accurate rhythm reading skills. Bebeau (1982), however, indicates rhythm reading procedures often used by music educators have faced little experimental research that indicates that one particular procedure is more effective than another. Also, there is little agreement among music educators as to the most efficient procedures used to teach rhythm reading (Dalby, 2005; Kendall, 1988; Shehan, 1987). It seems that while methods of teaching melodic concepts have been thoroughly researched, “methods of teaching rhythm notation appear to be less clearly defined and are less frequently subjected to empirical research” (Colley, 1987, p. 221).

**Procedures Used for Teaching Rhythm Reading**

The various procedures used by music educators to teach rhythm reading can be divided into three categories: 1) aural/verbal procedures, 2) kinesthetic procedures, and 3) a combination of aural/verbal, visual, and kinesthetic methods. Following is a description of the most popular procedures in each category and their variations.

Many music educators employ some type of syllable system to organize rhythms and teach rhythmic reading. Various examples of these systems are in existence (Colley, 1987) and some of the most familiar systems include those endorsed by Orff, Kodaly, Gordon, and Winslow-Dallin. These systems involve applying words, numbers, and/or monosyllables to a particular rhythm pattern in order to help the student perform the rhythm accurately (Bebeau, 1982; Colley, 1987).
The idea that movement can assist in the development of rhythmic reading skills has shown increased popularity in beginning instrumental music instruction throughout the past thirty years (Boyle, 1970; Dalby, 2005). “Jaques Dalcroze is credited with being one of the first to explore the possibilities of bodily movement as an aid in the teaching of rhythm” (Boyle, 1970). The methodologies of Gordon and Orff also stress the need for movement in any music program to achieve success with rhythm reading (Dalby, 2005). Different types of movement used by music educators include clapping, tapping the foot, and marking time to the underlying pulse (Boyle, 1970; Pierce, 1992; Shehan, 1987). Kelly (1997) suggests that using conducting instruction in the instrumental music classroom is also an effective procedure to improve individual rhythm reading abilities of students.

Often, the method used by music educators for rhythm reading instruction combines aural/verbal, visual, and kinesthetic methods (Kendall, 1988). An example of these combination procedures is the rote-before-note method. Shehan (1987) states that the rote-before-note method is employed by many music educators for the development of rhythm reading skills. This method requires the student to audiate rhythms through recall when the sound is not present. This occurs after having first developed an oral vocabulary of rhythm patterns (Shehan, 1987). This method often uses aspects of other types of procedures including rhythm syllables and clapping patterns. However, the rote-before-note procedure does not utilize music notation as in visual and combined aural/verbal, visual, and kinesthetic methods.

Using visual representations of rhythms, either actual notations or icons, in combination with aural stimuli is also a method that has been used in presenting rhythm
reading instruction to students (Persellin, 1992). Kendall (1988) states that this process of rhythm reading instruction may be desirable due to the fact that music reading requires three perceptual levels: auditory perception of musical sounds, visual perception of musical symbols, and an internalized process to organize auditory and visual perceptions.

**Current Rhythm Reading Instructional Procedures**

Though many procedures for the purpose of teaching rhythm reading are available to music educators, little agreement can be found regarding the effectiveness of each procedure (Dalby, 2005; Kendall, 1988; Shehan, 1987). There has also been little research that indicates one procedure’s effectiveness over another (Bebeau, 1982). While these procedures may assist in the development of students’ rhythm reading abilities, these procedures do not address other variables that may affect accuracy in rhythm reading.

Bebeau (1982) and Duke (1994) have found that tempo can greatly affect a student’s ability to accurately perform rhythm patterns. An individual’s perceptions of musical notation can also have a significant effect on rhythm reading ability (Boisen, 1981; Duke, 1994). Little research has been produced concerning rhythm reading incorporated with melody (Boisen, 1981). The melodic content of a rhythm pattern in a piece of music can play a significant role in an individual’s ability to correctly perform rhythm patterns in combination with melody (Boisen, 1981; Jeon & Fricke, 2006). For example, individuals often perceive pitches of higher frequency to also be longer in duration (Jeon & Fricke, 2006). Also, as stated by Boisen (1981): “Many rhythm reading errors may be caused by a discrepancy between the teaching of two elements of melody: pitch sequence and rhythm” (p. 166).
A lack of research exists for instruction of rhythm reading procedures. Also, little research has been based on the effect of melody on rhythm reading and comprehension. Therefore, rhythm reading in relation to melodic contour will be the focus of this study.

**Purpose of the Study**

The purpose of this study is to examine the effect of melodic contour on rhythm pattern identification among beginning band students. The study of rhythm reading ability in beginning instrumentalists has mainly focused on rhythm activities devoid of any melodic content. This study will attempt to determine if rhythm pattern identification of beginning band students is affected by the addition of melodic contour.

**Research Questions**

The following questions will be posed:

1. Is there a difference in the rhythm pattern identification scores of beginning band students for melodies of varying contour (step, leap, or no motion)?
2. Is there a difference in the rhythm pattern identification scores of beginning band students due to school, instrument played, or prior musical experience?
Definitions

Several terms used throughout this study are defined as follows:

Beginning Band Students: Those students in fifth grade who are participating in the beginning band program at three suburban elementary schools located in south-central Pennsylvania.

Melodic Contour: Pitch patterns that move by leap or step.

Limitations

The beginning band students participating in this study are in fifth grade at three suburban elementary schools located in south-central Pennsylvania. The three elementary schools selected for this study are all located within the same school district. The participants were tested using a non-performance measure. This non-performance setting is not an authentic assessment setting for these participants. The total number of subjects was low (N = 38).
CHAPTER II
RELATED LITERATURE

Purpose of the Study

The purpose of this study was to examine the effects of melodic contour on rhythm pattern identification abilities among beginning band students. Many music educators are still attempting to find the best possible method for teaching rhythm reading and comprehension to instrumentalists. Researchers have investigated the multitude of procedures used for teaching these concepts. This research, however, has not always resulted in clear answers and little agreement has been made as to which procedure provides the best results. Also, little research has been conducted to study the synthesis of rhythm reading abilities and melodic contour. Is the rhythm reading ability of beginning instrumentalists affected by the melodic contour of a piece of music?

This literature review will examine research based on rhythm reading instructional procedures. This will include procedures using syllables, words, and/or numbers (aural/verbal); kinesthetic procedures; and a combination of aural/verbal, visual, and/or kinesthetic procedures. Literature studying perception of notation and the effect of melodic context on rhythm reading abilities will also be reviewed.

The following is a review of literature based on various instructional procedures used by music educators to teach rhythm reading and comprehension. These studies were based on rhythm reading only and did not involve a melodic component.

Aural/Verbal Procedures

Colley (1987). The effects of three syllabic systems on rhythm reading ability were investigated in this study. Subjects for this study included 160 second and third
grade public school students. For this pretest – posttest study six classes from one school
were chosen for the experimental group and two classes from another school were chosen
for the control group. The specific methods of instruction were randomly assigned to
each experimental class. The two control classes received no instruction in rhythm
notation. All treatment sessions were presented by the researcher and were identical in
procedure and content except for the specific syllable system used. Pretest and posttest
measures were identical and included a recognition test, dictation test, and a performance
test. All test materials contained rhythm patterns using meters of 4/4 and 6/8. Results
indicate syllabic systems that provide metric stress provided significant improvement in
rhythm reading skills than those that did not. Also, a syllabic system that utilizes specific
words that match with rhythm patterns showed the greatest improvement in performance
and notation skills of those systems compared.

Bebeau (1982). The purpose of this study was to compare the effectiveness of a
traditional approach and a simplified speech cue approach for teaching rhythm reading.
Two experiments were conducted for this study. Both experiments were pretest –
posttest designs. The first experiment utilized a small sample and a music teacher
familiar with both methods. The subjects for the first experiment included one third
grade class of twenty-seven students. This class was chosen because no rhythm reading
instruction had occurred in their regular music class. Students were divided into
treatment groups in matched pairs on the basis of pretest scores and grade point average.
For each treatment, subjects, in a classroom setting, were required to play or clap a
rhythm pattern in 4/4 time signature while maintaining a steady pulse. The difference in
each treatment was the method of instruction (speech cue method and traditional
method). For clarification, the speech cue method uses specific words to match with specific rhythms, a combination of Orff and Kodaly methods. A traditional approach delays teaching of rhythm reading until students are able to understand fractional relationships in music. A 23-item rhythm-reading test was administered to obtain data. Experiment 2 included a larger subject sample of 80 third grade students. The purpose of Experiment 2 was to determine if the speech cue method could be easily administered with minimal teacher training. Procedures, materials, and data analysis were identical to Experiment 1. Results of both experiments show that both traditional and speech cue methods significantly improve rhythm reading ability. However, evidence favored the speech cue method as having significantly greater results than the control groups regardless of teacher training time.

In summary, both studies examined methods of rhythm reading instruction involving aural cues. Data analyzed in each study indicated that rhythm instruction methods involving a systematic approach using speech cues and/or syllable systems as opposed to no rhythm instruction or an approach that delays rhythm reading training until mathematical relationships can be understood can be beneficial.

Kinesthetic Procedures

Boyle (1970). The effects of an approach to music reading that involves prescribed body movements on instrumentalists’ rhythm reading and performance abilities are the basis of this study. The prescribed movements include tapping the foot to the underlying beat and clapping rhythm patterns in relationship to that beat. Twenty-four junior high training bands with twenty-two directors were selected as subjects for this pretest – posttest study. During the fourteen-week study, subjects in the
experimental groups received treatment for ten minutes of each of three rehearsals during the week. Treatment included: a) listening to recordings of music to recognize the beat, b) marking time to the underlying beat, c) clapping rhythm patterns while tapping the beat with the foot, and d) playing rhythm patterns on a single note while marking the beat with the foot. The following tests were administered to obtain data: The Henmon-Nelson Test of Mental Ability, Music Aptitude Profile, Watkins-Farnum Performance scale, and a rhythm sight reading test using rhythms from the Watkins-Farnum Performance Scale. Results indicated that significant improvement occurred in the experimental group (with prescribed movements) as compared to the control group.

Kelly (1997). This study investigated the effects of conducting instruction on beginning band students’ individual and group rhythm performance, group performance of legato and staccato, and group performance of phrasing and dynamics. Subjects included 151 fifth grade students in eight beginning bands. The schools were randomly selected from a list of schools that were willing to participate. A pilot test was conducted and the eight participating bands were randomly assigned to the control or experimental ensembles (four in each). The subjects were then pre-tested for rhythm performing abilities. With the researcher and a replicator acting as instructors, the experimental group received conducting instruction for no more than ten minutes per class and the control group received no conducting instruction. The posttest data indicate a significant improvement in individual rhythm reading and group phrasing abilities in the experimental group. No difference was found in the performance of dynamics or legato and staccato musical styles.
In summary, in certain studies movement activities have shown to be a beneficial addition to any music program in order to assist rhythm-reading instruction. Rhythm reading and rhythm sight-reading abilities not only improved in individuals, but improved ensemble performance as well.

**Combined Aural/Verbal, Visual, and/or Kinesthetic Procedures**

Persellin (1992). This study examined the effect of auditory, visual, and kinesthetic presentation modalities on the recall of rhythm patterns. After a pilot study was conducted, 210 first, third, and fifth grade students (seventy in each grade) from two urban elementary schools were chosen as subjects. Subjects were assigned a modality through selecting a piece of paper that had the name of a modality written on it from a box. During the test, individual subjects were asked to reproduce a previously demonstrated rhythm pattern (six total patterns) by clapping or tapping the pattern. These patterns were presented in the following modalities: visual; auditory; kinesthetic; visual and auditory; visual and kinesthetic; and visual, auditory, and kinesthetic combined. Subject age was a significant factor in one of the results. The visual-only results as well as the mean score from the first grade group were considerably lower than the others. Maturation was a significant factor for the results as mean scores increased with age. The visual mode was effective for both the third and fifth grade groups and a combination of visual, aural, and kinesthetic modalities was shown to be equally if not more effective than the rest of the single instructional modalities and combinations.

Palmer (1976). The purpose of this study was to ascertain the effectiveness of the Richards approach and the Gordon approach to rhythm reading for fourth grade students.
The researcher utilized four fourth grade classes in Orange County, Florida for her subjects. Two classes were chosen as the control classes and each of the two remaining classes randomly received either the Gordon treatment or the Richards treatment. For this pretest – posttest experiment, subjects were administered the Gordon Musical Aptitude Profile to measure written achievement and a performance achievement measure constructed by Palmer as a pretest. For five consecutive months the experimental groups received treatment three days per week for twenty minutes (the regular music time allotted for each class) and the control group received regular class instruction not including special rhythm instruction. All treatment for the experimental groups was administered by the researcher. As a posttest, subjects were again administered the performance achievement measure devised by Palmer. (Note: no mention was made of the specific procedures involved with each approach in this study). Results and conclusions indicate that both experimental groups showed significant gains as compared to the control groups. Data illustrated that, for the sample investigated, using a systematic approach to rhythm reading rather than no systematic approach can cause achievement gains. Practical significant difference between the Gordon and Richards approaches, however, were not found.

Shehan (1987). This study is an examination of the effects of aural and visual modes of presentation on rhythm-reading ability and retention. Twenty-five second grade and twenty-four sixth grade students were included as subjects. None of the subjects had received prior private music training. Four two-measure rhythm patterns were presented to subjects through the following modes: audio-rhythm, audio-mnemonics, (audio) visual-rhythm, and (audio) visual-mnemonics. Each pattern received
a different presentation mode. After the presentation of each rhythm pattern, subjects were asked to memorize and perform the pattern. Analysis of data showed that the aurally presented rhythm patterns required a greater number of trials to learn a pattern while the visual mode required the least amount of trials. Responses of the two age levels also showed significant differences. Older subjects use less than half the time required by the younger subjects to learn the rhythm patterns.

Kendall (1988). The purpose of this study was to compare two methods of instruction for beginning instrumentalists: modeling only (aural and kinesthetic) and comprehensive (aural, kinesthetic, and visual). Seventy-six fifth grade students from four beginning bands were chosen as the subjects for this study. None of the subjects had any type of prior instrumental music training. Treatments were randomly assigned. The comprehensive group used activities from music textbooks and audiocassettes. This method used a variety of procedures including modeling, imitation, ear-to-hand coordination exercises, melodic and rhythmic visual association, singing and playing of song material, and individual performances of self-directed etudes. For the modeling approach the procedures were different in that no visual association (notation) was used. The four posttests designed by the researcher included measurements of aural musicianship, instrumental performance, and melody and rhythm sight-reading skills. Analysis of data indicated that the comprehensive treatment resulted in significantly higher mean scores for the Visual Association Test and the Melodic and Rhythmic Sight-Reading Test than did the modeling group.

Major (1982). This study was an investigation of the effects of subdivision activities on rhythmic performance skills in high school mixed choirs. Thirty-two
students from each of three mixed high school choirs (N = 96) were chosen as subjects. Treatment groups were divided by scores based on a portion of the posttest that was administered to the subjects. Subjects received either the subdivision treatment or the imitation treatment. Both treatments included booklets developed by the researcher for this study. A third group was assigned as the control group. The main difference in the treatments was the presence of the underlying subdivision in the subdivision group and the absence of the underlying subdivision in the imitation group. Each treatment was administered four minutes per day, five days per week. The control group used no rhythm books or prescribed procedures. The choral directors for each group administered all treatments. For each subject, a Rhythm Accuracy score was determined from a Twenty Item Rhythm Test and a Seven Item Rhythm Test (both researcher-developed). A computer program: A Program for the Measurement of the Onset and Duration of Sounds and Rests (Major, 1976) was utilized to measure Maintenance of a Steady Pulse and Maintenance of a True Pulse. An interview process was also administered to determine if a subject understood how he or she performed the pattern (to determine if the subdivision method was used). Analysis of data revealed significant differences in Rhythm Accuracy among treatment groups favoring the subdivision group.

In summary, subjects respond well to a combination of aural/verbal, visual, and kinesthetic modes of rhythm reading instruction. Aural modes alone did not prove to be as effective as a combination of aural and visual modes. Adding the kinesthetic element of instruction seemed to increase effectiveness when added to an aural/visual mode.

The following studies pertain to pitch frequency and melodic context in relation to rhythm and durational perception.
Notational Perception and Melodic Context

Cuddy, Smith, and Upitis (1994). This study was an investigation of the relationship between the ability to produce accurate figural representations and the level of metric understanding. Subjects of this study included 48 adults (29 females and 19 males) and 49 children between ages 6 and 12 (26 females and 23 males). Half the adult subjects were musically trained while the other half had received two years or less of musical training. None of the children were musically trained. Subjects were administered three tasks. The drawing task required subjects to listen to a rhythmic sequence and draw this sequence in a way to assist memory in clapping the pattern back. The join-in task required subjects to begin listening to a rhythmic sequence and eventually clap to the underlying beat. The clap-back task required subjects to clap-back the rhythm sequence as accurately as possible after two hearings. Responses from these tasks were rated as either figural or metrical. The results from this study support the theory that understanding of rhythm involves both metric and figural understanding. Also, figural understanding is not to be perceived as a lower level of rhythmic understanding that precedes full understanding.

Fricke and Jeon (2006). This was a study to investigate individual perceptions of note duration in relationship to pitch frequency. Three experiments were used for this study. Experiment I: Perception of Sound Duration was used to study musicians’ ability to discriminate pitches of different durations. Results of this experiment indicated that trained musicians are better able to judge smaller durational differences than non-musicians. Experiment II: Perception of Different Frequencies was administered to identify effects of frequency on duration discrimination. Results showed a positive
relationship between the frequency of musical tones and the perceived duration of these tones, indicating that the higher a pitch is in frequency, the longer the duration is perceived. Experiment III: Reproduction of Sounds investigated subjects’ abilities to perform sounds of different durations. Results showed that, when asked to produce a response signal to a pre-recorded signal, subjects’ responses were a) very similar to equal-duration signals, b) too long for signals that were meant to be two to four times as long as the original, and c) too long for signals that were meant to be half or quarter the length of the original. The researchers concluded that frequency of pitches does affect judgment of duration in that when a pitch is higher in frequency, the pitch is perceived as longer than lower frequency pitches of identical length (this is a result of Experiment II).

Boisen (1981). This study was an investigation on the effect of melodic context on aural perception of music completeness and incompleteness in the rhythm of a melody. Literature indicated students’ abilities to perceive completeness and incompleteness in melody, for example, perception of the ends of phrases to be complete or incomplete. Rules, such as scale tone five sounds less complete than scale tone one, are also often found to judge tonal completeness or incompleteness. However, when attempting to judge completeness and incompleteness in rhythm, there is little specificity as to how to interpret rhythmic “completeness.” Because of this, Boisen conducted two pilot studies to develop his final 42-item test based on 7 complete and 7 incomplete rhythmic units. Subjects used in this study included 2,207 public school students. In two test sections, subjects were instructed to indicate if the rhythm of each melody played is incomplete (needs one more note at the end) or complete (the last note sounds final). For clarification, students listened to excerpts that either ended with a strong metrical accent
matching and a complete melody (cadence) or combinations of non-matched excerpts (meaning metrical accent and melodic completeness did not match). The results were a positive, but not significant, indication that the accuracy of the subject’s aural perception of rhythmic completeness is affected by melodic completeness.

Results from these studies indicate that the presence of melodic context does affect an individual’s perception of rhythm and time. Pitch frequency has been shown to affect perception of note duration. Melodic phrasing has been shown to affect perception of rhythmic phrasing. These studies are examples of how pitch and melody can influence rhythm reading and comprehension abilities. However, specific rhythm error detection or rhythm performance abilities in correlation with specific melodic motion were not researched in these studies.

Summary

These studies and experiments have provided information on methods of rhythm reading instruction that may be more effective. This information, however, was conducted on the basis of studying rhythm only. Other studies involving melodic context and rhythm have indicated that melody in terms of pitch sequence and frequency does affect an individual’s rhythmic perception.

Research based on rhythm reading and comprehension is extremely valuable to all musicians. With the multitude of information processing required of beginning instrumentalists this research is of utmost importance to those instructors teaching in this content area. Unfortunately, little information is available with regards to rhythm instruction including melodic contour. The studies based on instructional procedures reviewed in this chapter were based solely on rhythm reading with no melodic
component. Literature reviewed based on rhythm combined with a melodic component was unable to conclusively clarify the term “melodic context” as it relates to rhythmic comprehension and error detection. This study will attempt to bring new information to light regarding individual rhythmic error detection ability when united with melodic motion. Are the rhythmic error detection abilities of beginning band students affected by melodic motion, specifically motion by step and by leap?
CHAPTER III

METHODOLOGY

Purpose

The purpose of this study was to determine the effect of melodic contour on rhythm pattern identification among beginning band students. Two types of melodic contour were investigated in this study: melodic contour using steps and melodic contour using leaps.

Research Questions

1. Is there a difference in the rhythm pattern identification scores of beginning band students for melodies of varying contour (step, leap, or no motion)?
2. Is there a difference in the rhythm pattern identification scores of beginning band students due to school, instrument played, or prior musical experience?

Subjects

Subjects (N = 38) were those consenting students participating in the fifth grade beginning band program in three suburban elementary schools in south-central Pennsylvania.
Design

This study was a post-test only investigation and utilized a pilot test prior to the actual study. Based on relevant literature, a multiple choice rhythm pattern selection test developed by the researcher was used to investigate the differences between rhythm pattern identification and melodies of varying contour in beginning band students. The researcher or an assistant administered the rhythm pattern selection test. Scores were calculated and analysis was conducted.

Data Collection Tools

A multiple-choice rhythm pattern selection test was developed by the researcher for use in this study. For this test, subjects listened to pre-recorded rhythm patterns that were presented in the following presentation formats: no melody, melody that moved by step, or melody that moved by leap. Subjects were then asked to circle which written rhythm pattern they believed represented the recorded example. Instructions for the test were provided on the test paper as well as read aloud by the researcher/administrator. A total of fifteen multiple-choice items were included. This amount was necessary to ensure enough of each type of presentation format (rhythm only, melodic by step, melodic by leap) was included for validity purposes. A pilot test was performed to determine the clarity and usability of the rhythm pattern selection test.

Each test item consisted of three, two-measure rhythmic phrases in 4/4 time signature (for familiarity purposes). No staff lines were used for the written portion of this test, only rhythm based patterns. The items were printed using a music notation computer program on plain, white, 8 1/2” x 11” paper with forty-five possible responses (15 questions with 3 possible responses per question) on each page. Pitches were not
used in the printed patterns to be certain that subjects were not simply determining the
correct pattern by following the direction of pitches. The rhythm patterns used included
various combinations of quarter notes, quarter rests, and eighth notes (paired eighth notes
only) for familiarity purposes.

The rhythm patterns used for the test items were recorded into Garage Band and
used in mp3 format. Any item using melodic content was recorded in the key of concert
B flat for familiarity purposes. The patterns were performed and recorded by the
researcher. The researcher used a Korg A-11 metronome while performing the rhythm
patterns to ensure a steady pulse was used. An earpiece for the metronome was used so
that the pulse of the metronome would not be recorded with the rhythm patterns. Test
patterns were played through the researcher’s/administrator’s personal laptop computer.
All recording and play back devices were selected due to availability.

The rhythm pattern selection test (Appendix C) required subjects to give the
following demographic information: student’s instrument performed in the public school
band setting, student’s elementary school, and student’s previous background in
instrumental music (private lessons, performances in groups inside and outside of the
school setting, etc.). This information was gathered to use the scores for comparison
purposes for the secondary research question. Students’ names were not requested to
ensure anonymity. Fifth grade beginning band students were used as subjects because
this is the age at which students are permitted to begin instrumental (band) music
instruction in this particular school district.
Procedures

In mid-May of the 2012-2013 academic year, the researcher visited the fifth grade beginning band students at each elementary school of this particular school district to recruit participants for the investigation. The research study, consent, and assent forms were explained to the students. Parental consent and student assent forms were sent home with the students. Copies of both the parental consent and student assent forms were included with the original forms for reference purposes of the subjects and their parents. A self-addressed, stamped envelope was included for the return of the forms to the researcher. The students were provided the opportunity to return the forms via regular postal mail by May 24th, 2013. The Parental Consent form can be found in Appendix A and the Student Assent form can be found in Appendix B.

At this time, a pilot test of the rhythm pattern selection test was conducted using the sixth grade, third year band students in the researcher’s school as subjects. Results of the pilot test indicated that this test was clear and understandable. At that point, no other conclusions could be made.

The administration of the rhythm pattern selection test was conducted between May 29th and 30th, 2013. The test was administered to all subjects (N = 38) by the researcher or an assistant. If a subject was absent, no make up test was given. One reminder notice was given to the participants one week prior to the testing week to improve attendance during the testing time period.

During the subjects’ testing period, the researcher began by distributing pencils and the rhythm pattern selection test with the instructions and demographic information facing the subjects (instructions and demographic questions were printed on the opposite
side of the rhythm patterns). The subjects were asked to fill out the demographic information. The researcher then read the test instructions from the administrator’s script. These instructions were also found on the rhythm pattern selection test. Subjects were given time to ask any questions about the test. The researcher asked the subjects to turn the paper over so that the multiple-choice items were showing. The researcher then stated the exact start time for the test and began playing the recorded examples. Each example was introduced by number (rhythm pattern number one, rhythm pattern number two, etc.) and played twice. Each rhythm pattern played was a rhythm only pattern, a pattern with melodic motion by step, or a pattern with melodic motion by leap. The subject then circled the rhythm pattern he or she believed was the pattern played. Three choices were available for each test item. This procedure continued until all fifteen items had been heard. As stated in the instructions, no items were repeated after the test was completed. The researcher ended the test by reading the closing instructions and remarks and subjects were dismissed from the testing session. The tests were collected and the answers were coded for data analysis.

**Data Analysis**

The data analysis process began by recording the number of correct and incorrect answers from each rhythm pattern selection test. Each correct answer was given two points and each incorrect score was given one point. The statistical test was a three-way repeated measures ANOVA, with the repeated measures being the three sets of scores based on melody type, (since each student had a score for each type of melody) on three factors (school, instrument family and previous instruction).
CHAPTER IV
RESULTS

The primary purpose of this study was to determine the effect of melodic contour on rhythm pattern identification among beginning band students. Little to no research that directly studied rhythm pattern identification in context with melodic content has been conducted. Procedures used in this study collected data on participants’ ability to correctly identify rhythm patterns from aural prompts consisting of either no melody, melody that moves by step, or melody that moves by leap.

A secondary purpose of this study was to collect demographic information pertaining to the subjects. This information included age, grade level, specific elementary school attended, instrument, and previous instrumental music instruction. This information was collected to examine if these factors may affect the scores of the students.

Data analysis began by determining the number of patterns correctly selected by the subjects. Each correct answer received two points and each incorrect answer received one point. Scores were then combined according to contour type (no melody, melody by step, and melody by leap). Each participant received a possibility of 50 points for each contour type. Table 1 illustrates the correct and incorrect answers by contour type.

Table 1

<table>
<thead>
<tr>
<th>Contour Type</th>
<th>Correct Answers</th>
<th>Incorrect Answers</th>
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<tbody>
<tr>
<td>No Melody</td>
<td>173</td>
<td>14</td>
</tr>
<tr>
<td>Melody by Step</td>
<td>165</td>
<td>25</td>
</tr>
<tr>
<td>Melody by Leap</td>
<td>166</td>
<td>24</td>
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</table>
In the analysis of the data collected, a three-way ANOVA with repeated measures on three factors was conducted to determine differences among the groups. The repeated measures were the three scores received by each student reflecting the three contour conditions, and the three factors were school attended, instrument family, and previous experience. No significant differences were found for any comparisons, nor were there any significant interaction effects.

**Primary Research Question**

**No Melody**

In the five questions that did not include melodic content, only one question received no incorrect answers. One question received one incorrect answer. One question received three incorrect answers. One question received four incorrect answers. And, one question received six incorrect answers.

**Melody by Step**

In the five questions that included melodic content that moved by step, none of the questions received all correct answers. One question received two incorrect answers. Two questions received five incorrect answers. One question received six incorrect answers. And, one question received seven incorrect answers.

Question fifteen received the seven incorrect answers. This is somewhat compelling in the fact that the three possible rhythm patterns from which to choose contain more differences after beat two than the other questions of this type. Question number five, which received five incorrect answers, exhibits similar issues. The other incorrect answers in this category could possibly be attributed to the similarity of the rhythm patterns used for the answer sheet.
Melody By Leap

In the five questions that included melodic content that moved by leap, only one question received no incorrect answers. One question received four incorrect answers. One question received five incorrect answers. One question received seven incorrect answers. And, one question received eight incorrect answers.

Questions two, four, eight, ten, and fourteen included melodic content that moved by leap. Of those five questions, it is important to note that the correct answers for questions two, ten, and fourteen contain fairly different rhythmic content than the other possible answers. These questions received five, four, and seven incorrect answers respectively. These differences, however, are not statistically significant.

In the next section, the results of the secondary research question are discussed. Graph 1 displays the amount of participants in each comparison group category. The results of these groups are then offered in detail.
Secondary Research Question

Graph 1 illustrates the number of participants in each comparison group:
Comparison by School

The number of subjects per participating school was divided as follows: fifteen subjects for school A, nine subjects for school B, and fourteen subjects for school C. Subjects were given two points per correct answer and one point per incorrect answer.

The difference in the average scores of each school was found to be insignificant. While the subjects for school A received the highest scores in each category, the overall average score of the subjects for school A was a 9.5. The overall average scores for school B and school C were both 9.4. Therefore, the specific school a subject attended made no significant difference in performance on this particular test.

Comparison by Instrument Family

Subjects for this study were asked to list the instrument they are currently playing in the band program at their school. This information was condensed into instrument family for data collection purposes. Total participants for each instrument family were 22 woodwind, 10 brass, and 6 percussion.

The brass group scored the highest overall average score of 9.8. The brass group received the highest scores in each of the melodic content categories, as well. The woodwind group scored an overall average score of 9.4. The percussion group scored an overall average score of 9.2. Interestingly, the percussion instrumentalists scored lowest in the no melody category.

The woodwind and percussion subjects’ scores were identical in the melody by step and melody by leap categories. The difference in the number of participants in each instrument family may have contributed to the lack of significant differences found in these scores, but could lead to implications for further study.
Comparison by Previous Instruction

A comparison of the scores of subjects with previous instrumental music instruction to those scores of subjects without previous instrumental music instruction indicates little difference was found. However, the overall average score of those subjects with previous instrumental music instruction was higher with an average score of 9.6 compared to 9.2 for those without previous instrumental music instruction.

A comparison of the various melodic content formats indicates that for those subjects with previous instrumental music instruction, the average scores remained fairly stable (9.7, 9.6, and 9.5). For the subjects without previous instrumental music instruction, the average scores were less stable (9.5, 9, and 9.2).

Summary

While no significant statistical differences were found among the various forms of melodic content in rhythm pattern identification among beginning band students, some findings could be used for further study. Specifically, some interesting results from the comparison groups lead to more questions about the topic of how students perceive rhythm and melody. These findings will be discussed in the next section of this study.

The aim of this research was to investigate a specific aspect of the subjects’ experience with instrumental music. This study investigated subjects’ perception of rhythm under three melodic conditions without the presence of their instruments. Clearly, more research is needed on the topic of how students perceive and process rhythm and melody. Additional research is needed to help music educators and their students facilitate the process of learning music and playing musical instruments. In the section to follow, several possibilities for future research will also be discussed.
CHAPTER V

CONCLUSIONS

This chapter begins with a summary of the study followed by discussion of results pertaining to the primary and secondary research questions. Also included is discussion of additional limitations that may have affected the results. A final section provides recommendations for further study.

Study Summary

The purpose of this study was to determine the effect of melodic contour on rhythm pattern identification among beginning band students. A review of literature revealed that studies on various forms of rhythmic instruction and various forms of melodic instruction have given some insight into how students learn rhythm and melody. As seen in Boisen (1981), the change of pitch frequency had an effect on perception of note duration. Jeon & Fricke (2006) concluded that pitches higher in frequency are perceived as longer than lower frequency pitches of identical length. As little research has been conducted examining the interaction of melody and rhythm, the study of how simultaneous melody and rhythm affect music learning could develop better understanding of how students process rhythm in conjunction with melody. Such research could also lead to the development of more effective means of instruction for music educators. The primary research question of this study was:

1. Is there a difference in the rhythm pattern identification scores of beginning band students for melodies of varying contour (step, leap, or no motion)?

A secondary research question included in this study was:
2. Is there a difference in the rhythm pattern identification scores of beginning band students due to school, instrument played, or prior musical experience?

To answer the primary question of this study, data was collected on subjects’ ability to correctly identify a rhythm pattern heard with a possibility of three presentation formats: 1) rhythm with no melody, 2) rhythm with melody that moved by step, and 3) rhythm with melody that moved by leap. Subjects listened to fifteen different two-measure patterns in 4/4 time signature. With each pattern heard, three possible answers were given and each subject selected the pattern s/he thought was correct.

**Discussion of the Primary Research Question**

In studying the effect of melodic contour on rhythm pattern identification among beginning band students, no significant differences were found for varying melodic content on subjects’ ability to correctly identify rhythm patterns. While subjects’ scores in identifying patterns with no melodic content were slightly higher than those with melodic content, this difference was not statistically significant. The scores between the two different types of melodic content, melody that moves by step and melody that moves by leap, were nearly identical.

These results were surprising to the researcher. The research questions developed for this study were the result of a desire by the researcher to discover one of the causes behind difficulties students were having when moving from playing non-melodic rhythm patterns to rhythm patterns that included melodic movement. The lack of statistical difference in the results of this study could be due to the fact that this test was not an authentic testing situation. The performance on an instrument aspect was completely removed.
It is possible the test itself did not provide the appropriate amount of challenge for the participants. The pilot study was mainly used for the purpose of clarity, and almost all ten of the students involved in the pilot test received perfect scores. This success was attributed by the researcher to the fact that the pilot test students were in their third year of instrumental music instruction. Although the subjects in the study were first year students, a more challenging test may have yielded different results.

Another issue with this study may be its overall length. While the researcher felt that fifteen multiple-choice questions were enough for beginning band students, a test of greater length may have had greater validity. Perhaps the test could include each presentation format a total of ten times rather than only five. The length of the test utilized in this study was chosen due to time constraints in the public school setting.

The test question that received the most incorrect answers happened to be the first question in the rhythm pattern selection test. This could have simply been due to the fact that it was the first question on the test and subjects were becoming acclimated to their task for this test. In the pilot test, this first question was not an issue. If this study were to be replicated, perhaps the inclusion of some practice items prior to the test would be advisable.

The fact that only one of the questions containing no melodic content received all correct answers was surprising to the researcher. This result, only one question receiving all correct answers, also occurred in each of the other presentation formats. The researcher was expecting a greater difference in the amount of correct answers for the questions with no melody compared to the questions receiving melodic content.
Discussion of the Secondary Research Question

No significant differences were found among the three comparison groups of subjects’ school, instrument played, and prior musical experience. However, the researcher found two findings of interest within two of the comparison groups. First, in the instrument family comparison group, the percussion group received the lowest average overall score and the lowest average score in the no melody category. This suggests that the participants in the percussion group may have been gathering information from the pitches heard in the melody by step and melody by leap categories to assist in their rhythmic processing.

Secondly, in the previous instruction comparison group, the average scores of subjects with previous instrumental music instruction remained fairly stable (9.7, 9.6, and 9.5). For the subjects without previous instrumental music instruction, the average scores were less stable (9.5, 9, and 9.2). An assumption could be made that additional instruction in instrumental music outside of school may afford some advantage in rhythm pattern identification over not having any additional instruction. Also, certain subjects were involved in the elementary orchestra program in this school district. The orchestra program begins in fourth grade, whereas, the band program begins in fifth grade. This additional instruction may have had an effect on the scores of those students who had already been playing a string instrument before joining the band program.

Discussion of Limitations

The number of subjects may have been an issue in this particular study. The total number of subjects for this study was thirty-eight. While this number was sufficient to complete the study, a larger number may have provided a wider variety of results and
may have led to a different outcome for this study. Sufficient time was used for recruitment purposes, however, the study was conducted at the end of the school year and this may have been a factor leading to the lower number of participants. As was noted in the original limitations of this study, the three elementary schools selected for this research are all within the same school district and may not be representative of all beginning band students. The testing used for this study was non-performance based and, therefore, not an authentic testing situation. The purpose of this was to isolate one factor of reading music notation. A performance-based setting could provide different results.

While the results indicate no differences on rhythm pattern recognition due to melodic contour, information gained from this study has led to more questions dealing with this topic. This study was developed from the researcher’s desire to seek out reasons why students often have difficulty in executing combined rhythmic and melodic patterns. Hopefully, with further research, greater understanding of these processes can be developed.

### Suggestions for Future Research

The focus of this study was to investigate the effect of melodic contour on rhythm pattern identification among beginning band students without the challenge of performance. In this study, the researcher hoped to better understand one issue students may face when reading and processing music notation. The results of this study suggest that melodic contour may not be a factor after all.

Some implications for future research are suggested. Throughout this section, the following topics will be discussed: further investigation on the influence of the specific school of the student, a student’s specific instrument choice, and types of previous
musical instruction. Additionally, research in the following areas will be suggested: individual instructional needs of students and perception of rhythm and melody in an authentic performance setting.

Influence of the School

The scores of subjects from three different elementary schools were compared. This study found no significant difference between their scores. These three elementary schools are all located within the same school district with a relatively small music faculty. Most of the participants for this study have the same elementary band director. A possible extension of this study would be to conduct this research with subjects from several different school districts. Other factors to be included in the comparison of different school districts could be socio-economic status of the participants, ratio of music faculty to students, overall support for music education, the instrument lesson system used, and overall approach and philosophy espoused by the music educators in each school and district.

Instrument Groups

This research compared the scores among three instrument families: woodwinds, brass, and percussion. There were more woodwind participants (22) than either brass (10) or percussion (6). The number of percussion participants was quite low. While the average scores of each group were not statistically significantly, there were some differences that warrant further investigation.

The brass group received the highest average score of 9.8. The woodwind group received the second highest average score of 9.4. The percussion group received the lowest average score of 9.2. The larger sample size of the woodwind group may have had
an effect on the average score of this group. Interestingly, in the scores of the percussion group, the presentation format that received the lowest average score was that of rhythm with no melody. While not statistically significantly different from the other two presentation formats (9.0 compared to 9.2 and 9.3), the fact that this was the lowest average score for this group and the lowest average score overall warrants further investigation.

Further research in this area could be conducted in a variety of ways. One would be to investigate the difference among the three instrument groupings. This would involve an even number of participants in each group. Another manner of viewing this would be to isolate the scores of one particular group. Another possibility would be to add participants who play string and keyboard instruments, as well.

Previous Instruction

The third comparison group used for this study was that of those participants who had previous instrumental music instruction. Again, while no significant difference was found, the results may warrant further study. In the group of participants who had no previous instrumental music instruction, the average score was a 9.2. Among those students who had previous instrumental music instruction, the average score was 9.6.

The average scores of the participants with previous instrumental music instruction were more stable among the three presentation formats than were those of the participants with no previous instrumental music instruction. In those participants with no previous instruction the average scores were 9.5, 9.0, and 9.2. In those participants with previous instruction, the average scores were 9.7, 9.6, and 9.5. While the difference in the scores between these two groups is not significant, the difference in stability of the scores
could be a topic for further research in this area. Several variables could be investigated in this category. The type of additional instruction could be studied. For example, did the student receive instruction on a completely different instrument? Length of additional study would be helpful to examine, as well as the specific teachers offering this instruction.

**Other Research Possibilities**

**Individual Instructional Needs of the Student**

The individual instructional needs of each participant were not taken into account for this study. However, in a time of growing awareness of the vast differences in learning styles and needs of all students, this particular area would be of great interest. Perhaps separating participants’ scores into those with individualized education plans and those without could afford a greater depth of knowledge in this particular area. Also, separating those participants’ scores who are labeled as “gifted” could also add some new information.

**Performance Issues**

This study focused on the identification of music notation devoid of any instrumental music performance. The original research questions arose from a desire of the researcher to find a more efficient manner with which to instruct students in processing rhythm and melody while playing a musical instrument. While the need to separate each process in performing an instrument exists, the issue still remains that students do struggle with reading and processing music notation while playing a musical instrument.
The brain must focus on many factors at one time while performing a musical instrument. Do those who play string, keyboard, and percussion instruments experience this differently due to the absence of several issues those who play wind instruments face? While research does exist in this area, further research on the actual act of playing a musical instrument while processing rhythmic and melodic notation would be advantageous for the whole music education community.

**Conclusion**

Playing a musical instrument is not a simple task. Many processes in the brain occur just to play the instrument itself. When reading music notation is introduced, additional processing issues enter into this activity. In teaching students how to understand this information and turn it into music, music educators have a variety of approaches from which to choose. These approaches often separate rhythmic processing from melodic processing. When a student is left to combine these two types of information, an array of problems can occur.

This study has focused on one aspect of this process, the effect of melodic contour on rhythm pattern identification among beginning band students. While this study was limited in scope, it brought to light several areas of study that could benefit the field of music education. With further research comes greater understanding of this intricate and complex process.
List of References


APPENDIX A

Informed Parental Consent Form for Social Science Research
The Pennsylvania State University

Title of Project: The Effect of Melodic Contour on Rhythm Pattern Identification Among Beginning Band Students

Principal Investigator: Miss Johanna Steinbacher
271 Oakwood Avenue
State College, PA 16803
jxs444@psu.edu
(814) 571-2107

Advisor: Dr. O. Richard Bundy
102 Music Building II
University Park, PA 16802
orb1@psu.edu
(814) 865-0972

Other Investigator(s): Dr. Joanne Rutkowski
206 Music Building I
University Park, PA 16802
rvi@psu.edu
(814) 863-0419

1. Purpose of the Study: The purpose of this research is to determine how melody in music effects beginning band students’ ability to identify rhythm patterns correctly. The results of this research study are meant to assist music educators to determine how students perceive rhythm in combination with melody. This will hopefully lead to better instruction of these musical concepts.

2. Procedures to be followed: Your student will be asked to complete a multiple choice rhythm pattern selection assessment. For this assessment, the students will hear a rhythm pattern using one of three formats: rhythm with the same pitch throughout the entire pattern, rhythm patterns in which the melody moves in step-wise motion, and rhythm patterns in which the melody moves in either skips or leaps through the music staff. Your student will hear a total of fifteen rhythm patterns.

3. Duration/Time: The total time needed to take this assessment will be no more than 30 minutes and will not disturb the students regularly scheduled classes. This assessment will take place during the weeks from May 28th, 2013 – June 4th, 2013.

4. Potential risks and benefits: There is minimal risk involved in the participation of this study as the procedures align with regular school-related activities. Through this research study, I hope to benefit the field of music education in discovering ways students perceive rhythm in combination with melody. This will hopefully lead to improved instruction of these concepts.
5. **Statement of Confidentiality:** Your student’s participation in this research is confidential. The survey does not ask for any information that would identify to whom the responses belong. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your student’s name is in no way linked to his/her responses.

   a. The Pennsylvania State University’s Office for Research Protections, the Institutional Review Board and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this research study. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared.

6. **Right to Ask Questions:** Please contact Johanna Steinbacher at (814) 571-2107 with questions, complaints or concerns about this research. You can also call this number if you feel this study has harmed you. If you have any questions, concerns, or problems about your rights as a research participant or would like to offer input, please contact The Pennsylvania State University’s Office for Research Protections (ORP) at (814) 865-1775. The ORP cannot answer questions about research procedures. All questions about research procedures can only be answered by the research team.

7. **Voluntary Participation:** Your student’s decision to be in this research is voluntary. Your student can stop at any time. Your student does not have to answer any questions he/she does not want to answer.

A copy of this form has been provided for your records or future reference.

**Agreement Form**

I have read and understand the information pertaining to this research study and agree to allow my child to participate in all activities pertaining to this study stated in the above information.

________________________________________
(Name of Parent/Guardian)

________________________________________
(Date)
APPENDIX B

Student Assent Form for Social Science Research
The Pennsylvania State University

Title of Project: The Effect of Melodic Contour on Rhythm Pattern Identification Among Beginning Band Students

Principal Investigator: Miss Johanna Steinbacher
271 Oakwood Avenue
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Advisor: Dr. O. Richard Bundy
102 Music Building II
University Park, PA 16802
orb1@psu.edu
(814) 865-0972

Other Investigator(s): Dr. Joanne Rutkowski
206 Music Building I
University Park, PA 16802
rvi@psu.edu
(814) 863-0419

8. **Purpose of the Study:** The purpose of this research is to determine how melody in music effects beginning band students’ ability to identify rhythm patterns correctly. The results of this research study are meant to assist music educators to determine how students perceive rhythm in combination with melody. This will hopefully lead to better instruction of these musical concepts.

9. **Procedures to be followed:** You will be asked to complete a multiple choice rhythm pattern selection assessment. For this assessment, you will hear a rhythm pattern using one of three formats: rhythm with the same pitch throughout the entire pattern, rhythm patterns in which the melody moves in step-wise motion, and rhythm patterns in which the melody moves in either skips or leaps through the music staff. You will hear a total of fifteen rhythm patterns.

10. **Duration/Time:** The total time needed to take this assessment will be no more than 30 minutes and will not disturb the your regularly scheduled classes. This assessment will take place during the weeks from May 28th, 2013 – June 4th, 2013.

11. **Statement of Confidentiality:** Your participation in this research is confidential. The survey does not ask for any information that would identify to whom the responses belong. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.
12. **Right to Ask Questions:** Please contact Johanna Steinbacher at (814) 571-2107 with questions or concerns about this study.

13. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

A copy of this form has been provided for your records or future reference.

**Agreement Form**

I have read and understand the information pertaining to this research study and agree to participate in all activities pertaining to this study stated in the above information.

____________________________________
(Name of Student)

____________________________________
(Date)
APPENDIX C

Please Circle the Correct Rhythm Pattern for Each Number

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In order to complete the following assessment, please first fill in the information below. You will then be instructed to turn the page over to begin the assessment. Do not turn the page over until instructed to do so.

Instrument:

Elementary School:

Grade:

Age:

Previous experience in instrumental music:
(This may include private lessons, other performing groups, etc.)

Instructions
During this assessment you will hear a series of recorded rhythm patterns. On the other side of this form you will see three possible answers for each rhythm pattern you hear. You will hear the number first and then the pattern will be played twice. You will then circle the rhythm pattern you feel to be the match of the pattern you heard. As a reminder each pattern will only be played twice and will not be repeated once the assessment is completed.