2015-06-01

Percussion Education in Secondary Public Schools: A Pilot Study Comparing the Concert Band vs. the Percussion Ensemble Approach

Jedediah Alan Blodgett
Brigham Young University - Provo

Percussion Education in Secondary Public Schools: A Pilot Study Comparing the Concert Band vs. the Percussion Ensemble Approach

Jedediah Alan Blodgett

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Arts

Robert Dunn, Chair
Ron Brough
Kirt Saville

School of Music

Brigham Young University

June 2015

ABSTRACT

Percussion Education in Secondary Public Schools: A Pilot Study Comparing the Concert Band vs. the Percussion Ensemble Approach

Jedediah Alan Blodgett
School of Music, BYU
Master of Arts

The purpose of this pilot study was to examine the benefit of offering a percussion ensemble class in secondary public schools. I looked at two elements of music education: playing time and relevant instruction. The research questions focused on the difference in playing time and relevant instruction between percussionists in the concert band and percussionists in the percussion ensemble, as well as differences between the concert band subgroups (brass, woodwind, percussion). 6 separate instrumental groups were observed: 4 concert bands and 2 percussion ensembles (N=6). Students were randomly selected from each instrument subgroup (brass, woodwind, percussion, percussion ensemble) for observation. A mixed model ANOVA was used to compare the playing time per hour of each instrument subgroup. A second mixed model ANOVA was used to compare the relevant instruction received per hour of each instrument subgroup. As anticipated, the concert band percussionists experienced significantly less playing time and relevant instruction than both the brass and woodwind subgroups. The percussion ensemble subgroup did not experience a significant difference in either playing time or relevant instruction from the concert band percussion students. However, informal observations of the rehearsals indicated a difference in the scope and depth of the playing time and instruction experienced by these two subgroups. Implications from these observations are also discussed.

Keywords: Secondary percussion education, traditional concert band, percussion ensemble, playing time, relevant instruction, pilot study.

ACKNOWLEDGEMENTS

I will be forever indebted to Dr. Dunn for his wisdom, patience, and kindness. Thank you for always holding me to a high standard, and for encouraging me to find my own voice. I also express sincere appreciation to Dr. Brough for his ability to push me beyond what I thought I was capable of, and for his example of hard work and genuine concern. I am grateful to the many faculty and staff of Brigham Young University for their expertise and selfless service on my behalf, especially Drs. Broomhead, Dabczynski, Saville, and Eggett. I am privileged to have had the opportunity to work with each of you.

I give thanks to my parents for instilling in me a love of learning, a passion for music and education, and a desire to always do my best. Without your support nothing in my life would have been possible. I also offer my appreciation to my research assistants, professional colleagues, and students who helped me clarify and refine my thoughts throughout this process. Finally, I express thanks to the directors and students who participated in the study for making the time to do so.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter I: Introduction

Introduction

For several decades, band directors and percussion educators have been working to elevate the level of their percussion students (Cleino, 1958; Pimentel, 1983; Scherer; 1960). Since the beginning of high school band programs there seems to have been a large gap between what the percussion students are able to accomplish and what the brass and woodwind students are able to accomplish (Pimentel, 1983; Scherer, 1960; Stecklein & Aliferis, 1957). As band programs have grown in quality and complexity over the past several decades, a need to improve percussion education has become even more paramount.

While this need persists, several advancements have been made in high school percussion education since its beginnings. In many ways, the *percussion ensemble* has been the impetus for these advancements. In this study, I define the percussion ensemble as a curricular performing ensemble consisting entirely of percussion students and percussion instruments. This is in contrast to what I call the *traditional concert band* approach, in which percussion students rehearse exclusively with the brass and woodwind students in a heterogeneous setting.

In this chapter I introduce a brief history of the percussion ensemble. I then describe some of the challenges associated with percussion education in the traditional concert band approach and how the percussion ensemble mitigates these challenges. Next, I explain the need for the study followed by the purpose of the study. Finally, delimitations and relevant terms of the study are discussed.

The Percussion Ensemble

Composers in the beginning of the 20th century demonstrated a desire to move away from the large scale works of the Romantic era. Coupled with a desire to find new sounds and textures, the percussion ensemble was born (Byrne, 1999). The first known work for percussion ensemble appeared in 1933 with Edgard Varése's *Ionisation.* Two decades later, Paul Price instituted the first accredited percussion ensemble at a North American University. By the 1970's, percussion ensembles could be seen in most major universities across the country (Oliveira, 2009). Very soon after, percussion ensemble programs began appearing in high schools and junior high schools as an extra-curricular activity (Black, 1981; Fitzsimon, 1963; Peters, 1962). These early programs varied drastically in both scope and structure. Today, however, percussion ensembles can be found in many high schools across the country as a curricular subject alongside the concert band and orchestra.

Challenges in the Traditional Concert Band Approach

Since the 1950's both percussion educators and band directors have expressed a need for the reorganization of percussion education (Mueller, 1967; Peters, 1962; Pimentel, 1987). Educating high school percussionists in the concert band can be challenging for several reasons. First, the number of instruments and techniques required for proficiency in percussion is vast and constantly growing (Peters, 1962). A band director can have a difficult time learning everything that he or she needs to know in only one semester of training (Adams, 1988; Casimino, 1985; Mueller, 1967). The concert band approach can also be a challenge because the number of instruments and techniques required (though still numerous) are limited in comparison to what a percussionist would be expected to know in a college or professional environment (Peters, 1962).

Another challenge is that the role of the percussion section in the traditional concert band is often restricted to rhythm and texture. Percussion parts often provide 'punctuations' rather than melody or a supporting harmony. This can make it difficult for percussionists to develop aspects of musicianship such as phrasing and expression (Peters, 1962). In addition, the standard concert band repertoire inevitably includes chorales and marches which rarely challenge the technical ability of the percussionist as much as they do the brass and woodwind students. The standard concert band repertoire often requires less percussion players than are in the class. As it is not musically appropriate to double percussion parts, this often results in some students sitting out. Finally, the concert band approach can be a challenge because the percussionists are usually positioned in the back of the rehearsal space where minds and motives can wander easily into distraction (Griggs, 1974).

The Percussion Ensemble Approach

The percussion ensemble approach has come to be seen as an effective way to overcome many of these challenges, offering several advantages to both the director and percussion students. Primarily, the percussion ensemble approach either gives the director a chance to isolate the necessary instruments and techniques on his/her own, or in some cases gives him/her the means to hire a percussion specialist (Adams, 1988; Peters, 1962). Another advantage is that percussion ensemble repertoire often requires the use of a wider range of instruments and techniques, thus better preparing the students for future music-making opportunities (Ackman, 1998; Mueller, 1967). Both the size and the repertoire of the percussion ensemble can provide more opportunities for musicianship than are often available in the concert band. In this setting,

more melodic and harmonic contents are available, giving the director more opportunities to introduce more advanced musical concepts (Peters, 1962; Pimentel, 1987).

The percussion ensemble approach can also accommodate more percussion students at one time than the concert band. While large concert band works can require up to eight percussionists, most only require 4-5. Percussion ensemble pieces on the other hand often require 12-15 performers, and doubling in the keyboard percussion is often encouraged. While this number is still small compared to the 50-80 wind instruments in a concert band, it is a large improvement when considering that all of these students are able to perform simultaneously. Finally, the percussion ensemble approach removes the percussion students from the back of the ensemble and places them in the immediate vicinity of the director. This can lead to improved focus, behavior, and more relevant instruction (Pimentel, 1983).

Need for the study

To many educators, the advantages of the percussion ensemble approach seem obvious. However, no research has been done to confirm that this is actually the case. The current study is the first to examine whether or not the percussion ensemble approach actually improves the educational experience of high school percussionists. This study may give insight into the subgroups and individuals in a school band rehearsal. It may also influence an ensemble director's planning and organization as it pertains to these individual needs. Further, this study may be useful to directors or administrators considering implementing the percussion ensemble approach in their own curriculum. Finally, this study will provide implications for future research in secondary percussion education.

Purpose of the Study

The overall purpose of this pilot study is to answer this question: Is there a benefit to providing a separate percussion ensemble class for percussion students? Two aspects of learning will be explored in this study: playing time and relevant instruction. The research questions for this study are:

> Question 1. In a traditional high school concert band rehearsal, does the amount of playing time differ for (a) brass, (b) woodwind, and (c) percussion subgroups?
>
> Question 2. When comparing high school traditional concert band rehearsals with percussion ensemble rehearsals, does the amount of playing time differ for percussion students?
>
> Question 3. In a traditional high school concert band rehearsal, does the amount of relevant instruction differ for (a) brass, (b) woodwind, and (c) percussion subgroups?
>
> Question 4. When comparing high school traditional concert band rehearsals with percussion ensemble rehearsals, does the amount of relevant instruction differ for percussion students?

Delimitations

- This study was implemented as a pilot study. As such, the sample size is small and the generalizability is limited.
- This study deals only with students in public high schools.

Terms

Traditional Concert Band - heterogenous setting in which brass, woodwind, and percussion students all rehearse simultaneously.

Percussion Ensemble - a curricular performing ensemble consisting entirely of percussion students and percussion instruments.

Playing Time - Any time that the student is actively engaged in the music-making process.

Relevant Instruction - Any verbal comment made to an individual or group of students that enhances their ability to perform on their primary instrument.

Chapter II: Review of Literature

In this chapter I review the literature surrounding percussion and percussion education. First, I discuss the body of literature that can be found in practitioner journals. I then discuss percussion research, followed by percussion education research. Finally, I present implications of this review of literature for this study.

Practitioner Journals

One body of percussion literature is found in practitioner journals. A practitioner journal contains articles by professionals in that field. These articles are usually not reports of research, although they may cite research; most often, they are informational articles written for practitioners in the field based on personal experiences or study. The first articles concerning percussion education appeared in the early music education journals such as *Instrumentalist* and the *Music Educator's Journal.* It was not until the founding of the Percussive Arts Society (PAS) that that the first practitioner journal focused on percussion appeared. The PAS was founded in 1961, and in 1963 published its first journal, the *Percussionist*, later called the *Percussive Notes Research Edition* (http://www.pas.org/About/the-society/history). While this publication continued for some time, in 1967 the *Percussive Notes* became the official journal of the PAS. These journals contributed substantially to the body of literature surrounding percussion. A sampling of the topics addressed in a single issue of *Percussive Notes* (2015, 53, 1) reveals articles relating to snare drum pedagogy, jazz improvisation, percussion and technology, Classical marimba literature, 19th century triangle, timpani in 20th century opera, odd-meter drum set practices, injury prevention, practice techniques for rudimental drumming, and African bell patterns. The variety of topics is vast and rapidly expanding.

The state of percussion education. An area often discussed in practitioner journals is percussion education. Topics covered in this area are less diverse than articles concerning percussion; the majority deal with problems and suggestions regarding percussion education. The number of such articles is large. I have selected a few representative articles for review.

In a 1966 *Percussionist* article the PAS Committee on Improving Elementary Percussion Education expressed their concern that the caliber of percussion education in private instruction and in the schools was too low. They believed that too many music educators received poor training (or no training) at the college level. They also stated that students rarely received comprehensive percussion training, but were taught mostly the snare drum. Finally, the committee felt that some teachers were in the habit of putting students with the lowest musical aptitude in the percussion section.

In 1987 Pimentel observed that percussion was still in need of improvement, and made a strong argument for the reorganization of percussion education. According to Pimentel, "we are not educating well and the resultant 'casualties' are all too evident" (p. 26). In her article, she reported that teenage percussionists consistently scored lower on music theory and reading exams than all other instrumentalists, that they spent only 21% of the time in school band rehearsals actually playing their instrument, and that they are off-task 29% of the time. Pimentel made several practical suggestions for both non-percussionist band directors and university percussion professors to help improve the situation of pre-university percussion education. Some of these suggestions included 'adopting' a band director, starting students younger, teaching a more comprehensive curriculum, and including more ensemble experience for young percussionists.

Holly (1988) endorsed the recommendations made by Pimentel (1987), noting that most schools' curricula are not able to meet the real-world needs of student percussionists. He lamented that serious percussion education does not begin until college. Marvin (1978) argued that there are too many percussion students in the traditional concert band classes, and not enough percussion music. He added that the teachers don't have the skill set to meet the needs of the percussion students.

It can be seen from these practitioner articles that the quality of percussion education has been a serious concern over the past 50 years. These concerns among both teachers and professionals often cite problems with curricula, teacher training, and a general lack of a comprehensive percussion approach. Although there seems to have been progress made in recent years, some voice similar concerns today (Mixon, 2002).

Percussion Research

The concerns of these professionals and educators for improving the state of percussion performance and percussion education led to an interest in exploring these areas through more formal research. Studies in percussion research generally group into the following topics: technique (Colton, 2013; Forsthoff, 2010; Ivie, 1974; Schweitzer, 2005), health and wellness (Jones, 2010; Miller, 1988; Stuart, 2009), musical composition (Aube, 2011; Estes, 2014; Smith, 2011; Williams, 1990), and music psychology (Betts, 2010; Brent, 2010). Studies concerning ethnography are also predominant such as cultural influences (Bugg, 2003; Duggan, 2011; Tiffe, 2006), and gender (Ahlgren, 2011; Aube, 2011; Crook, 1991; Langsjoen, 1998). Finally, historical studies concerning composers (Duff, 1982; Frauzer, 1956; Lorince, 1950), instruments (Jackson, 1952; Meyer, 1973; Trelka, 2006), and performers (Kernan, 2010; Reiss, 1987;

Williams, 2013) have emerged. This diverse range of topics is a challenge for those looking for compelling results because it is very difficult to find any replication or corroboration between studies. Consequently, the facts appear as "unordered bits and pieces of a giant puzzle rather than as the outline of the picture the puzzle is eventually to become" (Rainbow & Froehlich, 1987, p. 17).

A closer look at the dates of these studies shows that the research surrounding percussion is very young when compared with studies regarding other musical instruments. For example, Mozart's *A Treatise on the Fundamental Principles of Violin Playing* was published in 1756 (Newman, 1995), 200 years before percussion research began to appear. Even though percussion is one of the earliest forms of music making, it did not become a standard part of the orchestra until the middle of the 19th century (Oliveira, 2009). Substantial research concerning percussion doesn't appear until the 1950's.

Percussion Education Research

The research specifically examining percussion education is also very recent, but the topics studied are slightly less diverse than in other areas of percussion research. Three categories emerged from a review: beginning method books, teacher training, and comparisons of concert band subgroups. I will discuss these three areas in turn. That I am aware of, no formal research has been conducted examining percussion education in a percussion ensemble; however, several studies make it a point to address this topic. These studies will be reviewed last.

Beginning method books. A considerable amount of research has been done concerning the method books used for beginning percussion instruction. These studies often deal with either

an analysis of the skills presented in the method books, or the implementation of a new book, usually written by the author of the study.

Two studies examined the efficacy of beginning percussion method books compared to standard concert band literature. Lecroy (1978) examined percussion techniques and musical requirements in original music for band and the effectiveness of certain method books in presenting those techniques and musical requirements. He used criteria he developed himself to analyze each percussion part in both the selected compositions and the method books. Lecroy found that "the most serious omission from the method books was the lack of excerpts from the repertoire of original music for band" (p. 5). From his findings he created a method book of his own that included these excerpts.

In a more compelling study, Ackman (1998) wanted to see if beginning percussion method books were adequately preparing students for future music making. He examined the relationship of popular beginning and intermediate percussion method books to percussion performance requirements of grade III-VI concert band literature. These were compared in terms of required skill, concepts, and number of instruments. Fifty randomly selected middle school band directors from Florida, Illinois, and Massachusetts (N=150) completed a survey to identify the four most commonly used beginning band method books. Ackman then conducted a content analysis of these books to identify the sequence and scope of skills, concepts, and instruments presented. Finally, 100 intermediate to advanced band pieces were analyzed for the number of percussion players and instruments required, as well as percussion technique requirements. Ackman found that the beginning and intermediate method books provided sufficient preparation for snare drum, bass drum, and basic accessories but did not adequately prepare incoming high

school percussionists for performance techniques on timpani and keyboard percussion instruments. For example, timpani were required in 86 of the 100 band pieces, but only 24% of the band directors incorporated instruction on timpani as part of their curriculum. Additionally, timpani was covered in only one of the four selected method book series. Ackman also noted that xylophone was required in more than one-third of the band works selected, but that less than one page in each of the method books was dedicated to this instrument.

Horner (2005) wanted to understand how university percussion teachers perceived the quality of beginning percussion method books. He surveyed 269 university percussion teachers and asked them to rate the importance of certain characteristics of these books. He found that the large majority of the teachers surveyed believed that a comprehensive approach was needed, and that the current beginning method books were unsatisfactory.

Two additional studies dealt with beginning percussion method books. In these, Preston (1975) and Cleino (1958) each presented their own beginning percussion method as an alternative or supplement to the available methods of the time. After developing his method book, Preston tested the effect of (1) this new method book, (2) piano background, (3) the student's sex, and (4) instrument grouping (homogenous and heterogeneous) on the musical development of 134 beginning percussionists in 11 schools in North Carolina. He found that his comprehensive percussion method did assist in developing beginning percussionists' ability to find a tonal center, to aurally discern major and minor chord qualities, and to identify mistakes in rhythm or pitch. He also found that both homogenous class grouping (e.g., a percussion ensemble approach) and prior piano experience contributed to these abilities.

In one of the earliest studies about percussion education, Cleino (1958) intended to create a new "ensemble method" for teaching percussion. He provided informal commentary on the problems associated with teaching percussion in the school band program. He then wrote a new method book based on an "ensemble method" for teaching percussion. The purpose of the new book was to provide a musical framework for the instruction of timpani and beginning and intermediate snare drum in a homogenous setting. The method consisted of several three-part exercises each focusing on a new technique or musical concept. This method, according to Cleino, could be taught by a director who had "only a modest amount of preparation in the field of percussions" (p. 8).

These studies indicate that there was a concern about the available beginning percussion method books. Each author was either investigating the method book as a problem in percussion education, or proposing a new method book as a possible solution to this problem. In addition to concerns with method books, the authors also suggested that secondary percussion education in general was not adequately preparing percussion students for real life experiences.

Teacher training. The largest body of research surrounding percussion education deals with teacher training. Studies indicate that the ability of band directors to teach percussion effectively is not only a concern for percussion educators but for non-percussionist band directors as well (e.g., Casimino, 1985; Scherer, 1960). Most of the studies dealing with teacher training used a questionnaire to examine the experience and qualifications of practicing band directors. These studies will be discussed first. A few studies examined the effectiveness of curriculum used in university percussion methods courses. These will be discussed last.

The first questionnaire study was conducted by Scherer (1960). He examined the performance ability of high school percussion students in southern Minnesota and the problems in training them. Directors from 172 band programs completed a questionnaire concerning their students' performance ability and their own percussion training. The results of the questionnaire indicated that 68.7% of the directors received some sort of instruction on percussion instruments as part of their college training. In addition, 25% of these directors indicated that a professional percussionist taught the course. Only 19% felt that the course was adequate to meet the percussion teaching needs of their band programs.

Casimino (1985) surveyed 71 instrumental music directors throughout New York about their curriculum planning practices. Most of these directors had considerable experience in their profession (average = 17 years). Of these directors, 52 indicated that they held a masters degree, 16 a bachelors, and two a doctorate. The results of the study indicated that 73% of the teachers surveyed felt a definite need for a formal written curriculum for the teaching of percussion in their school, but that only 28% stated they had one. Finally, 75% of these directors felt that their own competency was the major problem in teaching percussion. Other obstacles such as lack of proper equipment, curriculum planning, scheduling, and literature were cited by the respondents.

Adams (1988) surveyed 142 band directors in Missouri public schools to identify among other things the amount of percussion training that they had received. The results of the survey showed that none of the respondents felt proficient in percussion. In connection with this, the directors noted that they hired consultants in percussion more than any other area. Most directors indicated that the one semester of percussion training in their university education was insufficient to prepare them for their current program needs.

In a similar study, Mueller (1967) surveyed 105 randomly selected high school band directors in the state of Wisconsin to determine the quality and scope of percussion instruction in those schools. One aspect of this survey was teacher training. He found that the average length of teacher training in the area of percussion was 15 hours. Ninety-six percent of the directors reported to have had some training on snare drum, 66% on timpani, and 26% on keyboard percussion instruments. It is worth noting that according to these directors their students' playing abilities followed similar trends; the directors reported that 75% of their students could adequately play the snare drum, 28% could play timpani, and only 7% could play keyboard percussion instruments.

Hillbrick (1999) surveyed 2,258 instrumental music teacher members of the Music Educators National Conference (MENC) in the states of Illinois, Missouri, and Wisconsin to examine the type of training they received in their university percussion methods course and how it had prepared them for their current practice. The directors indicated that for every instrument category needed on the job there were deficiencies in the course. The respondents felt most comfortable teaching snare drum, followed by timpani, with keyboard and accessory instruments equally ranking third. These instrumental music teachers felt significantly less comfortable teaching drum set and marching percussion, and the data indicated that very few received any training in these areas. Respondents also reported that more instruction was needed in areas of instrument maintenance and repair.

The purpose of Reeder's (1994) study was to provide a resource to help teachers of undergraduate percussion methods courses choose which method to incorporate into their curriculum more intelligently. To do this, he identified the four most commonly used and best-

written general percussion method books used in teacher training classes. Using an analyses matrix consisting of categories common to all four methods (photographs and/or drawings, basic grip, musical examples, timpani, keyboard percussion, etc.) he created a guide to aid directors in choosing a percussion method for their undergraduate courses.

Burdett (2007) reviewed the methods available for percussion techniques classes for their content and scope. She found that little had changed in these methods over the past 50 years despite several calls for new and revised texts. Using this review as a foundation, she developed a text of her own.

These studies deal with the training of high school band teachers and their ability to teach high school percussionists. The quantity of studies in this area indicates that this is an area of concern in percussion education. In addition, these studies raise the question of whether or not university percussion methods classes will ever be capable of providing enough instruction to adequately prepare future band directors to teach percussion. We can see from the dates of these studies that this continues to be a concern today.

Concert band subgroups. Another common area of research in percussion education is concert band subgroups. This topic has received considerable attention over the past 50 years and is often addressed by researchers even when it is not the focus of the study. These studies fall into two categories: questionnaire studies and observation studies.

Scherer (1960) administered a questionnaire to high school band directors from southern Minnesota regarding their percussion students' performance ability. In addition to the 173 band directors surveyed, Scherer also requested a statement regarding the current state of incoming percussion students from 10 college band directors in the state. Both the college band directors

and high school band directors almost unanimously indicated that the quality of performance of the percussion section was poor in comparison with the brass and woodwind subgroups.

In a study mentioned earlier, Adams (1988) surveyed 142 high band directors in Missouri public schools to identify the amount of time dedicated to percussion instruction during rehearsals. The majority of respondents indicated that they worked with the woodwind subgroup the most and percussion the least. This was found to be true among directors no matter their primary performance instrument.

A well-known study by Stecklein and Aliferis, (1957) correlated achievement on the *Aliferis Music Achievement Test* with instrument played, years of private instruction, and hearing recognition. Eight hundred and ninety two freshmen music majors from 64 four-year universities were involved. The results indicated that percussion students had the lowest scores in harmonic and melodic tests when compared with the brass, woodwind, piano, strings and vocal students. In addition, the percussionists scored lower on the rhythm test than the brass and woodwind subgroups and had the lowest scores in overall achievement. Stecklein and Aliferis also noted that the percussion students scored significantly lower on these areas of the test even though they began their study as early as any of the other instrument subgroups.

Two decades later, Cottam (1976) wanted to find out if there was still a difference in certain aspects of musicianship between the subgroups in a high school concert band. To determine this, he administered the *Iowa Test of Music Literacy* to 280 students enrolled in the bands of the Salt Lake and Granite School Districts near Salt Lake City, Utah. He found that brass players had the highest mean score in understanding tonal concepts, with woodwinds second and percussion third. Brass players also scored highest in understanding rhythmic

concepts, with percussion second and woodwinds third. Finally, brass players scored best overall with woodwind second and percussion third.

Wheeler's (1992) study was intended to determine if there were differences in the melodic and rhythmic reading skills of the brass, woodwind, and percussion students in selected North Carolina band programs. A secondary objective was to determine the effects of years of instruction, private instruction, piano instruction, and other music training or experience on the music reading skills of these same students. Three hundred and eighty-eight students from 12 North Carolina high school band programs were administered four subtests of the Colwell *Music Achievement Test (*MAT). The MAT measured achievement on melodic and rhythmic music reading skills. Trumpet and clarinet students were chosen to represent the population of brass and woodwind students respectively. Wheeler's findings, though similar, were somewhat inconsistent with those of Stecklein and Aliferis (1957), and Cottam (1976). He found that the percussion students scored lower than trumpet students in the sample in pitch discrimination, pitch recognition, and rhythmic discrimination. Surprisingly, however, the clarinet students scored closer to the percussion students than the trumpet students in music reading skills even though instruction and expectations between these two subgroups are normally paralleled.

Pimentel's 1983 study was very influential in the percussion education community, and has great relevance to the current study. For this reason I will discuss it at length. She examined characteristics of the traditional high school concert band to determine whether the three existing subgroups (woodwinds, brass, and percussion) exhibited different behaviors, implying different organizational structures similar to those found in business organizations. The organizational structure of each subgroup was measured in the following categories:

1. The amount of solo performance, individual performance, and group performance.
2. How often members were not playing music and/or not involved in the principal group activity.
3. How often members worked on equipment individually or together.
4. The amount of standing or walking exhibited by members.
5. How often members changed performance instruments or organizational roles.
6. The subgroups' location in the rehearsal room.

Pimentel's (1983) findings indicated that the organizational structure of the percussion subgroup did differ significantly from the brass and woodwind subgroups on each of the organizational structure variables. She found that the percussion subgroup spent the most time performing as individuals rather than groups, that they were "on-task" less than any other subgroup, and that they spent more time working on equipment and making group decisions than the other two subgroups. The percussion subgroup also spent over twice as much time "off-task" as they did performing.

In this same study, Pimentel (1983) also examined how the verbal interaction between teacher and student differed between these subgroups. The verbal interaction between teacher and subgroups was measured by the following criteria:

1. Musical Interaction.
2. Technical Interaction.
3. Social Interaction.
4. The vocal command "sh".
5. The degree of approval or disapproval.

In terms of teacher-student verbal interaction, the amount of interactions differed significantly in musical and technical verbal interaction but not in social interaction. In other words, the director interacted with the woodwind and brass subgroups significantly more frequently than he did the percussion students. The degree of approval/disapproval did not differ significantly between subgroups on musical and technical verbal interaction but did vary significantly on verbal social interaction. In other words, when the director interacted with the students in the social category, where the percussionists were involved in an equal proportion of interaction, the verbal interaction was significantly lower on the approval/disapproval scale. Pimentel (1983) also noted how the percussion subgroup in the study was consistently placed to the sides and rear of the rehearsal space making it more difficult for consistent interaction.

In her summary, Pimentel (1983) asked, "Can we, as band directors, attempt to be more creative in seeking to extend the academic learning of the percussion subgroup? […] Perhaps we need to reconsider from its inception the musical education of the percussionist" (p. 174). She went on to make several recommendations for improving percussion education, including a suggestion that the percussion students be moved to the center back of the rehearsal space to at least maintain the intimacy of direct eye contact and better aural contact with the conductor.

One way Pimentel's (1983) study is relevant to the current study is that it deals with interaction between the teacher and the student, and deals loosely with the category of playing time and the instruction given to the subgroups. Even though the evaluation of this interaction differs, it indicates that these two areas play a vital role in the effectiveness of a student's learning experience. I have been unable to find any research dealing with playing time or relevant instruction as methods of evaluating performance.

The studies of Pimentel (1983), Wheeler (1992), Cottam (1976), and Stecklein and Aliferis (1957) are relevant to this study in the way they examined and compared brass, woodwind, and percussion subgroups. They provide evidence of a difference between the subgroups in the concert band. Not only do they appear to differ in organizational structure, but they also appear to be achieving less than the brass and woodwind students. The results of the questionnaires developed by Adams (1988) and Scherer (1960) also suggest that band directors are aware of this problem. These studies are important to the current study because they imply that similar problems face today's secondary percussionists.

The percussion ensemble. The percussion ensemble has emerged as an alternative approach to the traditional concert band. While no formal research has been done concerning the percussion ensemble approach, several studies make a point to address this type of program in their writing.

A few theses and dissertations deal specifically with the percussion ensemble. Fitzsimon (1963) developed a guide or syllabus for organizing a percussion class in the junior high school. He discussed aims and objectives of teaching a percussion class, selection of students, materials and equipment, technique, setup, and addresses some of the reasons for lack of acceptance of percussion music. In a very similar thesis, Black (1981) outlined the objectives and rationale of starting a percussion ensemble program, the instrumentation needs, rehearsal strategies, and the repertoire available for percussion ensembles. Black also distributed a questionnaire to 25 different schools to determine what kind of percussion ensemble programs were currently in operation, when, and how they began. He reported that the degree to which these programs were implemented into the curriculum varied.

Clark (1974) also took an interest in the percussion ensemble approach, but in a university setting. In a survey given to 200 university percussion professors regarding the effectiveness of ensemble experiences he found that 95 of the 122 returned surveys indicated the presence of a percussion ensemble as part of their music program. One of his conclusions was that there was an insufficient availability of percussion ensembles in the universities of the time.

Several studies did not focus on the percussion ensemble directly, but made mention of its value in their writing. Mueller (1967) advocated the implementation of the percussion ensemble program to allow percussion students to have a more comprehensive education. He stated that "The percussion ensemble can be a place to utilize the extra percussion players that schools appear to have and in so doing also give all percussionists a chance to play the many percussion instruments and gain valuable playing experience" (p. 83). Mueller also noted that according to the results of his questionnaire, only about 16% of the schools in Wisconsin offered a percussion ensemble program.

In one of the most well-known theses in the body of percussion literature, Peters (1962) deals with the history and categorization of percussion instruments. This lengthy *Treatise on Percussion* discussed the percussion ensemble as an emerging art form in its final chapter. He described challenges he faced in bringing a percussion ensemble program to the Eastman School of Music, along the value of this ensemble in the development of percussionist training. Peters included 29 educational benefits of the percussion ensemble program as well as several challenges one might face in implementing one (e.g., the school administrator, finding an instructor, lack of facilities or equipment).

Cleino's (1958) "ensemble method," cited earlier, involved a homogenous approach that could simplify the teaching of appropriate technique and musicality for the non-percussionist band director. Preston (1975) found that a homogenous class grouping (the percussion ensemble approach) contributed to a percussionist's ability to find a tonal center, to aurally discern major and minor chord qualities, and to identify mistakes in rhythm or pitch.

Finally, Pimentel (1983), in the study cited earlier, noted the percussion subgroup behaved in such a dramatically different fashion than the other subgroups that perhaps a restructuring of the percussion programs is needed.

> "Perhaps this implies that percussionists need to be able to operate in an unique, independent, and responsible manner […] An ideal preliminary training may include four-mallet solo mallet instrument instruction combined with an Orff-type ensemble experience […] Often, in school districts where like instruments are separated in beginning classes, a principal may be hesitant to grant a separate class for the smaller percussion subgroup. If the principal can be persuaded to peruse the results of this study, he may reconsider. It may be wise to integrate the percussion subgroup later than the wind instrumentalists into the concert band. The percussion subgroup might better develop as a mallet-oriented ensemble with a specially designed and diversified curriculum." (p. 179-180)

Summary and Implications

This review of literature indicates that general topics relating to percussion in practitioner journals are diverse and rapidly expanding. Articles on the topic of percussion education are prevalent and often express concerns regarding the curriculum (e.g., Holly, 1988; Pimentel, 1987), teacher training (e.g., Marvin, 1978; PAS 1966), and lack of a comprehensive approach found in schools (e.g., Marvin, 1978; Pimentel, 1987). Topics explored in percussion studies are equally diverse, but there is little replication or corroboration between studies.

Research in percussion education is also relatively new, and falls into the categories of beginning method book, teacher training, and comparisons between the subgroups in a concert band. The research suggests that method books available at the time of the studies were found to be inadequate in preparing students for real world percussion experiences. Teacher training also seemed to be inadequate and perhaps even unrealistic for the amount of information needed to properly train percussion students. Comparisons between the subgroups in the concert band indicated that the percussion students are different from the brass and woodwind subgroups both in organization and in their musical achievement. Band directors in these studies at all levels appear to acknowledge this.

According to the available literature, there is evidence to suggest that percussion students in secondary band programs are not reaching their full potential. Many have been working on improvements, but there is an indication that more still needs to be done. The percussion ensemble is an emerging alternative approach to addressing many of these challenges in percussion education.

While some authors and researchers have advocated the percussion ensemble approach, no formal research has been done concerning it. This study provides an examination of the quantitative differences between the subgroups in the concert band, and is the first to compare these characteristics with students in the percussion ensemble.

Chapter III: Methodology

This chapter outlines the procedures of the study. First I discuss the selection of the participants for observation. The participant profiles are presented next, followed by a description of the method for observing rehearsals. The development of the measurement instruments is then explained. Finally, I explain the preparation of the data and the procedures for data analysis.

Research Questions

The overall purpose of this pilot study is to answer this question: Is there a benefit to providing a separate percussion ensemble class for percussion students? While the answer may seem common sense to some, there is no research to document that this is the case. Two aspects of learning will be explored in this pilot study: playing time and relevant instruction. The research questions for this study are:

> Question 1. In a traditional high school concert band rehearsal, does the amount of playing time differ for (a) brass, (b) woodwind, and (c) percussion subgroups?
>
> Question 2. When comparing high school traditional concert band rehearsals with percussion ensemble rehearsals, does the amount of playing time differ for percussion students?
>
> Question 3. In a traditional high school concert band rehearsal, does the amount of relevant instruction differ for (a) brass, (b) woodwind, and (c) percussion subgroups?
>
> Question 4. When comparing high school traditional concert band rehearsals with percussion ensemble rehearsals, does the amount of relevant instruction differ for percussion students?

Selection of the Participants for Observation

Six public high school programs were selected for this study (*N=6*). Primary considerations included: (1) the director's primary performance instrument, and (2) the existence of a percussion ensemble. Secondary consideration was also given to the (1) location, (2) size of the music program, (3) perceived quality of the music program, and (4) perceived director accessibility. Based on these criteria, a purposive sampling process was used to select a representative cross-section of high school concert band programs in the United States. A much larger sample would have been ideal but due to the time requirements for observation and data review, this was unrealistic for the scope of this project.

Selection. The selection of participants began with compiling a list of 50 directors in the United States based on personal knowledge of active participants in the field and colleague recommendations. These directors were sorted based on their primary instrument subgroup: percussion, brass or woodwind. From this list, approximately 30 directors were selected (10 per instrument subgroup). These programs were further evaluated and ranked based on further research regarding perceived program quality, program size, and past record for following through on projects. Based on these evaluations, four concert band directors and 2 percussion ensemble directors were chosen from each instrument group. Each of these directors was contacted and invited to participate in the study. If the initial response was positive, a formal follow-up email was sent (see Appendix A). If the response was negative, the next director on the list that fit the needed criteria was contacted. Nine directors were contacted in total. One of the directors contacted directed both a concert band and a percussion ensemble.

Primary performance instrument. In the process of selecting the participants, the directors' primary performance instrument was selected as the first necessary criterion to achieve maximum variation in the sample. Research indicates that primary performance instrument is a factor in the evaluation of student performance (Hewitt, 2004, 2007). It follows that this ability to evaluate student performance would affect the quantity and type of instruction offered by the director. Two of the directors chosen identified percussion as their primary performance instrument, one woodwind, and two brass.

P**ercussion ensemble.** This study deals with comparisons between percussion students in the traditional concert band and percussion students in the percussion ensemble. For this reason, I decided it was important to choose three directors who had a percussion ensemble program and three that did not. In the schools that had a traditional concert band and a percussion ensemble program, both the concert band and percussion ensemble rehearsals were observed. As stated above, one of the directors of a traditional concert band was unable to complete the study. Another director was able to record percussion ensemble rehearsals, but unable to record the traditional concert band rehearsals due to unanticipated scheduling conflicts. Therefore, the resulting data consisted of the observation of four concert band programs and two percussion ensemble programs.

Location. I have observed through personal experience that the organization and practice of band directors and band programs can vary greatly based on the community in which they are located. Since a true random sample of all band programs in the United States was impossible, the location of the selected programs was varied to represent a cross section of the population.

Two of the schools were located in Utah, one in Washington, one in Oregon, and one in Illinois. The school that was selected but not able to complete the study was located in South Carolina.

Size of the music program. It has also been noted by the author that the size of a music program can greatly affect the size of its ensembles, and consequently the ability of a director to interact with all students and instrument subgroups. Since the interaction of the teacher with the students was being measured, this variable was considered in the selection of the sample as well. Of the five instrumental music programs chosen, one was considered small (<100 students), three medium (100-200 students), and one large (>200 students).

Quality of the music program. Preference was given for directors with strong music programs. This was evaluated based on the director's past festival ratings, competition results, education, and years of teaching experience. All of the programs or directors selected had been recognized in one form or another for excellence in their craft.

Director Accessibility. To aid in the implementation and follow-through of the study, an attempt was made to identify directors who had an ability to respond quickly to communication and to follow through with requests. This was made based on personal past experience with the directors or recommendations from others. I have learned from personal experience that most high school band directors maintain a very demanding schedule, and the time-sensitive nature of this study required a certain 'with-it-ness.' This was a highly subjective consideration but proved to be a useful criterion.

Contacting participants. A procedure was followed for contacting each participating director. The director of each program was personally invited by phone to participate in the study. A formal invitation followed via email (see Appendix A). After the director expressed his/

her desire to participate, permission was obtained from the school principal, followed by permission from the district representative.

When permission was attained from both the school and the district, each director was given the subject consent form (see Appendix B) and script for classroom recruitment (see Appendix C). The directors were told that the research had to do with percussion education in secondary schools, but specifics of the research questions were not shared with them. The directors were asked to distribute the remaining consent forms to their students (see Appendices E, F, G, and H). The students were also told that the study had to do with music education without being given specifics of the research questions. Students who did not wish to participate in the study were given alternative assignments for those days.

School Profiles

A general profile of each the participating schools can be found in Table 1 below. Names have been changed to protect anonymity. Each director's primary performance instrument group is listed in addition to the program size, and location of each school. Note that School D had both a concert band and a percussion ensemble as noted above. The number of rehearsals observed is listed in the final column.

Observation of the School Ensembles

Due to the locations of the participating schools, personal observation by the researcher was not practical, so video recordings were used for collecting data. For each rehearsal observation two video cameras were used, one focused on the director, the other on the students. Using video cameras rather than live observation allowed for multiple viewings during analysis

Table 1

School Profiles

School	Dir. Instrument	Program Size	Location	Ensemble Type	Observations
A	Woodwind	Large	Washington	Concert Band	4
B	Percussion	Small	Oregon	Concert Band	3
C	Brass	Medium	Illinois	Concert Band	3
D	Brass	Medium	Utah	Concert Band/Percussion	3/3
E	Percussion	Medium	Utah	Percussion	2

and made verification of the data simple. Each school director was asked to film three full rehearsals on three separate occasions. All but one of the directors used their own recording equipment. I mailed a camera to the director that did not have his own equipment.

The directors were not given any instruction as to the sequence of the recorded rehearsals. All rehearsals took place between the months of December 2014 and February 2015. The length of the rehearsals varied from school to school. To accommodate for this, all data was normalized to ‘per hour’ rather than ‘per rehearsal’. Video was recorded from before students entered the classroom and continued until after the rehearsal had ended. Rehearsal time began when the first verbal cue of the director was heard. If the conductor began the rehearsal without talking, the time began when the first ‘collective’ musical sounds were heard.

Development of the Measurement Instruments

The research questions in this study dealt with the measurement of playing time and relevant instruction. I define *playing time* as any time that the student is actively engaged in the music-making process. This includes time spent counting rests. Playing time does not include time spent counting rhythms, singing parts, or breathing exercises. It is acknowledged that these

activities also require students to be actively engaged and can enhance their musicianship, but removing them from the criteria provided necessary clarity to the measurement process. Also not included in the measurement of playing time was note checking (e.g., playing a single note), and 'noodling' (e.g., playing before rehearsal has begun or during transitions).

I define *relevant instruction* as any verbal comment made to an individual or group of students that enhances their ability to perform on their primary instrument. This does not include non-verbal instruction. It also tries to avoid indirect or abstract relevance. For example, a percussionist would most likely benefit from discussions on breathing, but this study followed the assumption that a high school percussionist would not usually transfer this type of information without guidance. The current study also made no attempt to measure the quality, duration, or content of the instruction given. Announcements and non-musical comments (e.g., "please spit out your gum") were not considered instruction. However, comments regarding location (e.g., "Percussion, can I have you set up closer to the low brass"), assigning parts ("Can someone please cover the tambourine part"), and other logistical comments that had musical relevance were counted as relevant instruction.

In the measurement of the brass and woodwind students, a random sample of the subgroup was selected equal in quantity to the percussion section. In other words, if the percussion section of the director's concert band consisted of five students, then five brass and five woodwind students were also chosen to represent their respective subgroups. Every percussion student in the rehearsals was observed. There was one exception to this, where the percussion ensemble from School D that had 20 students. In this case 10 students were randomly selected for observation.

Measurement instruments were designed by the author to collect data efficiently (see Figures A and B). The Playing Time Assessment Instrument (see figure A) was used for the collection of playing time per student. The left hand column is used as a timeline to mark the beginning and end of each musical performance in the rehearsal, as noted on the playback counter. The second column is used to note the end of each musical performance. The total duration in seconds of the performance is noted in the following column. The following columns are used to assign the total duration of the performance to each student being assessed in the observation. Columns were added as needed to observe additional students. A final column was created to allow the researcher to make comments about what was taking place during the rehearsal at that time (e.g., warm-up exercises, concert music, etc.). If a student was not playing but appeared to be engaged in the performance (e.g., counting rests), the time was counted as playing time. If the student was invited by the director to participate but was clearly not engaged in the rehearsal (e.g., moving equipment, talking, etc.) it was not counted as playing.

The Relevant Instruction Measurement Instrument (see Figure B) is used for the collection of relevant instruction given during the rehearsal. The rehearsal timeline in the first column is used to mark the beginning time of each verbal comment made by the director. Each comment was then transcribed, coded, and assigned to one or all of the subgroups, shown in columns 2-5. The final column allows the observer to make notes about the director's comments or about what was happening in the rehearsal at the time.

When possible, instrument-specific instruction was considered relevant to other students of the same instrument even if not directed towards them. In other words, if a director said "This type of tambourine roll is done with the thumb" it was assumed this comment would be relevant

Figure A

Measurement Instrument - Playing Time

Rehearsal Timeline	End Time	Duration	1	2	3	4	5	6	7	Researcher Comments

Figure B

Measurement Instrument - Instruction

Rehearsal Timeline	B	W	P	Transcription	Researcher Comments

to all percussionists even if tambourine was not the instrument they were currently performing on. This assumption was most often made for comments to the percussion subgroup. Answers to student-initiated questions were considered instruction.

Preparation of the Data

All video files were transferred to me electronically using online file transfer programs (e.g., Dropbox). Once received, the rehearsal footage was stored on a secure external hard drive. For observation, the footage was reviewed on a personal laptop or desktop computer using headphones or speakers. Two other observers aided in the codification of data. The first was a

professional musician and band director who has extensive experience in both band rehearsal techniques and observation. The second was an accomplished amateur musician with experience in research methods and verbal transcription. All data were reviewed by the primary researcher to verify accuracy.

Codification. To answer Questions 1 and 2, a separate copy of the Playing Time Measurement Instrument was created for each observed rehearsal (see Figure C). Each student selected for observation was assigned a column in the table and a note was made concerning his/her (1) gender, (2) instrument, and (3) physical description to enable the observers to keep track of the student throughout the observation. The beginning of each rehearsal was noted. As the rehearsals were observed, any time an individual or group of students was invited to play, the amount of time spent playing was recorded in seconds and applied to all those in the sample who had participated. If a student only participated for a portion of the performance, his individual start and stop time was noted.

After the observations were completed, the data from all concert band rehearsals were combined into a new form (see Figure D) for analysis. Additional characteristics of each school and individual student were noted including the program size, director instrument subgroup, and the student's primary instrument. All playing time was standardized to mean seconds per hour.

To answer Questions 3 and 4, 18 different versions of the Relevant Instruction Measurement Instrument were created (see Figure E). A column was created for each subgroup — brass (B), woodwind (W), or percussion (P). Each comment that the director made to an individual student or group of students was noted along with the time on the playback counter that the comment began. The comment was then noted as being relevant to one or more of the

Figure C

Completed Measurement Instrument - Playing Time (Excerpt)

Rehearsal Timeline	End time	Duration	P1	P2	P3	P4	P5	P6	P7	B10	B3	B2	B12	B15	B18	B21	WW15	WW16	WW18	WW1	WW9	WW19	WW7	Researcher Comments
:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Rehearsal Begins
:22	3:10	168	x	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	125	168	168	125	168	Long tones
3:32	3:45	13	x	x	x	x	x	x	x	13	13	13	13	13	13	13	x	x	x	x	x	x	x	Brass lip slurs
3:56	4:16	20	x	x	x	x	x	x	x	20	20	20	20	20	20	20	x	x	x	x	x	x	x	
4:26	4:55	29	14	29	29	29	29	29	29	x	x	x	x	x	x	x	29	29	29	29	29	29	29	ww/perc runs.
5:00	6:21	81	x	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	everybody
6:27	6:36	9	x	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
6:40	9:09	149	x	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	Percussion sustains, band sings.
9:31	11:51	140	x	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	Blending exercise
13:30	13:52	22	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	22	x	x	22	x	Cl. 1
13:58	14:11	13	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	13	x	x	x	Cl. 2/3
14:16	14:50	34	x	x	x	x	x	x	x	34	34	34	34	x	x	x	x	x	x	x	x	x	x	Trumpets
15:12	16:22	70	x	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	Starting mvt. I
16:34	16:47	13	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	13	x	x	Flutes
16:53	17:36	43	x	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	Everybody
17:57	18:20	23	x	23	23	23	23	23	23	x	x	x	x	23	23	23	x	x	x	x	x	x	x	Backgrounds (perc, horn, tbn)
18:34	18:44	10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	bass tbn/euphonium
19:00	19:12	12	x	x	x	12	12	x	12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Same w/perc
19:34	19:44	10	x	x	x	10	10	x	10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Same people
19:59	20:18	19	x	x	x	19	19	x	19	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Same w/tuba
20:43	20:56	13	x	x	x	x	13	x	x	x	x	x	x	13	13	13	x	x	x	x	x	x	x	Same w/horn/tbn
21:05	21:29	24	x	24	x	24	24	24	24	x	x	x	x	24	24	24	x	x	x	x	x	x	x	Same people
21:48	22:18	30	x	30	x	30	30	30	30	30	30	30	30	30	30	30	x	x	x	x	x	x	x	Same w/trumpets
22:28	24:11	103	x	103	x	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	Everybody
24:27	24:34	7	x	x	x	x	x	x	x	x	x	x	x	7	7	7	x	x	x	x	x	x	x	Anybody that starts with a half note followed by… (trombones)

Figure D

Combined Data - Playing Time (Excerpt)

Student	School	Program Size	Ensemble Type	Rehearsal number	Date	Director instrument	Student Sub-group	Student Number	Instrument	Rehearsal length (minutes)	Rehearsal length (seconds)	Playing time (total seconds)	Playing time (per hour)
1	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P1	Percussion	40m 7s	2407	418	625.18
2	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P2	Percussion	40m 7s	2407	33	49.36
3	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P3	Percussion	40m 7s	2407	863	1290.74
4	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P4	Percussion	40m 7s	2407	923	1380.47
5	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P5	Percussion	40m 7s	2407	795	1189.03
6	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P6	Percussion	40m 7s	2407	348	520.48
7	A	Large	Concert Band	1	December 12	Woodwind	Percussion	P7	Percussion	40m 7s	2407	798	1193.52
8	A	Large	Concert Band	1	December 12	Woodwind	Brass	B8	Trumpet	40m 7s	2407	1427	2134.28
9	A	Large	Concert Band	1	December 12	Woodwind	Brass	B5	Trumpet	40m 7s	2407	1427	2134.28
10	A	Large	Concert Band	1	December 12	Woodwind	Brass	B2	Trumpet	40m 7s	2407	1427	2134.28
11	A	Large	Concert Band	1	December 12	Woodwind	Brass	B23	Trombone	40m 7s	2407	1427	2134.28
12	A	Large	Concert Band	1	December 12	Woodwind	Brass	B16	Trombone	40m 7s	2407	1427	2134.28
13	A	Large	Concert Band	1	December 12	Woodwind	Brass	B25	Horn	40m 7s	2407	1427	2134.28
14	A	Large	Concert Band	1	December 12	Woodwind	Brass	B20	Trombone	40m 7s	2407	1427	2134.28
15	A	Large	Concert Band	1	December 12	Woodwind	Woodwind	WW1	Clarinet	40m 7s	2407	1453	2173.16
16	A	Large	Concert Band	1	December 12	Woodwind	Woodwind	WW2	Clarinet	40m 7s	2407	1453	2173.16
17	A	Large	Concert Band	1	December 12	Woodwind	Woodwind	WW3	Alto Sax	40m 7s	2407	1437	2149.23
18	A	Large	Concert Band	1	December 12	Woodwind	Woodwind	WW4	Alto Sax	40m 7s	2407	1437	2149.23
19	A	Large	Concert Band	1	December 12	Woodwind	Woodwind	WW5	Alto Sax	40m 7s	2407	1437	2149.23
20	A	Large	Concert Band	1	December 12	Woodwind	Woodwind	WW10	Bari Sax	40m 7s	2407	1437	2149.23

Figure E

Completed Measurement Instrument - Instruction (Excerpt)

Mark	B	W	P	Transcription	Researcher Comments
0:00				————————	Rehearsal Begins
:07	1	1	1	Here we go, sit up tall.	
03:40	1	1	1	Andy I want you to blend. You sound really nice but your articulation is a little bit harsh	To a trombone player
04:16	1			Horns are definitely different but some of you might have been on the wrong partial	
04:40		1		Woodwinds slurred today	
05:00	1	1	1	Everyone in. Sit up tall	
08:15	1	1		Hum a Bb	Percussion continues to roll on a Bb
08:50	1	1		Playing position. Tune to the mallet percussion	
09:10	1	1	1	We're going to try something…	Explains the following activity
09:30	1	1	1	Bb. Mezzo-piano	
10:20		1		…out of tune, you're quite a bit sharp.	to flutes/oboes
11:20	1	1		Sing a "la" this time	Percussion continues to roll a Bb
12:00	1	1	1	Good! Get out #2…	
13:20		1		While percussion are getting set up can I hear clarinets at m. 3? Everyone else is waiting silently please.	
13:45		1		Clarinet 2's and 3's same thing	
14:15	1			Trumpets please at m. 20	
14:24	1			Circle it on your ipad	to trumpets
14:38	1			Let's stay together	to trumpets
14:55				Everyone beginning. Measure 1	

brass, woodwind, or percussion subgroups or as not being musically relevant. A separate column was left for researcher comments concerning the type of activity or explanations about the observation. After the observations were completed, the data were combined into another table (see Figure F) for analysis. Additional characteristics of each rehearsal were noted such as

Figure F

Combined Data - Relevant Instruction (Excerpt)

Rehearsal Number	School Code	Program Size	Ensemble Type	Date	Rehearsal length (minutes)	Rehearsal length (seconds)	Brass Instruction total	Brass Instruction per Hour	WW Instruction Total	WW Instruction per hour	Perc Instruction total	Perc Instruction per hour	Director instrument group
1	A	Large	Concert Band	December 12	40m 7s	2407	23	34.40	21	31.41	6	8.97	Woodwind
2	A	Large	Concert Band	December 17	1h 9m 9s	4149	38	32.97	31	26.90	30	26.03	Woodwind
3	A	Large	Concert Band	December 18	38m 13s	2293	31	48.67	20	31.40	16	25.12	Woodwind
4	A	Large	Concert Band	December 19	34m 15s	2055	19	33.28	22	38.54	21	36.79	Woodwind
5	B	Small	Concert Band	January 26	52m 31s	3151	51	58.27	49	55.98	26	29.70	Percussion
6	B	Small	Concert Band	January 27	27m 26s	1646	19	41.56	18	39.37	14	30.62	Percussion
7	B	Small	Concert Band	February 17	28m 51s	1731	29	60.31	21	43.67	15	31.20	Percussion
8	C	Medium	Concert Band	December 5	37m 54s	2274	49	77.57	36	56.99	12	19.00	Brass
9	C	Medium	Concert Band	February 23	1h 14m 11s	4451	35	28.31	35	28.31	29	23.46	Brass
10	C	Medium	Concert Band	February 24	39m 29s	2369	36	54.71	36	54.71	22	33.43	Brass
11	D	Medium	Concert Band	January 27	58m	3480	38	39.31	38	39.31	19	19.66	Brass
12	D	Medium	Concert Band	January 28	59m 4s	3544	20	20.32	19	19.30	15	15.24	Brass
13	D	Medium	Concert Band	January 29	57m 15s	3435	16	16.77	13	13.62	6	6.29	Brass
14	E	Medium	Percussion	December 8	57m 57s	3477					39	40.38	Percussion
15	E	Medium	Percussion	December 9	50m 56s	3056					25	29.45	Percussion
16	D	Medium	Percussion	December 4	44m 3s	2643					10	13.62	Brass
17	D	Medium	Percussion	December 5	38m 55s	2335					2	3.08	Brass
18	D	Medium	Percussion	December 8	51m 36s	3096					14	16.28	Brass

program size and director instrument group. All relevant instruction was standardized to occurrences per hour.

Data Analysis Procedures

The statistical software program SAS version 9.3 was used to run all tests. Two separate mixed model analysis of variance (ANOVA) tests were used — one concerning playing time and one concerning relevant instruction. The percussion ensemble students were tested as a fourth subgroup in addition to the brass, woodwind, and concert band percussion students. The program size and director instrument were confounded with each other. For that reason director instrument was used in the ANOVA concerning playing time, and program size was used in the ANOVA concerning instruction.

To answer Questions 1 and 2, the playing time in seconds per hour was tested as the dependent variable against the student subgroup and the director's instrument subgroup as independent variables. To answer Questions 3 and 4, the dependent variable relevant instruction per hour was tested against the student subgroup and program size as independent variables. In both tests a Turkey-Kramer procedure was used to adjust for multiple comparisons where doing the pair-wise comparisons between groups.

Chapter IV: Data Analysis

Introduction

In this chapter I lay out the results of the statistical analyses. First, I identify the tests used for analysis of data. Second, I present the results as they pertain to each of the four research questions. Third, I include an explanation of my treatment of “director instrument” and “program size." Finally, I describe the scope of inference.

Statistical Analysis

Following the data collection process described in Chapter III, I grouped the collected data into two separate data tables for analysis — the first table containing playing time data and the second containing relevant instruction data. The percussion ensemble students were included in the data set as a fourth subgroup, labeled Percussion Ensemble. A mixed model analysis of variance (ANOVA) was used to test the relationship between the playing time of these four subgroups. A second mixed model ANOVA was used to test the frequency of relevant instruction received per hour. The dependent variable for the analysis of playing time was playing time in seconds per hour, with the director instrument subgroups (brass, woodwind, percussion) and student subgroups (brass, woodwind, percussion, and percussion ensemble) as the independent variables. The dependent variable for relevant instruction was frequency of instruction per hour with program size (small, medium, large) and student subgroups (brass, woodwind, percussion, and percussion ensemble) as the independent variables. The alpha level of .05 was used.

Results - Playing Time

Both questions 1 and 2 focus on playing time. The overall effect of subgroup showed that there was a significant difference between some of the subgroups ($F_{3,249} = 22.68$, $p = < .0001$).

The mean playing times of the brass, woodwind, percussion, and percussion ensemble students are shown in Table 2. The statistical comparisons of these subgroups are shown in Table 3.

Table 2

Least Squares Means - Playing Time

Student Subgroup	Avg. Playing Time (Seconds per Hour)	SE
Brass	1696.10	122.38
Woodwind	1656.52	122.65
Percussion	1135.58	121.60
Percussion Ensemble	1753.24	234.30

Table 3

Differences of Least Squares Means - Playing Time

Student Subgroup	Student Subgroup	Difference	SE	DF	Adj P
Brass	Percussion Ensemble	-57.14	274.91	249	0.9968
Brass	Percussion	560.52	76.71	249	< .0001
Brass	Woodwind	39.58	78.28	249	0.9577
Percussion Ensemble	Woodwind	96.72	275.21	249	0.9851
Percussion	Woodwind	-520.94	76.9	249	< .0001
Percussion Ensemble	Percussion	617.66	274.80	249	0.1135

Question 1. Question 1 deals with the playing time of students within the concert band. The data gives strong evidence that on average, the percussion students in the concert band experienced an average of 520 seconds (approximately 8 minutes and 40 seconds) per hour less of playing time than the woodwind students (p-value = < .0001). The results also give strong evidence to suggest that on average, the percussion students in the concert band experienced an average of 560 seconds (9 minutes and 20 seconds) per hour less of playing time than the brass students (p-value = < .0001).

Question 2. Question 2 deals with a comparison of the playing time of percussion students in the concert band with those in the percussion ensemble. The results indicate that there was no significant difference in playing time between the percussion students in the concert band and those in the percussion ensemble (p-value = 0.1135).

Results - Relevant Instruction

Questions 3 and 4 deal with the amount of relevant instruction received. The overall effect of subgroup showed that there was a significant difference between some of the subgroups ($F_{3,36} = 7.65$, $p = 0.0004$). The mean instruction per hour of the brass, woodwind, percussion, and percussion ensemble students are shown in Table 4. The statistical comparisons of these subgroups are shown in Table 5.

Table 4

Least Squares Means - Relevant Instruction

Student Subgroup	Avg. Instruction (Frequency per Hour)	SE
Brass	44.38	7.1712
Woodwind	39.23	7.1712
Percussion	25.84	7.1712
Percussion Ensemble	27.46	8.8763

Question 3. Question 3 is concerned with the relevant instruction of the subgroups within the concert band. Based on the results, there is strong evidence that percussion students received relevant instruction an average of 18 fewer times per hour than the brass students (p-value = < . 0001). There is also evidence that percussion students in the concert band received relevant

Table 5

Differences of Least Squares Means - Relevant Instruction

Student Subgroup	Student Subgroup	Difference	SE	DF	Adj P
Brass	Percussion	18.53	4.1656	36	0.0004
Brass	Woodwind	5.15	4.1656	36	0.6086
Percussion	Woodwind	-13.39	4.1656	36	0.0141
Percussion	Percussion Ensemble	-1.62	7.0661	36	0.9957

instruction an average of 13 fewer times per hour than the woodwind students (p-value = < . 0141).

Question 4. Question 4 dealt with a comparison of the relevant instruction of the percussion students in the concert band with those in the percussion ensemble. The results indicate that there was not a significant difference in relevant instruction received between the percussion students in the concert band and those in the percussion ensemble (p-value = .9957).

Director Instrument and Program Size. Two other variables were considered in the analysis. The program size and director instrument were confounded with each other. For that reason director instrument was used in the ANOVA concerning playing time, and program size was used in the ANOVA concerning instruction. It was found that in the analysis of playing time, the director's instrument subgroup had no effect ($F_{2,2} = 2.26$, $p = 0.3069$). In the analysis of relevant instruction, the program size also had no effect ($F_{2,2} = 0.24$, $p = 0.8090$).

Chapter V: Summary, Discussion, and Implications

Summary

For several decades, band directors and percussion educators have been working to elevate the level of their percussion students (Cleino, 1958; Pimentel, 1983; Schere, 1960). Since the beginning of high school band programs there seems to be a large gap between what the percussion students are able to accomplish and what the brass and woodwind students are able to accomplish (Pimentel, 1983; Scherer, 1960; Stecklein & Aliferis, 1957). As these band programs have grown in quality and complexity over the past several decades, the need to improve percussion education has become even more paramount.

Since the 1950's, both percussion educators and band directors have expressed a need for the reorganization of percussion education (Mueller, 1967; Peters, 1962; Pimentel, 1987). My review of the literature surrounding percussion education found concerns for percussion education in both practitioner journals and in formal research. These concerns centered around curricula, teacher training, and lack of a comprehensive approach. Furthermore, the literature revealed that these concerns are still prevalent today.

The percussion ensemble approach has emerged as a widely accepted solution to many of the challenges facing percussion education. To many educators, the advantages of the percussion ensemble approach seem obvious. The current study, however, is the first to examine whether the percussion ensemble approach actually improves the educational experience of high school percussionists. Two aspects of learning were explored in this study: playing time and relevant instruction.

To answer the four research questions, a representative cross-section of five high school band programs was purposively selected. A total of 13 high school concert band rehearsals and five high school percussion ensemble rehearsals were filmed. In each of these rehearsals, a random sample of students from each instrument subgroup was selected for observation. The playing time experienced by each of these students was recorded and standardized to seconds per hour. These rehearsals were then observed to record the frequency of relevant instruction given by the director to each of the instrument subgroups. Two mixed model ANOVAs were used to compare the playing time and relevant instruction of the instrument subgroups.

The results of the analyses suggested that the percussion subgroup in the concert band experienced significantly less playing time than the brass and woodwind subgroups. The results also suggested that the percussion subgroup in the concert band received significantly less relevant instruction than the brass and woodwind students. The analyses indicated that the percussion ensemble students did not experience a significant difference in either playing time or relevant instruction from the concert band percussion students.

Discussion

Differences in the Concert Band. In terms of both playing time and relevant instruction, there was a significant difference between the concert band percussionists and the brass and woodwind students. This finding supports concerns that band directors and percussion educators have expressed for decades about the concert band approach, as noted in Chapter 2. It seems evident that in terms of these two variables, the traditional concert band does not provide percussion students the same attention that it does the other students. This may be one reason that percussion students often scored lower on achievement tests, and that university music

programs found them to be less prepared for the university experience than the brass and woodwind students (Cottam, 1976; Scherer, 1960; Stecklein & Aliferis, 1957; Wheeler, 1992).

In this pilot study, there was not strong evidence to support the hypothesis that the percussion ensemble approach would provide an improvement in this regard. However, my observations of the rehearsals in this study lead me to believe that this finding might be due to a sampling error, caused by the small sample size, as will be explained further below.

Playing time. I believe that the lack of a significant difference in playing time between the concert band percussionists and the percussion ensemble percussionists was due in large part to the small sample size. The sample for percussion ensemble included only two schools. School E had eight students in the class. For each rehearsal observed, every student played every time. The rehearsals had a combination of technical exercises, sight reading, and repertoire. School D had approximately 20 students in the percussion ensemble class. A small portion of each rehearsal was spent in technical exercises, in which case all students participated. The rest of the rehearsal time was spent on repertoire. During this time, several pieces were rehearsed, only one of which included all 20 students. All other pieces were limited to 8-12 students which forced some students to sit out while the others rehearsed.

It seemed to be common practice for the percussion ensemble class of School D to divide into smaller ensembles and rehearse simultaneously in separate rooms. However, during these particular rehearsals the students were preparing for a performance the night of the second rehearsal. For that reason, the director's objective was to do quick 'run-throughs' of each piece, rather than to spend time working on specific musical elements. Even though the difference in playing time between these two subgroups was not conclusive, it was suggestive ($p = .1135$).

Based on this evidence, it is reasonable to assume that this type of scenario is the exception rather than the rule.

Another factor affecting the playing time of students could be the large amount of setup time needed for percussion students. In both the concert band and the percussion ensemble, percussion setup often requires moving large instruments and numerous small instruments before rehearsal can begin. Even if the rehearsal begins after the initial setup, new instruments are required and often in a different configuration for other activities or pieces. This often means that much playing time is lost during transitions between activities.

Relevant Instruction. The difference in relevant instruction received by the percussion ensemble students and the concert band percussion students was not significant ($p = .9957$). Again, there is an indication here that this is due in part to the small sample size. In one of the percussion ensemble rehearsals observed of School E, the percussionists received relevant instruction more than in any other rehearsal observed (40.3 times/hour). This is in contrast to one of the percussion ensemble rehearsals observed of School D, where the percussionists received relevant instruction less than in any other rehearsal observed (3.08 times/hour).

This large variance appears to have happened for two reasons. The first is that much of the percussion ensemble rehearsals in School D were student led. This student either didn't feel qualified to give feedback or didn't feel the need to provide it. The second reason is that, as noted above, the second percussion ensemble rehearsal of school D was spent preparing for a performance that night. The majority of the first two rehearsals were spent doing 'run-throughs', where the objective of the rehearsal was to perform straight through each piece with little to no interruption. The final rehearsal observed of School D was spent in large part discussing the

performance of the evening before. This discussion was primarily non-musical and was therefore not counted as playing time. On this basis, I believe this rehearsal was the exception rather than the rule.

Limitations

The schools selected for this pilot study were done so purposively, with the intent to represent a cross-section of highs school band programs in the United States. While many of the situations found in the study can be seen in other band programs in the United States, the statistical results cannot be generalized to a larger population.

The current study was an examination of high school concert band and percussion ensemble programs and did not examine junior high school or university percussion ensemble programs. The current study also did not take into account the quality or duration of instruction given by the directors. It does not measure in any way what was actually learned by the students in the sample.

Recommendations for Further Research

After conducting this pilot study, I make the following recommendations for future research.

1. The current project incorporated a small sample size. Six school programs and 18 rehearsals were observed. The study should be replicated on a much larger scale to provide increased validity, reliability, and generalizability.

2. There was evidence of a sampling error in the current study. The presence of some irregular rehearsal activities (e.g., student-led rehearsals, rehearsals the day of and day after a

performance) most likely led to these errors. Care should be taken in subsequent studies to allow for these types of inconsistencies or to avoid them entirely.

3. In my observations of the rehearsals, even though the playing time of the percussion ensemble students was not significantly greater, the type of music being played in the percussion ensembles appeared to be more challenging. In the concert band rehearsals observed, the percussionists spent much of their playing time counting rests. This is not reflected in the data. When the concert band percussion students did play, many of the parts provided texture or 'punctuations' rather than melodic or harmonic content. In the percussion ensemble rehearsals, the percussion students were engaged in performing all aspects of the music. Future research should consider differences in the type of music being rehearsed in a traditional concert band vs. a percussion ensemble rehearsal, and should refine the coding process to differentiate between playing time and time spent counting rests.

4. My observations of relevant instruction indicated that even though the instruction in the concert band rehearsal was counted as 'relevant', it was not as specific as it was in the percussion ensemble. Comments directed to the percussion section were most often concerned with volume (e.g., "percussion you're too loud"), or timing (e.g., "snare drum is dragging"). In the percussion ensemble rehearsals, comments were more often concerning percussion-specific techniques, such as information about stick height, mallet selection, or sticking. I also noticed that comments to the percussion ensemble students were more likely to be higher level musical concepts (e.g., balance, blend, phrasing) than they were when directed to the concert band percussionists. The non-percussionist band director from School D also made comments concerning technique and mallet selection in the percussion ensemble rehearsals, where no such

comments were made to the percussionists in the concert band rehearsals. Researchers may want to consider the scope and content of instruction received by each subgroup in the concert band and percussion ensemble.

5. The percussionists in the percussion ensemble rehearsals appeared to experience a more comprehensive percussion approach than in the concert band rehearsals. The percussion ensemble students were observed performing with a wider range of instruments and techniques than those used in the concert band. Mueller (1967, 1972) expressed a concern that a more comprehensive percussion approach is needed to prepare percussionists for real world experiences. Future research should consider the extent to which percussion ensemble and concert band rehearsals require the development of various instruments and techniques.

6. Only the percussion ensemble approach was examined in this study as an alternative to the traditional concert band approach. Subsequent research concerning additional structures and organizations of percussion education would be beneficial.

7. The demands of ‘working’ percussionists are constantly evolving. It would be useful in future studies to make a comparison of the instruments and techniques skills required for professional percussionists and those taught in high school percussion ensemble or concert band programs.

Appendix A: Director Email - Initial Contact

Director Email - Initial Contact

_____,

My name is Jed Blodgett and I teach with _____ at _____ High School in _____, UT. I am in the process of organizing a study about the value of percussion classes in secondary music education. I have chosen a few notable programs from around the country - each representing a geographic area - and _____ recommended your program as one that might benefit from and be interested in participating. She also tells me regularly how wonderful you are as a teacher and an individual, and obviously holds you in very high regard.

Would you be willing to set up a time to discuss the details of the study, and ultimately determine if you would be interested in participating? I have made every effort to ensure that the study will have minimal impact on your instruction time, and am hopeful that all resulting data will be highly useful to you and your program.

Thanks in advance. I hope to hear from you soon,

Sincerely,

Jed Blodgett

Appendix B: Director Consent Form

Consent to be a Research Subject

Introduction

This research study is being conducted by Jed Blodgett at Brigham Young University to determine strategies for effective music teaching in secondary public schools. My faculty mentor and co-investigator for this project is Robert Dunn, PhD., director of graduate studies in music education at Brigham Young University. You were invited to participate because you are the director of a high school band program.

Procedures

If you agree to participate in this research study, the following will occur:

- You will be filmed in your regularly scheduled band rehearsal on three different occasions
- The footage of these rehearsals will then be transcribed and analyzed to identify specific events that relate to the nature of the study.

Risks/Discomforts

There is a minimal risk of loss of privacy and loss of classroom instruction time, which the lead researcher will reduce by not using any real names or other identifiers in the written report. The researcher will also keep all data in a password protected file on a secure laptop. Only the research team will have access to the data. The lead researcher will work with you to prepare means for preventing any loss of class time.

Benefits

There are no direct benefits to you for your participation in this project. However, the information acquired through the study will hopefully provide insight into the nature of a successful band program and may enable you and your school to make improvements in curriculum and teaching methods.

Confidentiality

The research data will be kept in a password protected and encrypted location and only the research team will have access to the data. At the conclusion of the study, all identifying information will be removed and the data will be kept in a locked cabinet or office.

Compensation

No compensation will be given for participating in this study.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your employment or standing with the school.

Questions about the Research

Please direct any further questions about the study to Jed Blodgett at 801.636.2145 or jed.blodgett@gmail.com. You may also contact Rob Dunn**,** PhD., at robdunn@byu.edu.

Questions about your rights as a study participant or to submit comments or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.

You have been given a copy of this consent form to keep.

Statement of Consent

I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Name _____ _____ _____

(Printed) Signature Date

Appendix C: Script for Classroom Recruitment of Students

Dear Students,

The _____ HS band has been chosen to participate in a national study that will explore what makes an effective music education. This will hopefully be helpful to your program and to other programs around the country. As part of this study we will be filming three of your normal band rehearsals which will then be examined to find things that help us learn more about music education.

Since this is a formal research study, each of you will be considered a research 'subject'. This won't require anything from you other than to participate in your band rehearsals as you normally would, but it does mean that parental consent is needed in order to participate. I will hand out information on the study at the end of class, which contains more information about the study and two forms that you will need to return with your parent's signature. Please read and return each form prior to Friday, December 5th on which day the formal study will begin.

Participation in the study is not required, and if for any reason you do not feel comfortable participating you are welcome to opt out without any penalties to your grade or standing in the class or school. In addition, I would like to assure you that no video or audio footage will be used publicly, neither will any names of individuals or schools will be used. All data will be stored in a secure location and viewed only by the research team.

If you have any further questions about the study please feel free to contact the lead researcher via phone or email. You will find his contact info on the information handed out today.

Appendix D: Cover Letter to Consent Forms

Dear _____ High School Band Parents and Students,

I sincerely thank you for being a part of your school band program. I am of the opinion that this is one of the most valuable classes in our public schools.

The _____ band has been chosen to participate in a national study that will explore what makes an effective music education, and possibly help other schools to achieve some of the success that your program has already experienced. As part of this study we will be filming three regular band rehearsals. This footage will then be transcribed and analyzed to find characteristics that provide insight into the study.

As this is a formal research study, each student will be considered a research "subject". This will not require anything other than to participate in band rehearsals as they normally would, but it does mean that parental consent is needed in order to participate. Attached are a student assent form, parent consent form, and video release form. Please read and return each form prior to Friday, December 12th on which day the formal study will begin.

Participation in the study is not required, and if for any reason you do not feel comfortable participating you are welcome to opt out without any penalties to your grade or standing in the class/school. In addition, I would like to assure you that no video or audio footage will be used without your permission, neither will any names of individuals or schools be used at any time. All data will be stored in a secure location and viewed only by the research team.

If you have any further questions about the study please feel free to contact me via phone or email.

Sincerely,

Jed Blodgett
Principal Investigator

Jed Blodgett
Email - _____
Phone - _____

Appendix E: Parental Permission Form

Parental Permission for a Minor

Introduction

My name is Jed Blodgett. I am a graduate student from Brigham Young University. I am conducting a research study about the nature and value of percussion classes in public schools. My faculty mentor and co-investigator for this project is Robert Dunn, PhD., director of graduate studies in music education at Brigham Young University. I am inviting your child to take part in the research because (he/she) is in the school band program.

Procedures

If you agree to let your child participate in this research study, the following will occur:

- Your child will be asked to participate as normal in their band class
- Three of these normal rehearsals will be filmed, and the footage transcribed and analyzed to identify specific events that relate to the nature of the study.

Risks

There is a minimal risk of loss of privacy, which the researcher will reduce by not using any real names or other identifiers in the written report. The researcher will also keep all data in a password protected file on a secure laptop. Only the research team will have access to the data.

Confidentiality

The research data will be kept in a password protected and encrypted location and only the research team will have access to the data. At the conclusion of the study, all identifying information will be removed and the data will be kept in a locked cabinet or office.

Benefits

There are no direct benefits for your child's participation in this project, however, the information acquired through the study will hopefully provide insight into the nature of a successful band program and may enable the teacher and school to make improvements in their own program.

Compensation

There will be no compensation for participation in this project.

Questions about the Research

Please direct any further questions about the study to Jed Blodgett at 801.636.2145 or jed.blodgett@gmail.com. You may also contact Rob Dunn, PhD., at robdunn@byu.edu.

Questions about your child's rights as a study participant or to submit comments or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.

You have been given a copy of this consent form to keep.

Participation

Participation in this research study is voluntary. You are free to decline to have your child participate in this research study. You may withdraw your child at any point without affecting their grade, standing in school, treatment, or benefits, etc.

Child's Name: _____

_____ _____ _____

Parent Name: Parent Signature: Date:

Appendix F: Student Assent Form

Student Assent Form

What is this study about?
My name is Jed Blodgett. I am from Brigham Young University. I would like to invite you to take part in a research study. Your parent(s) know we are talking with you about the study. This form will tell you about the study to help you decide whether or not you want to be in it.

In this study, we want to learn about some of the differences between what brass, woodwind, and percussion students experience in a typical high school band rehearsal.

What am I being asked to do?
If you decide to be in the study, we will not ask you to do anything that you do not normally do. We will film three of your regular band rehearsals. Afterwards, the research team will watch the video to identify who your teacher is usually speaking to and how often everyone is playing their instrument. We will not record you without your permission.

What are the benefits to me for taking part in the study?
Taking part in this research study may not help you in any way, but it might help us learn how to help students in other band programs.

Can anything bad happen if I am in this study?
We think there are a few risks to you by being in the study. There is a very small chance that someone other than the research team might view the video. There is also a small chance that some of your class time might be lost. I will make sure that any video taken is kept in a secure location and that no names of individuals or schools will ever be used. I will also plan ahead and work with your teacher to prevent the loss of any class time. You do not have to be filmed if you do not want to.

Who will know that I am in the study?
When we tell other people or write articles about what we learned in the study, we won't include your name or that of anyone else who took part in the study.

Do I have to be in the study?
No, you don't. The choice is up to you. No one will get angry or upset if you don't want to do this. You can change your mind anytime if you decide you don't want to be in the study anymore.

What if I have questions?
If you have questions at any time, you can ask us and you can talk to your parents about the study. We will give you a copy of this form to keep. If you want to ask us questions about the study, contact Jed Blodgett at 801-636-2145 or jed.blodgett@gmail.com.

You will not receive any compensation for being in this research study.

If you want to be in this study, please sign and print your name.

_____	_____	_____
Student Name (Please print)	Student Signature	Date:

Appendix G: Video Release Form

Video Release Form

As part of this project, I will be making video recordings of your child during their participation in the research. Please indicate what uses of this video you are willing to permit, by initialing next to the uses you agree to and signing at the end. This choice is completely up to you. I will only use the video in the ways that you agree to. In any use of the video, your child will not be identified by name.

_____ Video can be studied by the research team for use in the research project.

_____ Video can be shown at scientific conferences or meetings.

_____ Video can be shown in public presentations to non-scientific groups.

I have read the above descriptions and give my express written consent for the use of the video as indicated by my initials above.

_____	_____	_____
Parent Name (Printed):	Parent Signature	Date:

References

Ackman, J. K. (1998). *An analysis of beginning to intermediate percussion methods used in selected public schools and their relationship to the performance requirements of state-approved band literature* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Global. (Order No. 9905902).

Adams, R. M. (1988). *A study of percussion education in the public high schools of Missouri* (Unpublished master's thesis). University of Missouri-Kansas City, Kansas City, MO.

Ahlgren, A. K. (2011). *Drumming Asian America: Performing race, gender, and sexuality in North American taiko* (Master's thesis). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3479974).

Aube, M. G. (2011). *Women in percussion: The emergence of women as professional percussionists in the United States, 1930—present* (Master's thesis). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3461068).

Betts, C. (2010). *Reading the signs: Assessing the salience of percussion symbols for use in percussion notation* (Unpublished master's thesis). University of Western Australia, Perth, Australia.

Black, A. P. (1981). *A guide for the development of percussion ensembles in secondary schools* (Unpublished master's thesis). Boise State University, Boise, ID.

Brent, W. (2010). *Physical and perceptual aspects of percussive timbre* (Unpublished doctoral dissertation). University of California, San Diego, La Jolla, CA.

Bugg, D. D. (2003). *The role of Turkish percussion in the history and development of the orchestral percussion section* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3139285).

Buggert, R. (1956). The beginning drummer. *Instrumentalist*, *11*(3), 67-68.

Burdett, K. H. (2007). *A review of literature and texts relating to the percussion methods course including a proposal for a new text to meet concerns about course content and structure* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3262115).

Byrne, G. P. (1999). *Musical and cultural influences that contributed toward the evolution of the percussion ensemble in western art music* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 9935543).

Casimino, J. A. (1985). *Curriculum planning practices for the development of percussionists in selected school districts of New York State* (Unpublished doctoral dissertation). State University of New York at Buffalo, Buffalo, NY.

Clark, O. (1974). *A study of the effectiveness of ensemble experiences in the percussionist's overall musical development* (Unpublished master's thesis). Moorhead State College, Moorhead, MN.

Cleino, E. H. (1958). An ensemble method for teaching percussion instruments (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 5901089).

Colton, M. (2013). *Typologies of Movement in Western Percussion Performance: A Study of Marimbists' Gestures* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. NS22039).

Cottam, J. M. (1976). *A measurement of certain skills of musicianship among high school brass, woodwind, and percussion players* (Unpublished master's thesis). University of Utah, Salt Lake City, UT.

Crook, L. (1991). *Zabumba music from Caruaru, Pernambuco musical style, gender, and the interpretation of rural and urban worlds* (Master's thesis). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 9128204).

Duff, J. A. (1982). *Three works of Karel Husa: An analytical study of form, style, and content* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 8308929).

Duggan, M. J. (2011). *Tradition and innovation in Brazilian popular music: Keyboard percussion instruments in choro* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. NR77788).

Estes, K. M. (2014). *Solo and Chamber Percussion Works by Nigel Westlake: An Examination of "Fabian Theory", "The Hinchinbrook Riffs", "The Invisible Men", "Kalabash", "Malachite Glass", "Moving Air", "Omphalo Centric Lecture" and "Penguin Circus"* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3670697).

Fitzsimon, J. J. (1963). T*he organization and formation of a percussion class in the junior high school* (Unpublished master's thesis). Manhattan School of Music, New York, NY.

Forsthoff, K. M. (2010). *Challenges of technique and interpretation in the percussion music of Fredrik Andersson: A performer's analysis (*Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3584067).

Frauzer, T.C. (1956). *The successful use of percussion in the modern orchestra as exemplified by three works of Rogers, Stravinsky, and Bartok with appended recording* (Unpublished master's thesis). University of Rochester: Eastman School of Music, Rochester, NY.

Griggs, R. A. (1974). The Neglected Percussionist. *Music Educators Journal, 60*(5), 58-59.

Hillbrick, J. R. (1999). *A profile of the perception of instrumental ensemble directors in the states of Illinois, Missouri, and Wisconsin regarding the percussion techniques class (*Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 9934632).

Hewitt, M. P., Smith, B. P. (2004). The Influence of Teaching-Career Level and Primary Performance Instrument on the Assessment of Music Performance. *Journal of Research in Music Education*, *52*(4), 314-327.

Hewitt, M. P. (2007). Influence of Primary Performance Instrument and Education Level on Music Performance Evaluation. *Journal of Research in Music Education*. *55*(1), p. 18-30.

Holly, R. (1988). Introduction. *Percussive Notes*, *26*(2), 5.

Horner, R. G. (2005). *A national survey of college level percussion teachers regarding the importance of certain characteristics of percussion materials in beginning instrumental methods* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3170920).

Ivie, J. H. (1974). *A kinesthetic analysis and evaluation of the traditional and matched snare drum techniques* (Unpublished master's thesis). Sul Ross State University, Alpine, TX.

Jackson, B. L. (1952). *A history of the marimba with an emphasis on structural differences and tuning accuracy* (Unpublished master's thesis). University of Michigan, Ann Arbor, MI.

Jones, J. A. (2010). *Music and healing with the Skiffle Bunch Steel Orchestra in San Fernando, Trinidad* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3442123).

Kernan, T. J. (2010). *The Percussion Group Cincinnati: A history of collaboration between ensemble and composer* (Unpublished master's thesis). University of Cincinnati, Cincinnati, OH.

Langsjoen, S. L. (1998). *An identification and examination of selected factors in the gender composition of beginning band percussion* (Unpublished master's thesis). University of St. Thomas, Saint Paul, Minn.

LeCroy, H. F. (1978). *Percussion techniques in original music for band* (Unpublished doctoral dissertation). University of Southern Mississippi, Hattiesburg, MS.

Lorince, F. E. (1950). *The use of percussion in orchestral works of Maurice Ravel* (Unpublished master's thesis). University of Rochester, Rochester, NY.

Marvin, H. (1978). One viewpoint of Percussion in the Public Schools. *Percussionist*, 15(2). 92.

Meyer, J. A. (1973). *The history and development of the vibes* (Unpublished master's thesis). Indiana State University, Terre Haute, IN.

Miller, B. F. (1988). *A comprehensive performance project in percussion literature with an essay entitled a survey of selected sports coaching techniques, including sports psychology and*

pedagogy and performance (Unpublished doctoral dissertation). University of Iowa, Iowa City, IA.

Mixon, K. A. (2002). Helping Percussionists play musically. *Music Educators Journal*. *88*(4). 53-56.

Mueller, K. A. (1967). *An evaluation of percussion instruction in Wisconsin high schools* (Unpublished master's thesis). Northwestern University, Evanston, IL.

Mueller, K. A. (1972). *Teaching total percussion.* West Nyack, N.Y: Parker Pub. Co.

Newman, A. (1995). *Bach and the Baroque: European source materials from the Baroque and early Classical periods with special emphasis on the music of J.S. Bach.* Stuyvesant, NY: Pendragon Press, 1995.

Oliveira, F. F. d. (2009). *A view of the western percussion art through the perspective of its notated musical repertoire* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3360834).

Percussive Arts Society, (1966). Percussive Arts Society Committee on Improving Elementary Percussion Education, *Percussionist 3*(2), 44-53.

Peters, G. B. (1962). *Treatise on percussion* (Unpublished master's thesis). University of Rochester: Eastman School of Music, Rochester, NY.

Pimentel, L. L. (1983). *The development of measurement instruments for and the measurement of differences in behaviors and verbal interaction between sub-groups in the concert band* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 8400272).

Pimentel, L. (1987). Recommendations for the reorganization of percussion education. *Percussive Notes*, *25*(2), 23-27.

Preston, A. C. (1975). *The development and evaluation of selected instructional materials for teaching percussion instruments in the beginning band class* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 7619417).

Rainbow, E. L., & Froehlich, H. C. (1987). *Research in music education: An introduction to systematic inquiry.* New York: Schirmer Books.

Reeder, L. D. (1994). *An analysis and comparison of select teacher training methods for the university percussion methods class.* Retrieved from ProQuest Dissertations & Theses Global. (Order No. 9509764).

Reiss, K. L. (1987). *The history of the Blackearth Percussion Group and their influence on percussion ensemble literature, performance, and pedagogy.* University of Houston. Houston, TX.

Scherer, R. P. (1960). *An analysis of the percussion training programs in the public schools of Southern Minnesota* (Unpublished master's thesis). Mankato State College, Mankato, MN.

Schick, S. (2006). *The percussionist's art: same bed different dreams*. University of Rochester Press.

Schweitzer, K. G. (2005). *Afro-Cuban bata drum aesthetics: developing individual and group technique, sound and identity* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3124922).

Smith, D. (2011). *A guide to composing works for voice and marimba intended for a single performer* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3468460).

Stecklein, J. E., & Aliferis, J. (1957). The Relationship of Instrument to Music Achievement Test Scores. *Journal of Research in Music Education. 5*(1), 3-15. doi:10.2307/3344475.

Stuart, G. W. (2009). *A Percussionist's Practice* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses. (Order No. 3355798).

Tiffe, J. L. (2006). *Trinidadian steel drum (pan) bands in three Great Lakes states: a study of musical migration* (Unpublished master's thesis). Kent State University, Kent, OH.

Trelka, M. (2006). *Marching to the beat of a different drummer: the history of the steel drum and its many applications* (Unpublished master's thesis). Boston University, Boston, MA.

Wheeler, M. R. (1992). *A comparative analysis of melodic and rhythmic music reading skills of percussion and wind instrument students in selected North Carolina high schools* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 9303961).

Williams, B. M. (1990). *The Early Percussion Music of John Cage, 1935-1943* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 9117879).

Williams, M. T. (2013). *The styles of percussionist Bob Becker: Combining and performing disparate eastern and western musical traditions from Indian tabla and rudimental snare drumming to ragtime* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 1523326).