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The Effects of Structured Singing Instruction on Beginning Instrumental Students' Performance Achievement

By

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ABSTRACT

THE EFFECT OF STRUCTURED SINGING INSTRUCTION ON BEGINNING INSTRUMENTAL STUDENTS' CONCEPTUAL UNDERSTANDING AND PERFORMANCE ACHIEVEMENT

By

Catherine D. Bloedel Beery

The purpose of this study is to compare instructional techniques that emphasize the development of tonal syntax through the singing of rote songs and resting tones to traditional beginning instrumental instruction. Most specifically, this study concerns itself with whether these two approaches result in significantly different student achievements in terms of: (1) intonation, (2) phrase shaping, and (3) musical expression. The secondary problem of this study will be to investigate the effect of music aptitude on student achievement in terms of: (1) intonation, (2) phrase shaping, and (3) musical expression.

One hundred and sixteen band students were divided randomly into two groups. The Music Aptitude Profile was administered to all students. Group A received traditional instrumental instruction and Group B received instruction emphasizing singing rote songs and resting tones. At the conclusion of 14 weeks, student performance of a short sight-reading etude was evaluated by judges using a rating scale.

Conclusion: instruction using singing is effective in developing musical expression for instrumental music students.

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CHAPTER I

INTRODUCTION

Objectives in Beginning Instrumental Music Instruction

Program objectives and teaching methods are influenced by national and state standards, a teacher's personal experiences as an instructor and as a student, and the attitudes and needs of the community. They are likely to change over time as a result of these influences. In beginning instrumental music education, there are a variety of teaching methods that guide students toward the achievement of performance objectives. This chapter is concerned with literature related to program objectives and teaching methods, with the goal of identifying contemporary techniques that have been found to be the most effective when used to teach beginning instrumentalists.

Program objectives should be designed to best suit the needs of the individual program. Leonard and House (1972) state that program objectives should be oriented toward the development of students' knowledge, conceptual understanding, performance skills, attitudes, appreciation, and initiatives. Students' ability to recognize music patterns and recall essential musical facts are concrete tasks that require basic knowledge of music. Conceptual understanding involves one's ability to comprehend and apply musical knowledge. A student should possess the ability to analyze and generalize. An individual should develop insights into musical interpretation and be able to perceive technical problems of music performance. Musical knowledge and conceptual understanding should be a prerequisite to the development of performance skills that include aural awareness and discrimination, music perception, the ability to solve technical problems. For example, to perform an etude, the student should: (1) possess a basic knowledge and understanding of the written music, (2) audiate the rhythmic and tonal patterns in the music, (3) solve technically difficult passages, and (4) play with good intonation and tone quality.

Attitudes, appreciation, and initiative include one's feelings toward listening to music and performing music. One should demonstrate respect for music and a desire to improve musicianship. A student should possess an appreciation of tasteful music performance and of high quality musical repertoire. Lastly, a student should show initiative toward practicing, caring for an instrument, performing musically, and attending class regularly while in a musical ensemble. It is the educator's responsibility to create program objectives that emphasize these areas. Effective program objectives can improve students' musicianship by guiding them in the learning process toward the achievement of musical understanding and musical performance.

Instructional objectives in a beginning instrumental program should be established from program objectives in order to assure student achievement of performance skills. These objectives serve to guide daily learning by defining desired observable behavior, conditions under which the action will occur, and the specific level of achievement (Radocy and Zeigler, 1974). Instructional objectives should be directed toward the development of an understanding of music (Leonard and House, 1972).

A student's conceptual understanding will manifest itself in that student's performance skills. Therefore, instructional objectives should include skill criterion for the evaluation of students' conceptual understanding. The National Standards for Arts Education established by the Music Educator's National Conference (1994) state that the student should sing and perform instrumentally with expression and technical accuracy, and with good tone quality and intonation. Students who participate in an ensemble should perform a varied repertoire of literature including some solos performed by memory. Schleuter and Schleuter (1988), Azzara (1993), and the Music Educator's National Conference (1994) believe students' music reading, improvisation skills, and composition skills should also be evaluated. More specifically, Schleuter (1984) and Grunow and Gamble (1989) state that beginning instrumental instruction should include the following behaviors: (1) students should demonstrate their ability to audiate through singing rote

songs and tonal patterns, (2) students should synchronize body movement with the beat of music and perform rhythmic patterns accurately, (3) students should perform correct phrasing and musical expression, and (4) students should perform executive skills such as finger dexterity, embouchure, articulation, instrument position, posture, and breathing correctly. Program objectives and instructional objectives represent the outcomes of musical learning. Appropriate methods and teaching techniques will assist with student attainment of these goals.

Development of Syntax

An essential element in the music learning process is the ability to recall and sing melodies from previously heard music and to understand relationships of tones and rhythms within a composition. Instructional objectives should include specific class activities that emphasize the development of tonal and rhythm syntax (Gordon, 1980). A sense of steady tempo and meter are fundamental to rhythmic understanding and a sense of tonality is fundamental to tonal understanding. One must possess a sense of rhythm to give syntax to give meaning to the rhythmic elements of music, and one must possess a sense of tonal syntax to give meaning to the tonal elements of music.

Audiating and possessing a sense of tonality is fundamental to listening, performing, recalling, and creating music (Grunow, 1989). Audiation refers to the ability to give music meaning through mentally hearing music by means of recall, musical composition, or viewing musical notation (Gordon, 1980). Individual tones are understood by the listener by relating them to other tones within a given tonality. The understanding of the relationships between the tones within patterns and between patterns requires a syntactical understanding of the organization of tonality within music. When a student has achieved a syntactical understanding of the tonality through audiation, then the student can give meaning to the tonal elements of music by predicting what will logically come next while performing or listening to it.

Beginning instrumentalists should possess a syntactical understanding of the tonal and rhythmic elements of music prior to any instrumental experience (Gordon, 1980; Grunow and Gamble 1989). Class lessons that include instruction in singing the resting tones, tonal patterns, and musical phrases together with movement to the macro beat and chanting rhythmic patterns will improve a student's sense of tonality and sense of rhythm (Grunow and Gamble, 1989; Azzara, 1993). Once a student can successfully perform these tasks, the student should perform the same tasks instrumentally. Instruction that emphasizes the development of a student's conceptual understanding of music will manifest itself in performance skills such as intonation, good tone quality, musical expression, and rhythmic accuracy.

If the development of a sense of tonal syntax is central to music understanding, music teachers must find a means through which to develop their students' tonal syntactical understanding. In two individual studies, both MacKnight (1975) and Grutzmacher (1987) found that instruction using tonal pattern content, with vocalization and harmonization as teaching techniques, significantly improved melodic sight-reading skills. Davis found that a combination of singing and self-evaluation practice was a useful approach to developing instrumental performance skills, self-evaluation skill, and positive attitude in beginning sixth grade students (1981). The results of these studies indicate that a high level of musical understanding, as indicated by melodic sight-reading capabilities, can be obtained when instruction emphasizes tonal pattern training, singing with tonal syllables, chanting with rhythm syllables, active listening, and conceptualization.

Teaching Techniques for Beginning Instrumental Music Instruction

Program objectives describe what will be taught and when it will be taught. Once the educator has determined the goals of the program, an appropriate method must be determined. Method materials such as music texts and supplemental materials chosen by the educator should complement the objectives of the music program. While choice of

program objectives and methods can significantly affect a student's music achievement, the techniques a teacher uses to introduce a student to music and guide them in the musical experience are vital to a student's conceptual understanding, musical performance, and attitudes toward music. Teaching techniques are the means to students' achievement of objectives.

Teaching techniques have been developed through empirical and descriptive research about how children learn and mature, speculations of experienced teachers, and teacher's individual teaching preferences. Some of the established techniques include (1) modeling and imitation, (2) lecture, and (3) singing. The following is an overview of some of the techniques commonly used in beginning instrumental music instruction, related research, and discussion of strengths and weaknesses of each approach.

Modeling and Imitation

Modeling and imitation are used to teach specific performance skills. Through demonstration, or modeling, the teacher can show the student the desired musical or musically related behavior (Sang, 1986). Learning occurs when the student imitates the teacher's model (Greer, 1980). Greer states that modeling followed by activities of imitation and discrimination should aid in the development of aural musicianship and instrumental performance skills (1980). Students who receive musical discrimination training using modeling and imitation demonstrate a higher level of discrimination skills than students who do not receive this training (Delzell, 1989). In Delzell's study, the students received only aural training and were not engaged in music reading activities. It was found that the students who were instructed using modeling and imitation had significantly higher discrimination skills; however, there was no significant difference between the groups in regard to musical performance achievement. When students are exposed to minimal narration and nontechnical vocabulary and an abundance of performed musical examples of proper tone quality, intonation, melodic and rhythmic patterns,

expression, style, balance, and tempi, they are able to discriminate between examples in a "same" or "different" format and imitate a correct model performance (Delzell, 1988).

Puopolo (1970), Sang (1986), and Folts (1973) found that imitation of tape recorded models improved student achievement of music performance skills. Kendall (1988) found that modeling and imitation improved the development of aural musicianship and music performance skills and, when combined with music reading activities, did not impede student learning.

Modeling and imitation presented through self-instructional practice tapes and teacher demonstration contribute to student development of performance skills and aural discrimination skills. Researchers (Folts, 1973; Kendall, 1988; Puopolo, 1971; Zurcher, 1975) would argue that modeling and imitation together are most effective for teaching beginning instrumental students. Gordon (1980), Grunow (1989), and Azzara (1993) assert that when children are imitating, they may merely be mimicking and not conceptualizing. They believe that methods that encourage more advanced levels of thinking promote more meaningful learning at a conceptual level. Modeling and imitation also require quality, frequency, and consistency. Any error in modeling by the instructor is very likely to result in error by the student. Other approaches in conjunction with modeling and imitation may give the child more of an opportunity to develop higher level thinking skills that may assist them in avoiding the repetition of a poor musical example. Modeling and imitation alone, although proven effective in some situations and for achieving some goals, do not assure conceptual understanding in beginning instrumental music students.

Lecture

One of the most common forms of instruction in beginning instrumental music is lecture or verbal communication. During lecture, instructors teach music through talking about music. This technique is frequently used to convey specific facts about music, to solve technical or expressive problems in a given performance, or to provide verbal

imagery. Lecture should not be confused with classroom discussion, in which students are given the opportunity to verbalize their knowledge. In discussion, students are generalizing and are learning to conceptualize through identification and comparison processes. Lecture as a teaching approach refers only to verbalization on the part of the instructor.

Papke (1972) found that, in secondary instrumental ensemble rehearsal, the time directors spent in lecture ranged from 20% to 42.7% of the class period. Pontious (1982) similarly found that conductor talk occupied 42% of high school band rehearsals. Choral conductors were found to lecture 40% of the rehearsal time (Thurman, 1977). Kostka (1984) found verbal communication to occupy 42% of private piano lessons. Sang (1985) found that the average time spent talking during a beginning instrumental class was 40% and that 13% was teacher modeling, 13% was singing and movement, and 34% was students playing their instruments. In a previous study, Sang (1982) found modeling to be a more efficient use of class time than lecture by nearly a three to one margin.

In younger ensembles, teachers often attempt to explain music verbally to students instead of providing musical experiences and examples for them. Too much time spent lecturing may impede the development of performance skills. Based upon Sang's findings, Dickey, (1991) investigated the effects of two forms of instruction, one that used a verbal approach and one that used a modeling approach. The purpose of the study was to determine whether instrumental music students who were taught using a modeling approach would develop better melodic ear-to-hand skills, kinesthetic response skills, and general music discrimination skills than students taught with verbal strategies. It was found that the group receiving modeling instruction demonstrated significantly greater ear-to-hand skills and kinesthetic response skills. However, no significance was found for general music discrimination skills in relation to the group receiving verbal instruction.

Rosenthal (1984) investigated the use of taped performance for practice with college music majors. Four different kinds of training tapes were used as treatments with four

different groups. They included: (1) a performance of an excerpt of the etude and integrated verbal instruction; (2) complete performance of the etude and no verbal instruction; (3) verbal instruction with pauses for mental practice; and (4) no training tape. Student performances were rated by two judges. Rosenthal concluded that students using the "performance only" tape achieved significantly higher than students using the "performance with verbal guidance" tape. Students using the "verbal instruction only" tape and "no tape" scored significantly lower.

Research supports that lecture may be the least effective approach to use with beginning instrumentalists. Sang, Dickey, and Rosenthal compared the effectiveness of lecture in comparison to modeling strategies. Modeling and imitation is an effective approach for teaching beginning instrumentalists. However, there is little research to support that lecture or modeling and imitation, when used exclusively, are effective for developing a conceptual understanding of music.

Use of Singing in Beginning Instrumental Music

Singing, the act of performing musically using one's voice, is one of the most universal music performance skills (Schleuter and Schleuter, 1988). Singing assists the student in the development of (1) a sense of pitch, (2) a sense of tonality, (3) intonation, (4) musical phrasing, and (5) style of articulation. It is fundamental to the development of a sense of tonality, which is the ability to aurally perceive the relationships of tones within a harmonic framework (Gordon, 1971). Musical skills and musical understanding taught through singing build readiness for instrumental performance and reading notation (Casey, 1993). Through singing, an individual develops the ability to audiate. When one audiates, one comprehends the structure, tonality, and meter of the music (Grunow, 1986). Singing experiences that encourage audiation facilitate the development of a sense of tonality (Leonard and House, 1959; Mursell, 1934). Singing can be used as a diagnostic tool to

assess how accurately students' audiate. A sense of tonality must be developed through singing and audiation before a student performs music instrumentally (Gordon, 1980).

Beginning instrumental music students can improve performance skills by singing the same music that is to be played on an instrument (Mursell, 1934; McGarry, 1967; Grunow and Gamble, 1989). Harris (1977) found that singing during junior high and high school band rehearsals significantly improved students' intonation. Once a student has developed a sense of tonality, singing activities that emphasize relationships of tones to musical symbols and to physical actions should be included at the same time that the instructor is encouraging further tonal development. Singing activities may also incorporate rhythm with tonal activities once a sense of tonality and rhythm have been individually developed (Grunow and Gamble, 1989). Singing is a musical achievement that significantly contributes to musical understanding through tonal concept development (Gordon, 1971).

Appropriate teaching techniques should be used with singing exercises to assure achievement of performance skills and development of a conceptual understanding. Activities in which students are instructed to sing along with the teacher or as a class will not significantly improve tonal development (Gordon, 1980). Singing activities should include listening, imitation, and group and solo experiences with tonal patterns and rote songs using solfege and neutral syllables. All singing activities should emphasize resting tone. The resting tone is the tone that sounds most restful and is also referred to as the tonal center or tonic. Different tonalities are audiated in relation to the resting tone (Gordon, 1971). One should determine the tonality by audiating relationships between the tones and to the resting tone (Grunow, 1989). Beginning instrumental students should be taught to audiate and sing the resting tone in a given tonality prior to instrumental performance. This is imperative to the development of a sense of tonality as well as intonation (Grunow and Gamble, 1989).

Most traditional techniques used for developing a sense of tonality, intonation, phrasing, articulation and expression do not incorporate singing. Colwell (1969) states that good intonation should be taught through listening and the use of a strobe tuner. In contrast, Shuler (1986) suggests that a director-centered tuning process using a strobe tuner will prevent students from achieving independence in tuning. He also stresses that this process of visual matching is different than the aural process of matching and blending with other musicians in an ensemble, which should be the musician's and teacher's goal. Shuler states that good intonation is guided by student's tonal audiation and by teacher's model of in-tune playing and singing. Colwell (1969) also suggests using lecture to teach good phrasing, articulation, and expression. Schleuter (1988) advocates singing the music before playing it on an instrument. He states that an instrument is an extension of the voice and tasteful musical phrasing, dynamics, articulation, and expression can best be obtained through first singing the music in the desired manner.

Music Aptitude

The effectiveness of teaching techniques should be measured in relation to students' music aptitude. A student's music aptitude is his or her potential to achieve musically (Gordon, 1980). Instructional objectives and instructional techniques should be adapted to teach to the individual differences among students (Froseth, 1968; Gordon, 1970; Hatfield, 1967). A teaching approach that focuses on students as individuals will be most effective for developing students' conceptual understanding and musical performance skills.

The Music Aptitude Profile (Gordon, 1995) has been experimentally shown to possess diagnostic as well as predictive validity (Gordon, 1965; Hatfield, 1968). This test battery should be administered prior to instrumental music instruction to measure each student's music aptitude. Three groups of students should be defined within each class according to percentile ranks: low-aptitude, moderate-aptitude, and high-aptitude. Once these groups are defined, instruction should adapted to meet the needs of each student.

In terms of developing objectives, program objectives should not be altered in consideration of MAP results; however when formulating instructional objectives, the test results should be considered. The results should be used to adapt instruction to meet the individual differences of each student. Singing is an effective technique to use for adapting instruction according to student's individual musical aptitude. For example, when singing songs by rote and tonal patterns with individual students or small groups within a larger ensemble, the instructor should select appropriate content that is most beneficial to those individuals. A teaching technique that effectively teaches to the individual musical differences among the students can prevent boredom among the high-aptitude students and frustration among the low-aptitude students.

A teacher must know each student's potential to achieve in music so he can monitor how each student is achieving in relation to that potential (Taggart, 1989). Students' musical aptitudes should be considered when formulating appropriate instructional objectives and when evaluating student achievement in relation to those objectives. Furthermore, students' music aptitudes together with their music achievements can be used to measure the effectiveness of contrasting teaching techniques.

Summary

Students learn best when they are actively involved in their environment. Research has shown modeling and imitation to be an effective approach. However, this approach proves to be more effective when incorporated with other methods that promote a more conceptual understanding of music. Modeling and imitation can be used to teach aural perception and discrimination skills, but alone do not allow for the development of identification or association skills that lead to the ability to generalize and to other higher level thinking skills. Lecture is useful for describing music to students but does not provide a situation in where students are learning through musical experience. The most effective technique for the development of a sense of tonality and rhythmic understanding is

singing. During singing activities, the student is actively involved in imitation of a model and in audiation involving independent thinking and conceptualization. A teaching approach that is focused on singing allows for the development of a sense of tonality and rhythm, music reading, and performance skills such as phrase shaping, musical expression and style. Contemporary research should be concerned with examining the effectiveness of present teaching methods that emphasize singing and with developing new approaches based upon the examination of the research results.

Purpose

The purpose of this study is to investigate instructional techniques that emphasize the development of tonal syntax through the singing of rote songs and resting tones to improve music performance achievement and musical understanding in beginning instrumental students.

Problem

The primary problem of this study is to compare two modes of beginning instrumental instruction. One mode of instruction will emphasize the development of a sense of tonality, rhythm, and musical expression through a teaching approach that uses singing and playing and focuses on resting tone in music reading activities. The other mode of instruction will not incorporate singing, but instead will use a traditional approach in which students perform instrumentally and in which notes and symbols are taught through identifying them directly from notation. Most specifically, this study concerns itself with whether these two approaches result in significantly different student achievement in terms of: (1) intonation, (2) phrase shaping, (3) musical expression. The secondary problem of this study will be to investigate the effect of music aptitude on student achievement in terms of: (1) intonation, (2) phrase shaping, and (3) musical expression.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Singing is a common instructional approach in beginning instrumental instruction. However, a limited body of research exists concerning the effects of singing instruction on fifth grade beginning instrumentalists' achievement of performance skills and conceptual understanding. Only five studies from the literature investigated singing as a teaching approach for elementary band classes. No study was found to be specifically concerned with intonation, phrase shaping, and musical expression. The present chapter involves discussion of these related studies and comparison to the present study.

Related Studies

One early study on singing and beginning instrumental performance achievement was conducted by Elliott in 1974. He investigated the effect of vocalization on the sense of pitch of beginning band students. The major purpose of Elliott's study was to research whether regular singing activities during beginning band classes had a significant effect on developing students' abilities to: (1) notice slight differences of tones sounded consecutively, (2) recall a short melodic passage correctly, (3) convert aurally perceived sounds into musical notation, and (4) mentally convert musical notation into musical sounds. These four abilities were how Elliott defined a sense of pitch.

The subjects of the experiment were 196 beginning band students from six different schools. The students were grouped heterogeneously into experimental and control groups, and met for one lesson every day for the length of the school year. Although it is not indicated in the study, it is presumed from this schedule that the sample consisted of junior high students and not elementary students. Elliott pretested the students using the pitch discrimination and tonal memory sections of the Seashore Measures of Musical

Talents (1939 revision). The purpose of the pretest was to test student's ability to recognize differences between tones played consecutively and to recall brief melodic passages.

Lessons were taught using the First Division Band Method (Parts One and Two). Experimental groups sang the pitches for the exercises on the syllable "la" after the teacher had modeled the singing exercise. In the first half of the study when Part One was used, exercises were played, sung, then played again. Once students began Part Two, exercises were sung first beginning on a tone provided by the instructor and then played. There were no other experimental methods indicated in this study. The control group was taught in a traditional manner that was determined by the individual instructor. At the conclusion of the school year, students were again tested on the pitch discrimination and tonal memory sections of the Seashore Measures of Musical Talents (Subtest A). Their ability to match sounded music with musical notation was tested using Subtest B. Subtest C and D were used to measure the students' ability to change musical notation into musical sounds through the identification of pitch errors in given musical examples and their ability to change musical sounds into musical notation through music dictation exercises.

The results of this study indicate that the experimental group scored significantly higher on Subtests A, C, D, and on the overall scores. This group also scored higher on Subtest B but not at a significant level. Brass players scored higher than woodwinds, but not at a significant level. Many of the students in both the experimental and the control groups were involved in vocal ensembles outside of this study. Elliott found that neither those involved in vocal ensembles in the control group or in the experimental group scored higher on overall post test scores. Elliott also compared students who studied piano to those who did not study piano within the experimental group and within the control group and between the experimental and control groups. Pianists in both groups scored higher on Subtest C than nonpianists. Also, pianists in the experimental group scored significantly higher than pianists in the control group. Elliott concluded that singing as a part of daily

instruction in band significantly affected students' sense of pitch. He also concluded that while private piano study had a significant effect on students' ability to match musical sounds with musical notation, regular participation in vocal activities outside of band did not have a significant effect.

This study is related to the present one in that the effect of singing on students' sense of pitch was tested. However, this study differs from the present one in several ways. First, subjects in this study probably were junior high students and the length of the study was one school year. Elliott did not give a detailed explanation of the instructional sequencing for the singing activities, so it is difficult to compare teaching method to the present study.

Elliott chose to measure student ability through Seashore Measures of Musical Talents. In this measure, students are asked to aurally discriminate among subtle differences in tones that are presented out of context. This tests student ability in isolated skills that are primarily focused on music perception and not music understanding. Since the students were actively participating in music performance, it may have been more appropriate to measure students' sense of pitch through instrumental performance.

McGarry (1967) investigated the effects of vocalization on the development of instrumental performance skills among junior high school students. The purpose of this study was to investigate whether performance skills, such as technical accuracy, duration, slurs, rests, fluctuation in tempo, observation of expressive mark, holds, and repeats, were improved through instruction that included singing activities.

The subjects in the study were 74 junior high school brass and woodwind students. Subjects were placed in experimental and control groups using a matched pairs process based on individual scores from performances on Form A of the Watkins-Farnum Performance Scale and the mean score and standard deviation. The experimental group consisted of seven sub-groups and the control group consisted of six sub-groups. All groups were homogeneous and met for one 18 minute lesson for 14 consecutive weeks.

The instructional approaches used for the study were the same for each group, except a singing activity was used with the experimental group. Vocalization of letter names, rhythmic patterns, and articulation patterns along with singing activities to teach instrumental playing were incorporated into the lessons for the experimental group. Prior to instrument performance, the students in the experimental group were engaged in three minutes of singing while simultaneously listening to a taped or live performance of the same exercise. A neutral syllable was used during this singing activity. Students in the control group listened to the exercise prior to playing it but did not engage in any singing activity. For both groups, the lessons were based on Form B of the Watkins-Farnum Performance Scale. Form A was used as the post test at the conclusion of the study.

Gains made by the experimental group were higher but not at a statistically significant level for (1) the groups in their entireties, (2) the brass or woodwind sections sections within the experimental and control groups, or (3) the segments in either groups whose scores were below the third quadrille. It was found that the gains made by the lowest quarter of the experimental groups were significantly greater than those made by the same segment of the control group.

From these results, McGarry made the following conclusions.

1. Vocalization significantly effects the achievement of performance skills of students of below average ability.

2. Vocalization is particularly effective for students in the lowest quadrille based on the fact that no students in this segment of either group were studying privately.

3. Due to the gains made by the lowest quarter of the experimental group the achievement range for the group as a whole was narrowed. McGarry states that this phenomenon facilities the selection of repertoire, the formulation of lesson plans, and efforts to sustain interest during rehearsals.

4. Brass and woodwind sections were effected by vocalization exercises to almost the same extent.

There are several differences between McGarry's study and the present one. The subjects of McGarry's study were junior high school students. It is unclear whether these students had instrumental training prior to this experience, and it is possible that through maturation, their readiness for instrumental study had improved. McGarry's sections within each group were homogeneous, whereas in the present study, students will be placed in heterogeneous groups. One of the most striking weaknesses in McGarry's study is that all of the singing activities occurred simultaneously with a live or recorded model. It is possible that the absence of singing activities in which students sung separately from the model may have impeded student's ability to audiate and also their development of a sense of tonality.

Watkins-Farnum Performance Scale was used as the post test measure as well as the pretest measure. This achievement test emphasizes the decoding of music symbols in the music reading process. In the tonal dimension of this test, the student is awarded points for playing the correct note. However, if the student waivers on a pitch or attacks the pitch incorrectly but performs a lip slur to achieve the correct pitch, the student is still given a "correct" score. In addition, points are awarded in the musical expression dimension when the student performs the correct dynamic marking or slur marking. Fermatas and repeat signs are considered part of the musical expression dimension. This measure does not adequately measure intonation, phrase shaping, or musical expression. In the present study, a rating scale is used as a post test measure.

Davis (1981) compared the effects of three experimental conditions on the instrumental performance achievement of elementary band students. These experimental conditions were (1) structured singing activities (2) self-evaluation practice, and (3) the combination of structured singing activities and self-evaluation practice. Davis criticized McGarry's study for not defining the method of singing, solfeggio or number system, used for singing instruction in his study. Davis believes that one of these two methods might have served to enhance the subjects' sense of tonality. In Davis' study, student self-

evaluation is used as a teaching method to develop independent thinking skills. He believed that many students rely too heavily upon the teacher for solving problems and that a goal of music education should be to train students to discriminate between an accurate and an inaccurate performance and to associate learned skills to new challenges. Practice in self-evaluation can assist in the development of these skills.

The subjects in this study consisted of 59 fifth-grade students and 34 sixth-grade students. Within each school and grade level, students were randomly placed into small heterogeneous control or experimental groups. The two small groups in each school met separately once a week for 30 minutes, and then once a week, the two groups combined into a large group for 40 minutes. During these large group meetings, experimental groups were paired with experimental groups and control groups with control groups. To facilitate the comparison of the three methods of instruction, each small group received varying combinations of singing, self-evaluation and no singing and no self-evaluation. The length of the experiment was 19 weeks (38 class lessons). All of the students were pretested on the "Melodic Tonal Imagery Subtest" of the Music Aptitude Profile.

Teaching method for the experimental groups consisted of teacher modeling, singing preparatory scale patterns, instrumental performance, singing and clapping, singing only, and clapping only. For the first three weeks, students were instructed through rote playing and singing exercises. Following teacher modeling of a three note pattern, the students would play, sing, then play again the desired sequence of tones. Numbers were used to represent scale tones. Beginning in the fourth week, students in the experimental group were led in singing activities that involved singing assigned tunes and etudes in the class text. Scale numbers and syllables such as "la", "tu", "du", and "ta" were used. The teacher modeled the pitch, tone, rhythm, tempo, articulation, and phrasing. The resting tone and scale relations in each etude were emphasized with preparatory scale patterns using numbers. In week 11 of the study, students began sight singing activities without the aid of the instructor. The sight reading process involved singing the exercises in the

same key as the selection being studied, naming the resting tone and scale tones by numbers, singing the resting tone that was played by the instructor, counting the melodic rhythm, and singing the selection by sight using numbers. Self-evaluation practice began in the fourth week of the study. Once a week, students evaluated their performance on note accuracy, breathing and phrasing, tone quality, rhythmic accuracy, consistency of tempo, and articulation. Only the sixth graders evaluated their performance on dynamics. Students were post tested using the "Melodic Tonal Imagery Subtest"of the MAP and a music interest inventory How I Feel About Music. Individual performance measures included (1) one prepared playing selection, (2), one prepared singing selection, (3) one sight-singing selection, and (4) one sight reading selection. Performances were evaluated by each student as a self-evaluation exercise and were also evaluated by a panel of three experts who rated the student performances.

The results of the investigation indicated that fifth grade students who participated in structured singing activities as a single experimental condition scored significantly higher on instrumental performance. The highest mean attitude was scored by this group, although it was not higher at a statistically significant level. Predictably, significance was not obtained by an experimental group in terms of melodic tonal imagery. The Melodic Tonal Imagery subtest of MAP measures a student's stabilized music aptitude. When this test is used as a pretest and post test, a student's test scores for both administrations should be comparable. The greatest gains were made by fifth grade students in the structured singing and both singing and self-evaluation groups. The singing only and the singing and self-evaluation group had the highest correlation. Davis concluded by stating that structured singing activities, self-
evaluation practice, and the combination of these provide a significant approach to developing instrumental performance skills, self-evaluation, and attitude. It is important to note that results differed for first and second year students. It was found that the traditional approach to instruction provided a significantly effective approach to developing

instrumental performance skills and attitude with sixth grade students. No experimental condition provided an effective approach to developing melodic tonal imagery.

The Davis study is similar to the present study in that the effect of singing on beginning instrumentalist's performance achievement was tested. Both studies use MAP as a pretest measure and final student performances evaluated by judges using rating scales. Also, the instructor in the present study will model pitch, tone quality, rhythm, articulation, and phrasing similar to the instructional sequences used by Davis. However, the student will sing each exercise prior to playing it on an instrument. During this exercise, the instructor will emphasize the resting tone. In the Davis study, students were required to play the exercise before they sang it, and no emphasis was given to the resting tone. The present study does not focus on any formal training of self-evaluation practice.

MacKnight (1975) investigated the effect of tonal pattern training on aural discrimination and sight-reading skills. The purpose of the study was to develop teaching techniques and materials that would emphasize the structure of the melodic line. The major problem under consideration was whether or not tonal pattern training in beginning wind instruction had a significant effect on musical achievement in comparison to traditional instruction consisting of learning letter name, a fingering, and then producing the tone.

The experimental group consisted of 90 fourth-grade students in three elementary schools. The Music Aptitude Profile and a Student Attitude Questionnaire were administered as pretests. MacKnight also used Lorge-Thorndike Intelligence Test scores that were obtained from the school records to statistically match the groups on the basis of musical aptitude and intelligence. One of the three schools served as the experimental group and the remaining two served as control groups. The homogeneous groups of six students each met one time a week for 30 minutes for a period of 32 weeks. All groups covered the same material with the exception of the experimental group that was instructed using singing and tonal patterns with solfeggio. Students were instructed using a series of ten tonal patterns: "sol mi", "sol mi do", "sol la sol", "mi re do", "sol do", "sol fa mi",

"sol fa mi re do", "do la sol", "do ti do", and "sol la ti do". The patterns were presented in a three step procedure: (1) aural presentation, (2) auditory-visual presentation, and (3) auditory-visual presentation of the pattern within a musical phrase. The students sang the patterns using solfeggio or letter names then performed the patterns on their instruments. Melodic rhythm was taught in phrases through an aural or visual presentation. Students were instructed using the Kodaly system of rhythm syllables to sing each phrase. Note values were taught with a focus on the number of pulses given to the rhythm syllable.

The control group was instructed using the method prescribed in the Breeze Easy Method Book (Kinyon, 1959). In this method, a new pitch with its letter name and fingering may be found at the top of the page. The new pitch is labeled as a fingering and a letter name, no other significance is given to it in the text. The students in the control group were instructed to sing each exercise using letter names and rhythm syllables. However, in addition to the syllables, the control group was also instructed through melodic rhythm exercises by counting in the traditional manner using a number to identify a quarter note and "one and" to identify two eight notes and so forth. The post test measures administered in the final two weeks of the study consisted of the Watkins-Farnum Performance Scale, Colwell Music Achievement Test, and the Student Attitude Questionnaire.

The results of this study indicated that the experimental group scored significantly higher on the WFPS than the control group. Among the students with low music aptitude, those in the experimental group scored significantly higher on the WFPS than the low aptitude students in the control group. Concerning MAT, the experimental group scored significantly higher than the control groups. MAT scores of low aptitude students in the experimental group were not affected significantly. Lastly, the experimental treatment did not make a significant difference on attitudinal development between the two groups.

Based on these results, the researcher concluded that teaching using tonal pattern instruction was superior to traditional note identification procedures in regard to developing

sight-reading and auditory discrimination skills. MacKnight also stated that musical understanding can be developed at a high level when instruction emphasizes: (1) tonal pattern identification, (2) active involvement in aural discrimination activities, (3) singing using tonal syllables, (4) chanting using rhythm syllables, (5) conceptualization, and (6) organized materials that introduce tones and rhythms in their most common patterns.

The MacKnight study is similar to the present study in that the effect of singing on beginning wind students' performance was tested. However, it is different in several respects. The investigator researched the use of tonal pattern training on music reading skills, specifically aural discrimination and sight-reading. The present study focuses on the effects of singing on specific performance achievements such as intonation, steady beat, phrase shaping, and musical expression. These elements are included in WFPS and MAT; however, they are not evaluated as individual performance skills. The present study will use a rating scale to measure student achievement specifically on these skills. In addition to this contrast, the MacKnight study used fourth graders as subjects. They were divided into homogeneous groups, whereas in the present study, the fifth graders will be divided into heterogeneous groups.

Grutzmacher's study (1987) was also concerned with the effect of tonal pattern instruction on beginning winds performance achievement. More exactly, she was concerned with the effect of this instruction on students' ability to sight-read, perceive tonal patterns in major and minor modes, and to read from notation major and minor tonal patterns when presented aurally and visually at the same time. The major problem of the study was to compare two modes of instruction. The experimental approach concentrated on tonal concept development using tonal pattern content with harmonization and vocalization as teaching techniques. The control group instruction focused on a single-note identification approach using symbols and a range of pitches taught from notation that emphasized the development of technical skills.

The subjects included 48 fifth and sixth grade beginning wind students. The students were placed in homogeneous instrumental classes that were randomly assigned to either the experimental or the control group in each school. The 30 minute lessons met one time per week for 14 weeks and were taught by the researcher. The pretest measures included Iowa Test of Music Literacy Test 1 and Test 2 and Music Aptitude Profile Tonal Imagery. The instructional content for the experimental group included a set of 10 major and 10 minor tonal patterns. The lesson began with a 10 minute period in which tonal patterns were presented aurally and then with notation. Students were engaged in singing long tones, scales, and arpeggios using harmonization and vocalization with solfeggio. They were also instructed in major and minor patterns through singing followed with performing on instruments with harmonization. The middle portion of the 30 minute lesson focused on assigned exercises from the text. The pattern of instruction consisted of: (1) the isolation of tonal patterns, (2) singing the tonal pattern, (3) singing the exercise, (3) playing the exercise, and (4) singing and playing the exercise with harmonization. The concluding five minutes of the lesson included identification of tonal patterns within new exercises and introduction of new tones through their function in tonal patterns. Lastly, playing activities at the aural level were transferred to music reading activities.

The control group used the same text with the omission of tonal pattern instruction. Tones were presented using notation from the text. Long tones, scales, and arpeggios, were played from notation with no singing or harmonization. New exercises were presented in the order they appeared in the text with no singing or harmonization. The introduction of new tones and symbols were presented through notation, fingering, and playing the tone. Lessons included all aspects of learning to play and read music, including such areas as rhythm, articulation, and dynamics. Grutzmacher stated that care was taken to follow the same procedures in both groups in regard to these performance skills. The teaching technique for these skills was not described in this study. Students were post

tested on the Iowa Test of Music Literacy Test 1 and Test 2 and researcher constructed Melodic Sight-reading Achievement Test.

Results of this study indicated that instruction consisting of tonal pattern content presented through the use of singing and harmonization activities significantly improved the melodic sight-reading skills of beginning band students over the traditional method, in which notes are presented individually through notation with no singing or harmonization. It was also shown that instruction emphasizing the recognition of major and minor tonalities through singing, playing, listening, and comparing major and minor patterns leads to a stronger conceptual understanding than the use of definitions and descriptors to teach differences between major and minor. Correlations between pretest and post test measures demonstrated that students in the experimental group were shifting from dependence on visual perception toward more of a balance or aural-visual perception skills and therefore were beginning to develop a sense of tonality and audiation skills. Lastly, high correlations between the experimental group scores on MAP and music achievement scores in perception of modes demonstrated that the instructional method applied to the experimental group is a more efficient way of developing tonal abilities of students and thus translating aptitude into achievement.

The Grutzmacher study, like the MacKnight study, investigated the use of instruction using tonal pattern content on beginning wind players aural discrimination and sight-reading skills. These two skills are considered fundamental to the development of a sense of tonality and to a conceptual understanding of music. Grutzmacher indicated that any instruction in areas including rhythm, articulation, and dynamics was identical for both groups. Neither of these studies researched the effects of singing on the development of intonation, phrase shaping, or musical expression in beginning instrumentalist's musical performance. Also, both studies emphasized tonal pattern instruction, whereas the present study will focus on instruction using resting tone and rote songs. These skills may also be effected by instruction that emphasizes singing and are also significant skills in the

development of a sense of tonality and meaningful musical performance. Grutzmacher's study also differs from the present study in that the subjects consisted of fifth and sixth grade students whereas the present study subjects include only fifth grade students. The Music Aptitude Profile is used as a pretest in both studies. However, the present study will use an etude and rating scale instead of Iowa Test of Music Literacy Test 1 and 2 and Melodic Sight-reading Achievement Test for the post test.

Summary

These studies, with the exception of Elliott's, determined that instruction using singing significantly improves student achievement of music performance skills. Elliott found that instruction using singing improved students' aural discrimination skills and pitch perception on Seashore Measures of Musical Talents. However, this measure does not test instrumental music performance skills; therefore, the effects of singing on student instrumental performance and conceptual understanding is unknown. Both McGarry and MacKnight used Watkins-Farnum Performance Scale to measure the effect of singing instruction on music performance skills. McGarry's procedure consisted of singing an etude using numbers and letter names prior to performing the etude instrumentally. MacKnight focused on instruction using singing with tonal patterns. In addition to the WFPS, MacKnight also used MAT to measure student aural discrimination skills. Similarly, Davies found that students involved in singing tonal patterns and etudes achieved at a significantly higher level than students who did not receive this form of instruction. Davies evaluated student music achievement using their performance on one sight-reading and one prepared etude rated by three judges. Grutzmacher also measured students melodic sight-reading and found similar results. She also determined that singing with tonal patterns significantly improved perception of tonal patterns as tested using the Iowa Test of Music Literacy. MacKnight, Davies and Grutzmacher state that students' sense of

tonality and conceptual understanding of music is significantly effected by instruction using singing.

From an investigation into these studies, it is evident that singing is an effective approach for teaching beginning instrumental instruction. There is some evidence that singing can effect students' sense of tonality and rhythm and instrumental performance skills. Upon review of this literature, it is evident that the effects of singing on such specific, fundamental objectives as intonation, phrase shaping, and musical expression were somewhat overlooked. It is the goal of this study to examine the effects of singing on students' conceptual understanding of music as evidenced in their performance of these skills.

CHAPTER III

METHOD

Subjects

The subjects for this study are 116 fifth grade beginning band students currently studying a brass or woodwind instrument in the beginning band at Kreeger Elementary School in Fowlerville, Michigan. Letters of invitation to participate in the study were sent home to all beginning band students and their parents. All students who returned permission slips were included in the study. This study was approved by the University Committee on Research Involving Human Subjects at Michigan State University.

Procedure

At the beginning of the study, the Tonal Imagery and Musical Sensitivity Subtests of the Music Aptitude Profile (Gordon, 1988) were administered to the students. This measure also includes a Rhythm Imagery subtest that was not used in this study. The two subtests chosen for this experiment are most specific to the musical concepts (intonation, phrase shaping, musical expression) under investigation. In the Tonal Imagery subtest, the students were asked to compare a musical answer with a musical question. The musical questions and answers consist of short phrases. The students were asked to decide whether the musical answer was like or different from the question. The Musical Sensitivity subtest is musical preference measure that relates to musical expression and musical creativity. The student was asked to decide which of two renditions of the same musical phrase made the better "musical sense" (Gordon, 1995).

The classrooms were randomly divided into control and treatment groups. The experimental group consisted of three sub-groups and the control group consisted of two sub-groups. This division was necessary to accommodate the existing fifth-grade classroom schedules. Both the experimental group and the control group were taught by the researcher. Each group met for two 30 minute heterogeneous lessons per week for a

period of 14 weeks. None of the students involved in this study had received any instrumental instruction prior to this study, with the exception of classroom instruments used in general music. The Yamaha Band Student Book 1 (Feldstein and O'Reilly, 1988) was the music text for both the experimental and the control groups. The instructional sequence in this text is a traditional approach that presents a new note and its fingering at the top of the page. Captions with examples of dynamic markings, slurs, breath marks, staccato marks, legato marks and other symbols are also introduced on the top of the page. One or more of the exercises on that page focus on the new concept presented in the caption.

The initial four class lessons were the same for both the experimental and the control groups. The instruction included: (1) instrument assembly, (2) instrument care, (3) embouchure formation, (4) posture, and (5) tone quality and breath support. Instruction was controlled by using the same teaching techniques for teaching each concept, presenting the instruments in the same sequence, and in the same time period. Two qualified teachers participated in a series of observations designed to determine whether the lessons presented to both groups were equal in quality and content.

Teaching Procedure for the Experimental Group

The treatment for the experimental group included the following procedure:

1. During the 30 minute lesson period, the teacher led the students in steady beat activities for approximately two or three minutes. Movements consisted of swaying, parallel arm movement, alternate arm movement, and tapping on various body parts such as head, shoulders, and knees. The purpose of this activity was to develop the ability to synchronize movement with the beat in music (Grunow and Gamble, 1989; Weikart, 1984).

2. In the instance where a new note was presented on the lesson page, the teacher sang the new pitch and students echoed the pitch on a neutral syllable. The teacher

demonstrated the fingering for that pitch and the students performed the pitch instrumentally. Then the pitch was be introduced to them in notation using the example at the top of the page in the text.

3. For each new song, the teacher sang the resting tone and the students echoed. The instruction for the new song proceeded using one or more of the following sequences, depending upon the difficulty of the song.

a. The teacher sang a short phrase from the exercise and repeated the resting tone followed by student performance of the resting tone. The teacher directed the students in singing the phrase.

b. The teacher sang the same phrase using solfege and the students sang the resting tone. The students sang the phrase and concluded with the resting tone.

c. The teacher instructed the students to sing the resting tone and then sing the phrase using a neutral syllable. The students practiced the fingerings for the notes presented in notation. The class repeated the resting tone.

4. Melodic rhythms were be chanted using a number to represent a quarter note and "one and" to represent two eighth notes.

5. The students performed the resting tone and the phrase on their instruments.

6. In some instances, after the students had performed the song in its entirety, the exercise was repeated with some students singing and some playing, all of the students singing, or all or the students playing.

All instruction regarding phrasing, dynamic markings, articulation, and style markings was accomplished through singing examples, with the exception of reading the written definition of the concept or symbol at the conclusion of the lesson. The teacher answered any questions the students may have had within the lesson period. If time permitted, phrases including the new note for that lesson were reviewed.

Teaching Procedure for the Control Group

The instructional activities for the control group consisted of the following procedure:

1. Within the 30 minute lesson period, the teacher led the students in steady beat activities for approximately 2-3 minutes. Movements consisted of swaying, parallel arm movement, alternate arm movement, and tapping on various body parts such as head, shoulders, and knees.

2. When a new note was presented at the top of the page, the teacher directed the student's attention to the new note in notation. The teacher instructed the students to look at the fingering diagram in the book and imitate the fingering for the note given in notation.

3. The teacher demonstrated the new note by playing it on an instrument and the students imitated.

4. Rhythms were be presented by using a number to represent a quarter note and "one and " to represent two eighth notes. Rhythms were learned by chanting the counts.

5. The teacher introduced new concepts and symbols presented on the page by reading the definition from the caption. The teacher directed the students' attention to examples within the songs on the page.

6. The teacher led the students in chanting the melodic rhythm using a neutral syllable and practicing the fingerings for the phrase.

7. The students were instructed to perform the first phrase of the song. Each phrase of the song was chanted then performed instrumentally.

8. After the students had performed the exercise together, the exercise was repeated with some students fingering and some playing.

The instructional materials were the same for both groups. The main difference was that the students in the experimental group were engaged in singing activities, whereas students in the control group were not.

To control for experimenter bias and in order to avoid contamination, several steps were taken. All knowledge of musical aptitude was be kept from the researcher until after the treatment period. Also, to insure that the teacher met the outlined requirements for each group, another music teacher from the school district randomly observed and critiqued the lessons taught by the researcher.

During the final week of instruction, students were asked to sight-read an eight measure etude written by the researcher (see Figure 1) . The etude was adapted to the appropriate range for each instrument. The student performed the etude for an audio recorder in separate room from the group. An adult was present to assist the student with the recording.

The musical achievement of each student was be measured at the conclusion of the study using a five point rating scale for each of the three independent variables (intonation, phrase shaping, and musical expression). The rating scale used by the judges had a 5-point continuous criteria intonation dimension, a 5-point continuous criteria phrase shaping dimension, and a 5-point additive criteria musical expression dimension (see Figure 2). The three dimensions of the rating scale were designed by the researcher. Student performances were identified by number and recorded on audio tape.

Figure 1. Instrumental Performance Etude

STUDENT NUMBER ____

RATING SCALE

INTONATION (continuous criteria)

1 The student does not play the resting tone in tune.

2 The student plays the resting tone in tune.

3 The student plays the resting tone and some of the notes in tune.

4 The student plays the resting tone and the majority of the notes in tune.

5 The student plays the entire exercise in tune.

PHRASE SHAPING (continuous criteria)

1 The student does not perform any of the notes as belonging to a musical idea.

2 The student performs two notes as a part of a musical idea.

3 The student performs two measures as a musical idea.

4 The student performs one four bar phrase but does not perform both phrases.

5 The student performs the notes in the first phrase as a musical idea and the notes in the second phrase as a musical idea.

MUSICAL EXPRESSION (additive criteria)

1 The student performs with a sense of melodic and rhythmic direction.

1 The student performs using appropriate dynamics.

1 The student performs with characteristic tone quality.

1 The student performs with the appropriate articulation style.

1 The student performs the etude in the appropriate musical tempo.

COMPOSITE SCORE _____

Figure 2. Rating Scale

Three judges independently rated the student performances on three separate occasions, one for intonation, one for phrase shaping, and one for musical expression. The judges included the researcher and two graduate students from Michigan State University. One of the graduate students was a pianist and the other graduate student was a specialist in early childhood music and elementary classroom music education. Both have taught instrumental music professionally. For each dimension, the judges listened to a student performance and then recorded the number on the rating scale that corresponded to the criterion level that they felt best represented the student performance.

Prior to listening to the student performances, the judges were trained in the use of the rating scale. The researcher gave a description each of the criterion (1, 2, 3, 4, 5) in every dimension. The judges listened to five sample student performances for the tonal dimension, for the phrase shaping dimension, and for the musical expression dimension Then they rated the student performances for each dimension and discussed the results.

Statistical Design and Analysis

At the conclusion of the study, interjudge reliability among the three judges for each of the dimensions of the rating scale and the intercorrelations between the dimensions of the rating scale were determined. The reliability, means, and standard deviations were calculated for MAP. The means and standard deviations were also calculated for each dimension of the rating scale and for the composite score for both the experimental and the control groups.

Using the performance etude scores as the dependant variable, two-way analysis of variance was used to determine differences between the experimental and control groups in the areas of intonation, phrase shaping, and musical expression. This design was used to determine how music aptitude and the type of music instruction contributed to fifth-grade beginning instrumental music students' music achievement. If the students in the experimental group scored higher than those in the control group within the same aptitude

classifications, it can be determined that the instruction that used singing and resting tone was more effective in developing musical understanding .

CHAPTER 4

ANALYSIS AND INTERPRETATION OF DATA

This investigation is concerned with whether instructional techniques that emphasize the development of tonal syntax through the singing of rote songs and resting tones improve music performance achievement and musical understanding in beginning instrumental students. The specific concern was whether instructional techniques including singing result in significantly different student achievement in terms of: (1) intonation, (2) phrase shaping, and (3) musical expression.

The testing of this theory involved the administration of the Music Aptitude Profile (MAP) (Gordon, 1988) as a pretest measure to establish high-aptitude, moderate-aptitude, and low-aptitude groups within the control and treatment groups. After instruction, students' instrumental performances on an etude were evaluated by three judges using a three-dimensional rating scale as a measure of intonation, phrase shaping, and musical expression.

The following statistics were calculated; (1) means and standard deviations and the reliability coefficients of MAP subtests; (2) interjudge reliability of the judges ratings for the instrumental performance etude; (3) intercorrelations between dimensions of the rating scale; (4) means and standard deviations of the dimensions and composite of the rating scale; and (5) a two-way analysis of variance using the instrumental performance etude scores for the three dimensions and the composite of the rating scale.

Results

Means, Standard Deviations, and Reliability for the Music Aptitude Profile.

A comparison of the standard deviations of the sample population with those reported in the MAP manual show the mean scores of the sample in this study to be similar to the standardization sample and the scores to be less varied than the standardization sample (see Table 1).

The reliability (alpha coefficient) in this study for the Tonal Imagery subtest of MAP was .72 and for the Musical Sensitivity subtest was .80, compared to .81 for the Tonal Imagery subtest and .85 for the Musical Sensitivity subtest as reported by Gordon (1995) in the MAP manual. These outcomes indicate that this measure was reliable with this sample population.

Table 1. Means and Standard Deviations for the Tonal Imagery and Musical Sensitivity Subtests of the Music Aptitude Profile

	Tonal Imagery		Musical Sensitivity	
	Mean	S. D.	Mean	S. D.
Control Group	48.80	5.97	46.26	6.72
Treatment Group	47.91	6.97	46.09	6.42
Standardization Sample (MAP Manual)	47.40	7.88	46.60	7.32

A comparison of the composite means and standard deviations for the treatment and control group show the control group to have a slightly higher mean score than the treatment group. The Tonal Imagery and composite scores of the experimental group were more dispersed than those of the control group (see Table 2).

Table 2. Means and Standard Deviations for Music Aptitude Profile for the Sample Population for the Composite of Tonal Imagery and Musical Sensitivity Subtests

	Mean	S. D.
Control Group	48.19	4.77
Experimental Group	46.26	6.63
Control X Experimental Group	47.22	5.31

Based on MAP scores, students were grouped according to aptitude levels. Students with MAP scores greater than or equal to 66th percentile were identified as high-aptitude; students with MAP scores greater than or equal to the 33rd percentile and less than the 66th percentile were identified as moderate-aptitude; and students with MAP scores less than or equal to the 33rd percentile were identified as low-aptitude students.

The aptitude scores as a whole approximated a normal distribution (see Figures 3, 3a and 3b). However, once the students were grouped according to aptitude level, discrepancies existed between the control and experimental groups. The standard deviation of scores for the low-aptitude students in the treatment group (S. D. = 5.17) and high-aptitude students in the treatment group (S. D. = 4.24) were both much larger than for the low-aptitude control group students (S. D. = 2.26) and high-aptitude control group students (S. D. = 2.54). The standard deviations of the moderate-aptitude students in the treatment group (S. D. = .93) and the moderate-aptitude students in the control group (S. D. = .89) were comparably dispersed.

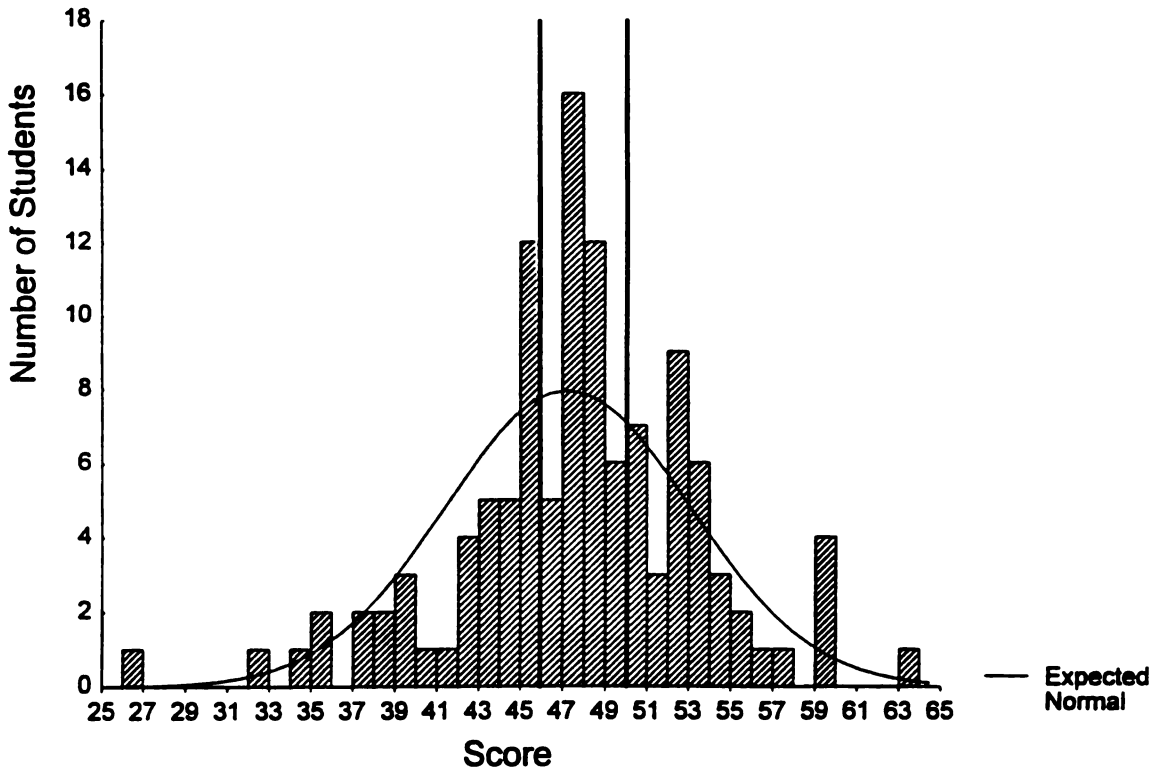

Figure 3. Distribution of Scores for the Music Aptitude Profile for the Control and Treatment Groups

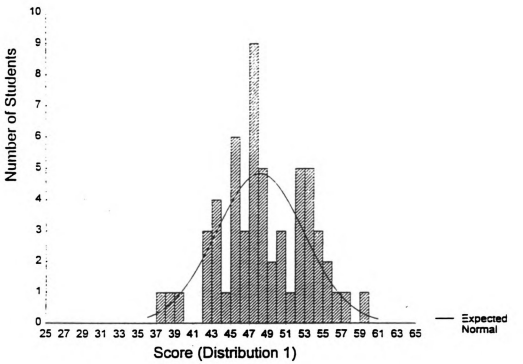

Figure 3a. Distribution for the Control Group

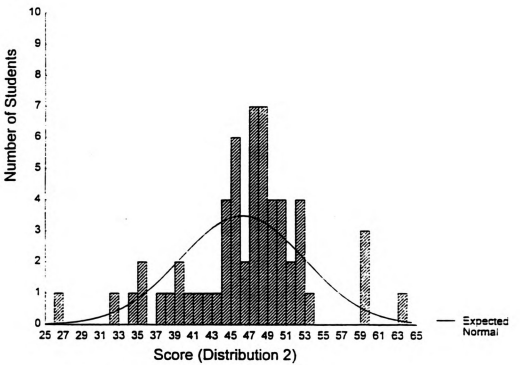

Figure 3b. Distribution for the Treatment Group

Interjudge Reliability Results. Interjudge reliability among the three independent judges was determined for each of the dimensions of the rating scale (intonation, phrase shaping, and musical expression) and for the composite using correlations between all possible pairs of judges. Table 3 presents the interjudge reliabilities. The composite reliabilities ranges from .92 to .97. The high reliabilities indicate a high level of consistency of the instrumental performance evaluations between the three judges.

Table 3. Interjudge Reliability for the Dimensions and Composite of the Rating Scale

	Intonation	Phrase Shaping	Musical Expression	Composite
Judge 1X2	.93	.79	.84	.92
Judge 1X3	.92	.87	.86	.97
Judge 2X3	.88	.91	.77	.93

Intercorrelation Results. Intercorrelations were calculated between the dimensions of the rating scale. Overall, the intercorrelations were high, which is not desirable. It is possible that what was measured in each of the dimensions was not discrete; the dimension may have been measuring the same performance characteristics. The lowest correlation was between intonation and phrase shaping and the highest correlation was between phrase shaping and expression (see Table 4).

Table 4. Rating Scale Intercorrelations

Variables	Result
Intonation X Phrase Shaping	.69
Intonation X Musical Expression	.67
Phrase Shaping X Musical Expression	.83

Means, Standard Deviations, and Two-way Analysis of Variance for the Instrumental Performance Etude.

All means of the treatment group tend to be higher than those of the control group. Means and standard deviations, and the two-way analyses of variance summary for instrumental performance scores for the intonation, phrase shaping, and musical expression dimensions of the rating scale and the composite scores for the etude are presented in Tables 5-10.

Table 5. Means and Standard Deviations for Instrumental Performance Etude

	Control		Treatment	
	Mean	S. D.	Mean	S. D.
Intonation Composite	8.70	4.28	9.55	2.96
Phrase Shaping Composite	7.28	4.17	8.16	3.70
Musical Expression Composite	4.55	3.83	5.95	3.89
Etude Composite	21.69	11.52	23.95	9.62

The two-way analysis of variance for Intonation is presented in Table 6. The mean of the treatment group was higher than the control group, however not at a significant level.

Table 6. Dependent Variable: Intonation Composite

Source	DF	MS Effect	MS Error	F	p-level
Instruction	1	18.14	12.97	1.40	.2395
Aptitude	2	10.07	12.97	.78	.4627
Instruction X Aptitude	2	10.50	12.97	.81	.4476

Table 7 shows the two-way analysis of variance for Phrase Shaping. Although the mean of the treatment group was larger than that of the control group, the difference approached but did not reach statistical significance.

Table 7. Dependent Variable: Phrase Shaping Composite

Source	DF	MS Effect	MS Error	F	p-level
Instruction	1	48.96	15.54	3.15	.0786
Aptitude	2	10.81	15.54	.67	.5008
Instruction X Aptitude	2	8.30	15.54	.53	.5878

In terms of the musical expression scores, no significant interaction was found between type of instruction and level of music aptitude. However, there was a significant

main effect both for type of instruction and for music aptitude. This indicates that there was a significant difference due to instruction; The experimental group scored significantly higher than the control group.

Table 8. Dependent Variable: Expression Composite

Source	DF	MS Effect	MS Error	F	p-level
Instruction	1	64.83	14.43	4.49*	.0363
Aptitude	2	46.29	14.43	3.21*	.0442
Instruction X Aptitude	2	7.89	14.43	.55	.5803

Table 9. Planned Comparisons Test for Musical Expression Composite

Source	DF	Sum of Squares	Mean Square	F	p-level
High Aptitude Control X Treatment	1	59.03	59.03	4.09*	.0455
Moderate Aptitude Control X Treatment	1	10.89	10.89	.75*	.0367
Low Aptitude	1	7.94	7.94	.55	.4599

Overall, the mean scores for intonation, phrase shaping, and musical expression were higher for the treatment group. However, the difference between the mean scores for the treatment and control groups for the etude composite did not reach statistical significance as shown in Table 10.

Table 10. Dependent Variable: Etude Composite

Source	DF	MS Effect	MS Error	F	p-level
Instruction	1	276.07	109.58	2.52	.1153
Aptitude	2	213.32	109.58	1.95	.1476
Instruction X Aptitude	2	74.48	109.58	.68	.5089

Summary of Analyses of Variance

Students who received instrumental music instruction that included singing tended to have higher instrumental performance scores in all dimensions of the rating scale than those students who received instrumental music instruction without an emphasis in singing. However, those tendencies resulted in statistical significance only in the musical expression dimension.

Interpretations

Few significant differences in performance skill between the treatment and control groups were found to exist at the conclusion of the study. This outcome may have been the result of several factors.

Variance within the groups may have affected the results of the study (see Figures 4, 4a, and 4b). Student aptitude test scores ranged from 27 to 63. Both of the high and low scores were from students in the experimental group. The range of scores from this group was more varied than the range of scores for the control group, with a low score of 37 and a high score of 59. Interestingly, the lowest scorer in the experimental group, with a score of 27, scored an almost perfect score, 42 points out of a possible 45 points, on the instrumental achievement test. Upon further investigation, it was determined that this

student is a special education student who likely had difficulty with the paper and pencil aptitude test. Therefore, the validity of MAP with this student is questionable.

It is possible that the unequal class sizes may have affected the students' scores. One of the experimental classes was considerably larger than the other experimental classes and the two control classes. Because this class was larger, each student may not have received ample individual instruction or instruction appropriate to his or her aptitude level. Therefore, the students in this class may not have achieved at their full potential. Student instrumental performance scores may have been higher if the students had received more individualized instruction analogous to the instruction received by the students in the smaller classes.

Overall, the intercorrelations between the dimensions of the rating scale were high. The dimensions may have been measuring the same performance characteristics. Also, it is conceivable that given the subjects' ages and the length of the instructional period, the students tended to achieve in the three dimensions in a similar way. The high correlations between the dimensions had little chance of effecting significance given the fact that each of the dimensions were evaluated separately using ANOVA.

Also, perhaps the study was too short. If the instructional period had been longer, the tendencies may have become statistically significant. A longer instructional period may have given students time to further develop executive skills such as finger dexterity, embochure, articulation, instrument position, posture, and breathing. The development of these skills may improve student achievement in terms of intonation, phrase shaping, and musical expression.

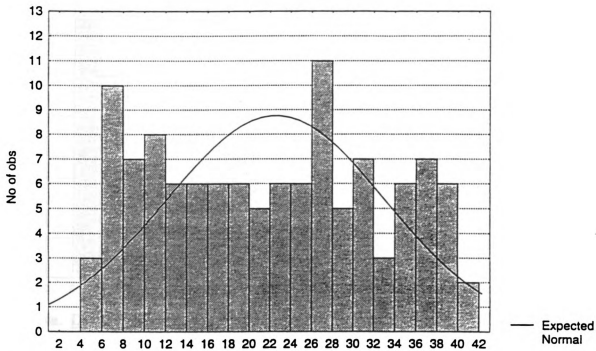

Figure 4. Distribution of Scores for the Performance Etude Composite

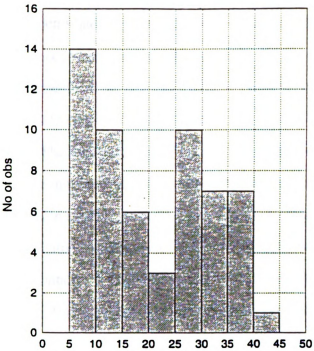

Figure 4a. Distribution for the Control Group

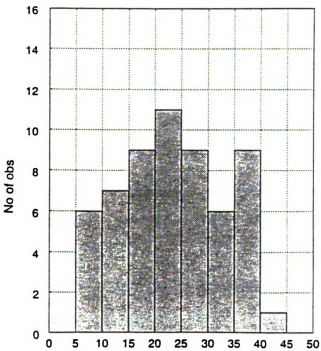

Figure 4b. Distribution for the Treatment Group

The validity of the student instrumental performance ratings may be questionable. The students had no prior experience in a testing situation, and their sight-reading experiences were minimal. It is possible that the students' unfamiliarity with the environment and the task caused the students to become unfocused and perform at a level different from their abilities.

The least gains were made by the experimental group in terms of intonation. This outcome may have resulted from two possible conditions. The teacher observed student progress in singing the resting tones and rote songs with good intonation during the course of the treatment period. However, student achievement in this area was not realized instrumentally. It is possible that the students had not developed the necessary embochure strength, finger dexterity, instrument position, and breath control to consistently perform instrumentally with good intonation. Secondly, it may not be reliable to measure student achievement in terms of intonation after 14 weeks of instruction. Instruction using singing may improve intonation, however a longer treatment period is necessary to accurately measure the effect of this instruction on student instrumental achievement.

Finally, the week designated for testing was not optimal. The California Achievement Test was given to the fifth grade students during this week. Some classrooms did not attend music classes, and there was only partial attendance from other classrooms. Students who missed the testing were required to perform the following week. It is possible that the performance scores of these students (N = 23) were not reliable because these students had not had the instruction that the students who attended class had received in the two week period. It was also Tornado Safety Week, and all of the tornado drills occurred during the music class periods. Therefore, instruction was not consistent for all of the groups during this time. The week prior to testing, the students had three half days because of parent-teacher conferences and the week following the testing was spring break. These unfortunate occurrences may have had a negative affect on student instrumental performances.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The teaching experiment presented in the preceding chapters was conducted in order to determine the extent to which singing rote songs and resting tone improves instrumental performance achievement and musical understanding in beginning instrumental students.

A review of related literature disclosed that no parallel studies exist; however, following are related studies. Elliott (1974) found that instruction using singing improved students' aural discrimination skills and pitch perception. McGarry (1967) found instruction that using singing improves student instrumental achievement in performance skills such as technical accuracy, duration, slurs, rests, tempo fluctuation, fermatas, repeats, and observation of expressive marks. Tonal pattern training was found to improve a students' sense of tonality and conceptual understanding in studies by MacKnight (1975), Davies, (1981), and Grutzmacher (1987). The related studies do not specifically measure the effects of teaching techniques using singing on intonation, phrase shaping, and musical expression.

This study included one hundred and sixteen fifth-grade band students from Kreeger Elementary School in Fowlerville, Michigan. Two classrooms were randomly assigned as the control group and the remaining three class comprised the treatment group. The students participated in a heterogeneous band class twice a week one half hour period. The duration of the study was 14 weeks.

Teaching procedures employed with both groups were identical, except that the members of the treatment group participated in singing activities. Because all teaching procedures were conducted by the experimenter, two qualified teachers participated in a series of observations designed to determine whether the lessons presented to both groups were equal in quality and course content and free from any bias from the teacher for either

teaching technique or group.

All students were pretested using the Tonal and Musical Sensitivity subtests of the MAP and post tested on an individual performance of a sight-reading selection. The student performances were judged by three judges using a rating scale.

Conclusions

The following results and conclusions can be considered valid for only the population involved in this study. No statistically significant differences in performance skill as a result of singing were found to exist at the conclusion of the study between the treatment group and the control group on the composite etude score. However, statistically significant differences in performance skill as a result of singing were found to exist between the treatment and control group in terms of musical expression. Instruction including singing had the greatest effect on high-aptitude and moderate-aptitude students' achievement in musical expression. Low-aptitude students' achievement was not effected by instruction including singing. Statistically significant differences nearly were found to exist between the treatment and control group in regard to phrase shaping ($p < .07$). Students' understanding of phrase shaping may be positively effected by singing.

Overall, the students in the treatment group scored higher on the instrumental performance etude than the students in the control group. Students in the moderate and high-aptitude treatment groups made the largest gain in instrumental music performance, although this gain was not significant. The drop in mean scores between the moderate and high-aptitude students in the control group show that instruction that does not include singing may not sufficiently challenge students of high musical aptitude. Teaching techniques using singing are more easily adaptable to students' individual musical differences than are traditional approaches to instruction. An instructional approach that allows for flexibility in terms of adapting instruction to the individual musical needs of all

students is a more effective approach for teaching classes that include students of all musical aptitudes (Grunow and Gordon, 1989).

A review of studies investigating the use of singing as an technique for teaching beginning instrumental instruction indicate that singing is an effective approach. Elliott (1974) found that singing improves students' aural discrimination skills and pitch perception. McGarry (1967), MacKnight (1975), Davies (1981), and Grutzmacher (1987) found that singing positively effects student instrumental performance achievement. However, these studies did not specifically measure intonation, phrase shaping, and musical expression.

The results of this study support that instruction using singing of rote songs and resting tones is an effective approach in beginning instrumental instruction. More specifically, this type of instruction may positively effect students understanding of phrase shaping, and musical expression.

While technical skill development was not a direct concern of this study and was not measured, emphasizing a singing approach in the instruction of beginning instrumental music students did not delay the development of technical skills as demonstrated by improved melodic sight-reading skills and by observations made by the researcher. However, further research in this area is necessary before a conclusion can be made.

Recommendations

The following recommendations based upon this experiment are concerned with the need for further studies in the effects of singing on instrumental performance achievement and musical understanding in beginning band students.

The positive tendencies in mean scores favoring the treatment group implies that the experimental teaching approach may have an effect on student instrumental performance achievement. Differences in outcomes may have been statistically significant if the students had been divided into treatment and control groups based on aptitude scores using a

matched pairs design. Because of school scheduling, the population in this study was divided into control and treatment groups randomly by class.

It is recommended that replications of this study use smaller heterogeneous classes of equal sizes. The classes sizes in this experiment ranged from 36 students to 19 students in a class. Replications of this study using smaller, homogeneous classes is also suggested. The positive direction of the results shown in the previous chapter implies that it would be desirable to observe the teaching techniques included in this study for a longer period with the same students. Additional studies are needed to determine the effectiveness of vocalization at various grade levels. It is probable that instrumental music students at all performance levels would profit considerably from instruction that includes singing.

Students in this study were not exposed to a similar number of songs in both major and minor tonalities. The majority of existing class method materials available to music educators today do not treat major and minor tonalities with equal importance. The text used in the school district in which this experiment occurred does not present a song in minor tonality until page 15 (it is the 28th song in the literature). The students in the treatment group were exposed to songs in minor tonality through singing exercises; however the students in the control group who were using only the text did not receive this benefit. Therefore, post testing students on performances in both major and minor was not possible. This directly contradicts the findings in Grutzmacher's study (1987) in which she states that a program of instruction in which students experience major and minor tonalities through singing, playing, listening, and comparing major and minor tonal patterns and songs leads to a higher level of conceptual understanding. Therefore, the present study should be replicated using a method that includes songs in both major and minor tonalities equally.

A keyboard instrument was not available to the teacher in this study, subsequentially no harmonization was possible. It would be interesting to replicate this

study using harmonization with the treatment group to determine the effect in terms of intonation.

Implications

Existing literature support that instruction using singing improves beginning band students instrumental performance skills in terms of aural discrimination skills, rhythmic accuracy, and music reading skills. This study suggests that singing may also improve beginning band students' instrumental performance skills and musical understanding. Instrumental music teachers and college students preparing for teaching instrumental music need to understand that tonal concept development is essential in the training of young instrumentalists. Teachers need to guide student's learning through the use of sequential learning activities that employ singing.

APPENDICES

APPENDICES

LESSON PLANS FOR THE CONTROL AND TREATMENT GROUPS

Methods Book: Yamaha Band Student, Book 1 pp. 1-15.

Each lesson will emphasize good executive skills and breath support.

The key, tonality, tempo, and meter will always be established prior to any singing or instrumental performance activity with the treatment group.

Errors made by the control group will be corrected verbally and by chanting the melodic rhythms. Errors made by the treatment group will be corrected by singing. An effort will be made to avoid verbally correcting an error with students in the treatment group.

During the singing activities with the treatment group, some students will be selected to perform instrumentally and some will be select to sing. Students will also be permitted to sing phrases as a solo or as a duet with the teacher or a peer.

Portions of the following lessons may be repeated when the review is necessary.

Control Group
Week 1

Objectives

The student will demonstrate an understanding of rhythms that include half notes and half rests by chanting rhythm patterns to a steady beat.

The student will demonstrate an understanding of rhythms including half notes and whole notes by performing from notation.

The student will demonstrate an understanding of the pitches Concert B flat, C, D, E flat, and F by performing them from music notation.

Materials

Exercises on page 4 and 5 of the Yamaha Band Student, Book 1

Teaching Technique

1. The teacher will lead the students in steady beat activities that include macro beats in duple meter.
2. The teacher will ask the students to echo rhythm patterns that include half and whole notes.
3. The teacher will demonstrate pitches Concert B flat thru F using good tone quality.

4. The teacher will discuss the terms treble and bass clef, time signature, measure, breath mark, bar line, and double bar line.
5. The teacher will ask the students to identify the notes that are presented in the exercise by name and fingering and perform them individually.
6. The teacher will demonstrate an exercise using an instrument.
7. The teacher will lead the students in saying the exercise aloud using "ta" and fingering the notes.
8. The students will perform the exercise on instruments.

Treatment Group
Week 1

Objectives:

Identical to control group

Materials:

Identical to control group

Teaching Technique:

1. The teacher will lead the students in steady beat activities including macro beats in duple meter.
2. The teacher will lead the students in chanting rhythm patterns that include half notes and whole notes.
3. The teacher will sing the five new notes that are presented on page 4 and 5 in the text.
4. The teacher will sing some familiar songs that use these notes and ask the to sing along when they recognize the song.
5. The teacher will teach the students Hot Cross Buns by rote on a neutral syllable and with solfege.
6. The teacher will introduce the students to the fingerings for the notes in this song and instruct the students to locate these pitches in notation on pages 4 and 5.
7. The teacher will sing an exercise from the book that uses the same notes as Hot Cross Buns and instruct the students to echo.
8. The teacher will instruct the students to sing the exercise.
9. The teacher will instruct the students to perform the exercise using instruments.
10. This procedure will be completed for several different exercises on pages 4 and 5.

Control Group and Treatment Group
Week 2

New exercises from pages 4 and 5 will be taught using teaching techniques from Week 1

Control Group
Week 3

Objectives:

The student will demonstrate an understanding of rhythms that include quarter notes, quarter rests, and half notes by chanting rhythm patterns to a steady beat.

The student will demonstrate an understanding of rhythms that include quarter notes, quarter rests, and half notes by performing Hot Cross Buns and Merrily We Roll Along from notation.

The student will describe the symbols: treble and bass clef, time signature, measure, breath mark, bar line, and double bar line with accuracy.

Materials:

Hot Cross Buns
Merrily We Roll Along

Teaching Technique:

1. The teacher will provide a model by playing the song using an instrument.
2. The teacher will ask the students to chant the rhythms in the first phrase by using the counts 1-2-3-4.
3. The teacher will review the terminology presented on pages 4-6.
4. The teacher will ask the students to identify the notes in the song by letter name and fingering.
5. The teacher will lead the students in chanting the first phrase aloud and practice the fingerings for the notes.
6. The teacher will lead the students in chanting the first phrase using note names and finger practice the notes.
7. The students will perform the phrase using instruments.
8. This sequence will be used with each new phrase within each song.
9. At the conclusion of the class period, the students will be asked to mirror the teacher's steady beat. The teacher will perform macro beats in duple meter at different tempos.
10. The teacher will play a short song in duple and ask the students to keep a steady beat.

Treatment Group
Week 3

Objectives:

Identical to control group

Materials:

Identical to control group

Teaching Technique:

1. The teacher will sing Hot Cross Buns to the class using a neutral syllable.
2. The teacher will sing the resting tone (Concert B flat) to the class and the class will echo.
3. The teacher will instruct the students to listen for the resting tone in the second performance.
4. The class will sing the song together.
5. The teacher and class will begin together by singing the first note. The teacher will instruct the students to sing the remainder of the song to themselves and conclude by singing the last note aloud.
6. The teacher will teach the students the song in solfege by rote.
7. The students will demonstrate the correct fingerings for mi, re, do, and sol on their instruments.
8. The students will sing the song using solfege and practice the fingerings.
9. The students will perform the song using instruments.
10. The students will perform the song from notation.
11. The teacher will instruct the students to identify time signature, treble or bass clefs, measure, bar line, and double bar line in the notation.
12. This sequence will be used for Merrily We Roll Along.

Control Group
Week 4

Objectives:

The students will perform Hot Cross Buns and Merrily We Roll Along with accuracy.

The students will demonstrate an understanding of 2/4 and 4/4 time signatures by chanting counts with a steady beat.

The students will perform tied notes correctly within a familiar song.

Materials:

2/4 March
Old MacDonald

Teaching Technique:

1. The teacher will define a tie as a symbol that connects two notes of the same pitch.
2. The teacher will define 2/4 time signature as music notation that means there are two beats in each measure and a quarter note gets one beat.
3. The teacher will lead the students in steady beat activities including macro beats in duple meter. The students will keep a steady beat and chant the counts aloud using "1-2-3-4" or "1-2" as directed by the teacher.
4. The teacher will perform 2/4 March using an instrument.
5. The students will chant the counts for 2/4 March aloud while keeping a steady beat.
6. The students will chant the song using a neutral syllable and practice the fingerings.
7. The teacher will define breath marks and lead the students in performing the song using instruments.
8. The same procedure will be repeated for Old MacDonald.

Treatment Group
Week 4

Objectives:

Identical to control group

Materials:

Identical to control group

Hot Cross Buns

Teaching Technique:

1. The teacher will sing Hot Cross Buns and the students will respond with the resting tone.
2. The students will sing Hot Cross Buns using solfege.
3. The students will perform Hot Cross Buns instrumentally.
4. The teacher will sing the first phrase of 2/4 March and the students will respond with the resting tone.
5. The teacher will sing the first phrase and the students will echo.
6. The teacher will teach the remaining phrases by singing the phrase then instructing the students to echo.
7. This process will be repeated using solfege.
8. The students will sing the first two phrases in solfege.
9. The students will perform the first phrase on instruments.

10. The students will sing the second phrase.
11. The students will perform the second phrase on instruments.
12. Steps 4-11 will be repeated for the third and fourth phrases.
13. The teacher will sing Old MacDonald and the students will respond with the resting tone.
14. Steps 4-11 will be followed for the two phrases in Old MacDonald.
15. The students will perform Old MacDonald instrumentally.

Control Group
Week 5

Objectives:

The students will perform the 2/4 March and Old MacDonald with accuracy.

The student will perform rhythms that including eighth, quarter, half, and whole notes and quarter and half rests with accuracy.

The student will perform four bar phrases within a song.

Materials

Baa Baa Black Sheep
Frere Jacques

Teaching Technique

1. The teacher will lead students in steady beat activities. New activities using macro micro beats will be included.
2. The students will keep a steady beat and echo rhythmic patterns that include quarter and eighth notes.
3. The teacher will count one measure of eighth notes while keeping a steady beat.
4. The teacher will perform Baa Baa Black Sheep using an instrument.
5. The teacher will instruct the students to chant the first phrase using "ta".
6. The students will perform the first phrase using instruments.
7. The a sequence similar to steps 4-6 will be followed for Frere Jacques.

Treatment Group
Week 5

Objectives:

Identical to Control Group

Materials:

Identical to control group

Teaching Techniques:

1. The teacher will sing Baa Baa Black Sheep to the students.
2. The teacher will sing the resting tone (B flat Concert) and the students will echo.
3. The teacher will sing the first phrase and instruct the students to respond with the resting tone.
4. The students will sing the first phrase and the resting tone.
5. The teacher will sing the first phrase in solfege and the students will echo. The teacher will ask for volunteers to sing the first phrase individually or with a partner.
6. The teacher will direct students' attention to the first phrase of Baa Baa Black Sheep in notation.
7. The teacher will ask the students to locate the time signature. The teacher will define the time signature as representing the number of macro beats in one measure.
8. The students will sing the first phrase from notation.
9. The teacher will teach the remaining phrase by rote using a neutral syllable and solfege. The resting tone will be repeated at the end of the phrase.
10. The students will sing the song using a neutral syllable and practice fingering the notes.
11. The students will perform the song using instruments.
12. A similar teaching sequence will be used for Frere Jacques.

Control Group
Week 6

Objectives:

The students will demonstrate an understanding of eighth notes, quarter notes, and half notes by performing them within familiar songs.

The students will show an understanding of first and second endings by performing a short song that includes this notation.

The students will demonstrate an understanding of a slur by performing slurs from notation.

The students will perform the new note, Concert A flat, accurately within a familiar song.

Materials:

Review: Baa, Baa Black Sheep, Frere Jacques

Yankee Doodle
Second Ending Blues
This Old Man

Teaching Technique:

1. The teacher will lead the students in steady beat activities that include movements to macro and micro beats in duple meter.
2. The teacher will define the term key signature.
3. The teacher will perform do-sol in Concert B flat major and in Concert E flat major to demonstrate the difference between the two keyalities.
4. The teacher will play several patterns and ask the students to discriminate between B flat and E flat major.
5. The teacher will perform Yankee Doodle.
6. The teacher will ask the students to identify where the the new note occurs in the notation and to identify where the slurs occur.
7. The teacher will direct the students in chanting and finger practicing the first phrase.
8. The students will perform the first phrase using instruments.
9. Steps 6 - 8 will be repeated for the last phrase.
10. A similar approach will be used for Second Ending Blues and This Old Man. The first and second endings, slurs, and new note will always be reviewed prior to chanting and fingering the phrases in the song.

Treatment Group
Week 6

Objectives:

Identical to control group

Materials:

Identical to control group

Hot Cross Buns and Merrily We Roll Along

Teaching Technique:

1. Students will listen to the teacher sing Hot Cross Buns in solfege and respond with

the resting tone.
2. Students will sing Hot Cross Buns in solfege.
3. Teacher and students will sing the first note of the song, then audiate the interior portion and sing the last note (resting tone) together at the same time.
4. Students will perform the song using instruments.
5. A similar progression will be used for Merrily We Roll Along.
6. The teacher will ask for volunteers to perform either song as a solo.
7. The teacher will sing Yankee Doodle using a neutral syllable and the students will respond by singing the resting tone at the conclusion of the teacher's performance.
8. The teacher will sing the first phrase and the students will echo. The resting tone will be repeated at the end of each phrase.
9. The teacher will ask the class if this song has the same resting tone as Hot Cross Buns. The teacher will sing Hot Cross Buns and Yankee Doodle. (Hot Cross Buns is in Concert B flat major and Yankee Doodle is in Concert E flat Major).
10. The teacher will explain that the two songs are in different keyalities.
11. The new note in Yankee Doodle will be introduced. The teacher will sing do-re-mi-fa and the students will echo.
12. The teacher will show the students the fingering for the new note and the students will perform do-re-mi-fa-do using instruments.
13. The same notes will be used to introduce a slur. The teacher will demonstrate do-re-mi-fa slurred and the students will echo.
14. The teacher will sing do-re and mi-fa slurred and the students will echo.
15. The teacher will introduce the slurs in notation.
16. The teacher will sing the first phrase of Yankee Doodle and the students will echo and practice the fingerings for the notes.
17. The teacher performance and student echo sequence will be used for the phrases within each song. The resting tone will be performed at the conclusion of each song.

Control Group
Week 7

Objectives:

The students will demonstrate an understanding of rhythms that include eighth notes, quarter notes, and half notes by performing them from notation.

The students will perform Concert A within notation of a familiar song.

Materials:

Review: Yankee Doodle, Second Ending Blues, This Old Man

Skip to My Lou
Tom Dooley

Teaching Technique:

1. The students will perform Yankee Doodle, Second Ending Blues, and This Old Man.

Prior to the performance of each song, the students will chant the first phrase and practice the fingerings.

2. The teacher will perform Skip to My Lou using an instrument.
3. The teacher will perform the first phrase of Skip to My Lou.
4. The teacher will instruct the students to identify the new note within the phrase and to find the fingering for this new note at the top of the page.
5. The teacher will lead the students in chanting and fingering the first phrase of Skip to My Lou.
6. The students will perform the first phrase using instruments.
7. Steps 4 - 6 will be repeated for each phrase of the song.

Treatment Group
Week 7

Objectives:

Identical to the control group

Materials:

Identical to the control group

Hot Cross Buns
Frere Jacques

Teaching Technique:

1. Teacher will sing Frere Jacques and students will respond by singing the resting tone.
2. The students will sing Frere Jacques.
3. Students will perform Frere Jacques using instruments and without notation.
4. Students will sing Hot Cross Buns then perform the song instrumentally.
5. The teacher will sing the resting tone of Hot Cross Buns followed by do-ti-do.
6. The students will echo the teacher's performance.
7. The teacher will direct the students in performing these three notes using instruments.
8. The teacher will sing the first phrase of Skip to My Lou and the students will respond with the resting tone.
9. The teacher will sing the second phrase of Skip to My Lou and the students will respond with the resting tone. The teacher will ask the students which one of the phrases ends with the resting tone.
10. The students will sing the second phrase.
11. The first and second phrases will be performed using instruments.

Control Group
Week 8

Objectives:

The students will perform a dotted quarter note correctly within a familiar song.

Materials:

Skip to My Lou
Tom Dooley

Teaching Technique:

1. The teacher will lead the students in steady beat activities including macro and micro beats in duple meter.
2. The teacher will chant rhythm patterns that include quarter notes, half notes and dotted half notes and the students will echo while performing a steady beat.
3. The dotted half note presented in Tom Dooley will be identified as receiving three beats.
4. The students will chant the first phrase and then perform it using instruments.
5. Comparisons between the first and second phrase of the song will be made.
6. The students will perform Tom Dooley in its entirety.
7. The students will perform Skip to My Lou.

Treatment Group
Week 8

Objectives:

Identical to control group

Materials:

Identical to control group

Go Tell Aunt Rhodie

Teaching Technique:

1. The teacher will lead the students in steady beat activities including macro and micro beats in duple meter.
2. The teacher will chant rhythm patterns using quarter notes, half notes, and dotted half notes and the students will echo.

3. The teacher will sing Tom Dooley.
4. The teacher will sing the first phrase of Tom Dooley and the students will echo.
5. The teacher will sing the second phrase and the students will echo.
6. The students will sing the song from notation.
7. The teacher will ask the students how many macro beats were in the dotted half note.
8. The students will perform Tom Dooley using instruments.
9. The teacher will sing Go Tell Aunt Rhodie and the students will respond with the resting tone.
10. The teacher will sing each phrase and the students will echo each phrase.
11. The students will sing Go Tell Aunt Rhodie.
12. The same procedure will be repeated to teach the students the song in solfege.

Control Group
Week 9

Objectives:

The students will demonstrate an understanding of the new note (Concert A) by performing it correctly within a familiar song.

The students will demonstrate an understanding of triple meter by performing macro and micro beats in duple and triple meter with a steady beat using a neutral syllable and counts.

The students will demonstrate an understanding of accents by performing them within a familiar song.

The students will demonstrate an understanding of rhythms that include half notes and quarter notes by performing Lightly Row from notation.

Materials:

Review: Skip to My Lou and Tom Dooley

Faith of Our Fathers
Mexican Hat Dance
Lightly Row (pp. 6)

Teaching Technique:

1. The class will chant and practice the fingerings for the first two phrases of Skip to My Lou.
2. The students will perform Skip to my Lou instrumentally.
3. The students will chant and practice the fingerings for Tom Dooley.
4. The students will perform Tom Dooley instrumentally.
5. The teacher will lead the students in steady beat activities that emphasize macro beats and micro beats in duple and triple meter.
6. The teacher will explain the difference between the two meters and time signatures.
7. The students will be asked to identify the 3/4 time signature in notation.

8. The teacher will perform the first phrase of Faith of Our Fathers, emphasizing the dynamics, while the students perform the steady beat.
9. The teacher will define the terms: dynamics, piano, and forte.
10 The students will chant and finger practice through the first phrase.
11. The students will perform the first phrase using instruments.
12. The students will chant and practice the fingerings in the remaining phrases. Each phrase will also be performed instrumentally.
13. The teacher will perform Mexican Hat Dance and ask the students to identify the accents within the notation.
14. The students will chant and practice the fingerings in the first line of the song.
15. The students will chant the counts for the notes in the first line of the song while keeping a steady beat.
16. The teacher will ask the students to identify the changes in the second line.
17. The students will perform the song using instruments.
18. The teacher will direct the students' attention to Lightly Row, on page 6, and instruct them to think about the time signature, notes, and rhythms. The teacher will give the students one minute to think about the song.
19. The students will perform Lightly Row using instruments.
20. The teacher will ask students to volunteer to perform Lightly Row individually.

Treatment Group
Week 9

Objectives:

Identical to control group

Materials:

Identical to the control group; omit review of Skip to My Lou and Tom Dooley

Go Tell Aunt Rhodie
Frere Jacques

Teaching Technique:

1. The teacher will sing through Frere Jacques and the students will respond with the resting tone.
2. The teacher will direct the students as they sing Frere Jacques. The teacher will choose two students to sing together on one part and the teacher will sing the second part in a round.
3. The teacher will divide the class into 2 groups. The class will perform Frere Jacques in a round.
4. The teacher will sing Go Tell Aunt Rhodie and the students will respond with the resting tone.
5. The teacher will teach the students the song by rote using solfege. The teacher will ask the students to practice this song using instruments for next week.

6. The teacher will lead the students in steady beat activities that include macro and micro beats in duple and triple meter.
7. The teacher will explain and demonstrate the difference between the two meters and time signatures.
8. The teacher will sing the first phrase of Faith of Our Fathers and the students will perform a steady beat and respond with the resting tone.
9. The students will sing the first phrase while keeping a steady beat.
10. Small groups of students will be chosen to sing the first phrase while other students keep a steady beat and read the notation. The groups will switch so that each student can participate in both activities.
11. A similar procedure will be followed for the remaining phrases in the song.
12. The teacher will perform Mexican Hat Dance on an instrument and the students will perform the steady beat.
13. The teacher will teach the first two phrases to the students by rote.
14. The students will sing the first two phrases while performing the fingerings correctly.
15. The teacher will ask the students to listen to the third and fourth phrases and identify what is different from phrases one and two.
16. The students will perform the song instrumentally.
17. The teacher will ask the students to define an accent and select individual students to perform a phrase from Mexican Hat Dance to demonstrate accents.
18. The teacher will direct the students' attention to Lightly Row and ask them to think about the time signature, notes, and rhythms in the song. The teacher will give the students one minute to think through the song.
19. The students will perform the song as a group.
20. The teacher will request volunteers to perform the song individually.

Control Group
Week 10

Objectives:

See Week 9

The students will perform Pierrots Door from notation with accuracy.

Materials:

Review Skip to My Lou, Tom Dooley, Faith of Our Fathers, and Mexican Hat Dance, and Lightly Row.

Pierrots Door

Teaching Technique:

Each song will be reviewed using the following procedure:

1. The students will chant and finger through each phrase of the song and then perform the phrase using instruments.

2. Small groups and individuals will be selected to perform the song.
3. The class will perform the song.
4. A verbal review of the new notes and new symbols will occur prior to the first performance and at the conclusion of the final performance of each song.
5. The teacher will perform Pierrots Door using an instrument.
6. The students will chant Pierrots Door using counts and practicing the fingerings.
7. The students will perform the song instrumentally.

Treatment Group
Week 10

Objectives:

Identical to the control group

Materials:

Identical to the control group

Also include Hot Cross Buns, Merrily We Roll Along, Go Tell Aunt Rhodie, and Frere Jacques

Teaching Technique:

Each song will be reviewed using the following procedures:

1. The teacher will sing the song or the students will sing the song together.
2. The resting tone will be performed at the beginning and at the conclusion of each song.
3. The students will perform the song on instruments.
4. Students will be asked to find phrases within songs that include an example of a slur, accent, or change in dynamic and perform the phrase individually.
5. The teacher will sing Pierrots Door using a neutral syllable.
6. The teacher will sing the first phrase of the song and the students will echo.
7. The teacher will sing the second phrase of the song and the students will echo.
8. The students will sing Pierrots Door using a neutral syllable.
9. Steps 5 - 8 will be repeated with solfege.

Control Group and Treatment Group
Week 11

This week was used as a review week. The review material was chosen specifically for each class according to the needs of the individuals within the class .

Control Group
Week 12

Objectives:

The student will define the term duet as two musicians performing in harmony.

The students will perform a duet with accuracy. Duets using two students and duets including two large groups will be performed.

The student will perform Concert A flat within an exercise with accuracy.

The student will demonstrate an understanding of pick-up notes by counting them and performing them correctly.

Materials:

Pop Tune for Two
Exercise pp. 14, line 1

Teaching Techniques:

1. The teacher will lead the students in steady beat activities that include macro and micro beats in duple and triple meter.
2. The teacher will define pick-up notes. The students will identify pick-up notes in notation.
3. The teacher will lead the students in chanting the first part, first phrase of Pop Tune for Two.
4. The students will perform the first part in the duet Pop Tune for Two.
5. Steps 3 and 4 will be repeated for the second part, first phrase.
6. The teacher will select four students to perform the first phrase as a duet.
7. The teacher will direct the student's attention to the first and second endings and remind the students how to read this notation.
8. The teacher will lead the students in chanting the first part, second phrase.
9. The students will perform this phrase instrumentally.
10. The same procedure will be followed for the second part, second phrase.
11. The students will perform the first part in its entirety. The students will perform the second part in its entirety.
12. The teacher will divide the class several different ways for several performances of the song in harmony.
13. The teacher will direct the student's attention to the new note presented on page 14 and instruct the students to demonstrate the fingering for this pitch on instruments.

14. The teacher will lead the students in chanting the first phrase of line 1, page 14.
15. The students will perform the first phrase instrumentally.
16. Steps 14 and 15 will be repeated for the second phrase.

Treatment Group
Week 12

Objectives:

Identical to the control group

Materials:

Identical to the control group

Go Tell Aunt Rhodie
Pierrots Door

Teaching Technique:

1. The teacher will sing Go Tell Aunt Rhodie and the students will respond by singing the resting tone.
2. The students will perform the song instrumentally.
3. The teacher will sing Pierrots Door and the students will respond by singing the resting tone.
4. The teacher will sing each phrase of the song in solfege and the students will echo each phrase.
5. The students will perform Pierrots Door instrumentally.
6. The teacher will divide the students into two groups. One group will perform the song by singing and the other will perform instrumentally.
7. The teacher will sing through the first part to the duet, Pop Tune for Two and conclude by singing the resting tone. The students will echo the resting tone.
8. The teacher will perform the first phrase and the resting tone, the students will echo.
9. The teacher will explain that the first two notes are defined as pick-up notes and they begin one macro beat before the first complete measure. They are counted as four-and.
10. The students will perform the first phrase instrumentally.
11. Step 8 will be repeated for the second phrase.
12. The teacher will sing the first phrase of the second part and conclude with the resting tone. The students will echo the teacher's performance.
13. The teacher will select two students to sing the first part while she sings the second part with them.
14. The teacher will sing the second part.
15. The teacher will sing the second phrase and the students will echo.
16. The students will perform the second part using instruments.
17. The teacher will explain that the students are performing in harmony when they perform a duet.
18. The teacher will sing through line 1, page 14.
19. The teacher will sing the resting tone and the students will echo the resting tone.

20. The teacher will sing each phrase and the students will echo each phrase.
21. The teacher will sing mi-re-do in this new keyality and the students will echo.
22. The teacher will demonstrate the new fingering presented on this page and tell the students it is the fingering for the new resting tone.
23. The students will perform mi-re-do using instruments.
24. The students will sing the exercise from the notation while practicing the fingerings.
25. The students will perform the exercise instrumentally.

Control Group
Week 13

Objectives:

The student will performed staccato notes correctly within a familiar song.

Materials:

Review Pop Tune for Two and Mexican Hat Dance

Camptown Races
The Man on the Flying Trapeze

Teaching Technique:

1. The teacher will direct the students in chanting the melodic rhythm and practicing the fingerings for the first part of Pop Tune for Two.
2. The students will perform the first part instrumentally.
3. The teacher will direct the students in chanting the melodic rhythm and practicing the fingerings for the second part of Pop Tune for Two.
4. The students will perform the second part instrumentally.
5. The teacher will divide the class into two groups and they will perform the song using instruments.
6. The students will chant and finger practice Mexican Hat Dance.
7. The students will perform Mexican Hat Dance instrumentally.
8. The teacher will instruct the students to perform the song again with very light and short sounding notes.
9. The teacher will explain they performed staccato and instruct the students to look at the next page for the definition of staccato.
10. The teacher will perform the first phrase of Camptown Races instrumentally.
11. The teacher will instruct the students to chant and practice the fingerings for the first phrase. She will remind them to say the staccato notes and accented notes correctly.
12. Steps 10 and 11 will be used for the remaining phrases of the song.
13. The students will perform Camptown Races instrumentally.
14. The teacher will perform the first phrase of The Man on the Flying Trapeze and the students will tap the steady beat.
15. The teacher will ask the students to identify the meter and time signature for the

song. The teacher will perform the first phrase again.

16. The teacher will remind the students of the key signature and direct the class in chanting and practicing the fingerings for the first phrase.
17. The students will perform the first phrase instrumentally.
18. The teacher will direct the students through the remaining phrases of the song following the established sequence of chanting and finger practicing then performing instrumentally.

Treatment Group
Week 13

Objectives:

Identical to the control group

Materials:

Identical to the control group, omit Pop Tune for Two

Pierrots Door
Frere Jacques

Teaching Technique:

1. The teacher will direct the students in singing Pierrots Door.
2. The students will perform Pierrots Door using instruments.
3. The teacher will sing Frere Jacques and the students will respond with the resting tone.
4. The students will sing Frere Jacques in a round.
5. The students will perform Frere Jacques in a round instrumentally.
6. The teacher will sing Mexican Hat Dance and the students will respond with the resting tone.
7. The students will sing Mexican Hat Dance.
8. The students will perform the song using instruments.
9. The teacher will sing Pierrots Door in the same tonality as Camptown Races and the students will echo.
10. The teacher will sing the first two phrases of Camptown Races and the students will respond with the resting tone.
11. The teacher will sing the first phrase and the students will echo. The teacher will sing the second phrase and the students will echo.
12. The students will sing through the first two phrases and practice the fingerings for the notes.
13. The students will perform the first two phrases using instruments.
14. Steps 10 - 13 will be followed for phrases three and four.
15. The teacher will explain to the students that the short notes in Camptown Races are defined as staccato and instruct them to observe the notated example at the top of the page.
16. The teacher will lead the students in steady beat activities in triple meter using macro and micro beats.

17. The teacher will sing the first two phrases of The Man on a Flying Trapeze and the students will perform the steady beat. They will respond by singing the resting tone.
18. The teacher will sing the first phrase and the students will echo.
19. The students will sing the first phrase and practice the fingerings for the notes.
20. The students will perform the first phrase instrumentally.
21. Steps 17 - 21 will be followed for the third and fourth phrases.

Control Group
Week 14

Objectives:

The students will perform Concert E correctly within a familiar song.

The students will demonstrate an understanding of key signature by defining the term and performing a familiar song in the correct keyality.

The students will discriminate between major and minor tonalities.

Materials:

Review Camptown Races

Let's Row Again
Erie Canal

Teaching Technique:

1. The teacher will direct the students in chanting through the first two phrases of Camptown Races.
2. The teacher will verbally review staccato, accent, and Concert A flat.
3. The students will perform Camptown Races using instruments.
4. The teacher will direct the student's attention to the new note (Concert E) on the top of page 15 and ask the students to demonstrate the fingering for this note on their instruments.
5. The teacher will lead the students in steady beat activities in duple meter using macro and micro beats.
6. The teacher will perform the first two phrases of Let's Row Again as the students perform macro beats.
7. The teacher will instruct the students to look through the first and second phrases and locate each time the new note occurs in the notation.
8. The teacher will direct the students in chanting and finger practicing the first phrase.
9. The students will perform the first phrase instrumentally.
10. Steps 8 and 9 will be repeated for each phrase of the song. The teacher will verbally remind the students of the dynamics notated in the third and fourth phrases.
11. The teacher will ask the students to listen to a performance of a familiar song in major tonality. The teacher will then perform a familiar song in minor tonality. Several songs will be performed and the teacher will identify them as major or

minor after the song is performed.
12. The teacher will perform familiar songs in major or minor and the students will answer with 'major' or 'minor' responses.
13. The teacher will perform the first phrase of Erie Canal and ask the students if this song is in major or minor.
14. The students will chant and practice the fingerings for the first phrase of the song.
15. The students will chant the counts for the melodic rhythm and practice the fingerings for the first phrase of the song.
16. The students will perform the song instrumentally.
17. Steps 13 - 16 will be followed for the second phrase of the song.

Treatment Group
Week 14

Objectives:

Identical to the control group

Materials:

Identical to the control group

Pierrots Door

Teaching Technique:

1. The teacher will direct the students in singing Camptown Races.
2. The students will perform the song using instruments.
3. The teacher will lead the students in steady beat activities that include macro and micro beats in duple and triple meters.
4. The teacher will sing Pierrots Door in Concert C Major and the students will echo.
5. The teacher will demonstrate the new fingering for 'mi' in Pierrots Door.
6. The students will perform the first phrase of the song in Concert C Major.
7. The teacher will introduce the students to the notation for this note at the top of page 15.
8. The teacher will perform the first two phrases of Let's Row Again. The teacher will sing the resting tone and the students will echo.
9. The teacher will sing the first phrase and the students will echo and repeat the resting tone.
10. The students will sing the phrase and practice the fingerings.
11. The students will perform the phrase instrumentally.
12. The teacher will sing the second phrase and the students will respond with the resting tone.
13. The students will sing and practice the fingerings for the second phrase.
14. Steps 9 - 13 will be repeated for phrases three and four.
15. The teacher will ask the students to listen to two different performances of Pierrots Door in major tonality and in minor tonality.
16. The teacher will sing the song in minor and the students will echo. The resting tone

will be repeated.

17. The teacher will perform several familiar song using an instrument and ask the students if what they are hearing is 'major tonality' or 'minor tonality'.
18. The teacher will sing Erie Canal and ask the students the same question.
19. The teacher will sing it again and the students will respond with the resting tone.
20. Steps 9 - 13 will be followed for Erie Canal.

Week 15

Each student will be excused from band to perform an eight measure etude. An adult will assist the student with the use of the audio-tape player. The student will have one minute to study the exercise before the performance. The adult will not be permitted to assist the student with the music in any way.

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