The alternating day block schedule: Its impact on musical performing organizations in grades 9-12

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THE ALTERNATING DAY BLOCK SCHEDULE:
ITS IMPACT ON MUSICAL PERFORMING ORGANIZATIONS IN GRADES 9-12

by

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The Alternating Day Block Schedule: Its Impact on Musical Performing Organizations In Grades 9-12 (111 pp.)

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The alternating day block schedule, also referred to as the A/B block schedule or the Block-8 schedule, is being implemented in school districts across the United States. It is touted by some as the solution to time constraints in the classroom and by others as the nemesis of practical educational programming.

Music educators often raise concerns about the impact the alternating day block schedule will have on their performance organizations. This study explores the degree to which the alternating day block schedule has hindered or enhanced various elements of performance rehearsal, drawing a comparison between teachers in the alternating day block schedule and teachers who are involved with a traditional schedule (45 to 50 minutes daily). The degree of importance to the success of the organization for each of the rehearsal elements was established by the directors.

The results indicate some clear advantages of teaching music performance organizations in the alternating day block schedule. The rehearsal of concert literature, deemed the most important element of music rehearsal, was neither hindered nor enhanced by the alternating day block schedule when compared to the traditional schedule. All other rehearsal elements (tuning, scales, vocalises, chordal warm-ups, chorale studies, intonation training, sight reading/singing, listening exercises, music theory and history study, and tone quality development) were more enhanced by the alternating day block schedule.

Choral and instrumental directors showed some minor differences in identifying the importance of the rehearsal elements. However, there were no differences in their determination of the level of enhancement or hindrance for each rehearsal element. This study provides concrete information for music educators and administrators who are contemplating a transition to the alternating day block schedule. The results show where directors who have experience in the alternating day block schedule have found opportunities for curriculum enhancement that have not existed under the time constraints of the traditional schedule.
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# TABLE OF CONTENTS

Chapter One – Introduction ................................................................. 1

   The Importance of Music in the Curriculum ........................................ 2

   Definition of Terms ........................................................................... 3

   Overview of the Study ....................................................................... 6

   Research Hypothesis ........................................................................ 7

   Importance of the Study ................................................................... 10

Chapter Two - Literature Review .......................................................... 11

   Block Scheduling ............................................................................ 11

   Block Scheduling and Performance Organizations ............................ 17

   Elements of Music Rehearsal ........................................................... 22

Chapter Three - Methodology ............................................................... 25

   Survey Design ................................................................................ 25

   Population and Sample .................................................................. 25

   Anonymity and Confidentiality ......................................................... 26

   Instrumentation and Survey Question Rational ............................... 26

   Variables ....................................................................................... 29

   Data Analysis ................................................................................ 30
Chapter Four - Results .................................................................33
Importance of the Rehearsal Element ..................................................36
Cross Validation ..........................................................................................40
Impact of the Schedule on the Rehearsal Elements .................................42
The Rehearsal Elements .............................................................................43
Vowel Development Vocalises and Tuning ...................................................44
Consonant Development Vocalises and Scales .............................................46
Chordal Warm-up Exercises ........................................................................48
Chorale Studies ...........................................................................................50
Intonation Training .....................................................................................52
Music Theory Study ...................................................................................54
Rhythm Study ............................................................................................56
Tone Quality ...............................................................................................58
Music History Study ..................................................................................60
Sight Reading and Sight Singing .................................................................62
The Rehearsal of Concert Literature ..........................................................64
Listening Exercises ....................................................................................66
Stratification by Number of Years Teaching Music .......................................70
Stratification by Number of Years in the Present Position ............................71
Stratification by Number of Years in the Present Schedule ............................73
Consonant Development Vocalises/Scales – Rhythm Study

Chapter Five – Findings, Conclusions and Recommendations

Findings

Conclusions

Recommendations for Further Study

References

Appendices

Appendix A - Survey Form

Appendix B - Sample of an Alternating Day Block Schedule

Appendix C - Cover Letter

Appendix D - Census Information and Calculations

Appendix E - Rationale for Survey Selection of Rehearsal Elements

Appendix F - Director’s Comments

vii
LIST OF TABLES

Table I  Mean Importance Rating ................................................................. 37
Table II  t-Test Comparing Choral and Instrumental Directors’ Responses to the Importance Question ................................................. 39
Table III Statistically Significant Results of ANOVA ........................................ 40
Table IV  Average Percentage of Rehearsal Allotted to Each Rehearsal Element ................................................................. 41
Table V  t-Test Results .................................................................................... 43
Table VI  Results for All Types of Schedules .................................................. 68
Table VII Mean Importance Response .......................................................... 70
Table VIII Mean Enhancement/Hindrance Response: Question 2 ................. 72
Table IX  Mean Enhancement/Hindrance Response: Question 4 ..................... 74
LIST OF FIGURES

Figure 1  Importance and Impact Chart ...............................................................29
Figure 2  Demographic Comparison of District Ethnicity of the Sample Surveyed ...34
Figure 3  Demographic Comparison of District Locale of the Sample Surveyed ....35
Figure 4  Vocal Development Vocalises/Tuning ....................................................45
Figure 5  Results for Consonant Development Vocalises/Scales .........................47
Figure 6  Choral Warm-ups ....................................................................................49
Figure 7  Chorale Studies .......................................................................................51
Figure 8  Intonation Training ................................................................................53
Figure 9  Music Theory Study ...............................................................................55
Figure 10 Rhythm Study .......................................................................................57
Figure 11 Tone Quality Development ......................................................................59
Figure 12 Music History Study ............................................................................61
Figure 13 Sight Reading ......................................................................................63
Figure 14 Rehearsal of Concert Literature ...........................................................65
Figure 15 Listening Exercises ..............................................................................67
CHAPTER ONE

Introduction

In school districts across the country class schedules are being developed to optimize opportunities for learning (Hackman, 1995a; Queen & Isenhour, 1998), reduce class size (Canady & Fogliani, 1989; Mistretta & Polansky, 1997), and "to 'dejunvenilize' [sic] the high school" (Furnam & McKenna, 1995). The purpose of this study is to determine which elements of music rehearsal are enhanced or hindered by the alternating day block schedule, focusing specifically on the nation's public schools. In addition, a determination of the relative importance each element represents in the success of the musical organization is identified by a sample of music directors taken from across the country.

Many administrators tout the success of the block schedule with no concrete evidence of educational improvement. As indicated by research based at the Curry School of Education at the University of Virginia, it appears universally accepted in school districts where the block schedule has been in place for at least five years that teachers are more comfortable teaching in the block schedule than they were in the traditional high school schedule. The impact of the block schedule on the quality of education, however, is not often evaluated as an indicator of its success. The assumption is too often made that if teachers are happier with the schedule, the students' education must be better. This study deals with the musical performing organization, a very narrow facet of the total educational experience. It is, however, a valid first step in evaluating the
overall impact of the block schedule.

In school districts considering a transition to a block schedule, the instructors of musical performing organizations generate many concerns about the impact of the change (Hoffman, 1995; Blocher & Miles, 1997; Caldwell & Caldwell, 1996; Williams, 1997; Patterson, 1997; Blocher & Miles, 1995; Guthrie, Hegarty, Louden & Thom, 1998). This study evaluates the validity of those concerns and will serve as a foundation for continuing study of the effectiveness of the block schedule.

The Importance of Music in the Curriculum

"Anthropologists have found no society anywhere that functions without music" (Abeles, Hoffer & Klotman, 1984, p. 95). Thus, musical performing organizations are an important part of the high school curriculum (Darby & Catterall, 1994; Palmer, 1992; Mahimann, 1994; Colwell, 1995; Ferry, 1997). Although they are not typically considered a core subject by administrators and school boards (Colwell, 1995), most states require a minimum number of credits in the Fine Arts for high school graduation. "The arts are often considered a luxury [in some schools], to be set aside when the pressure to cover the 'essentials' is too strong" (Colwell, 1995). When innovative approaches to education are introduced, research on the impact of the innovation on the arts programs often occurs much later than in the academic areas. Colwell (1995) attributes this to the arts "lacking a firm position in the education scheme."
Definition of Terms

The “alternating day A/B block schedule,” also known as the Block-8 schedule (Ziemke, 1994), is defined by Canady and Rettig (1995), Sassoms (1995), Queen & Isenhour (1998), and Hackman (1995b) as a class schedule that contains eight periods which meet four per day, every other day. For the purpose of this study, “extended class time” refers to the 75 to 105 minute classes that occur in the block schedule, as opposed to the standard 45 to 55 classes in the traditional schedule. A sample alternating day block schedule appears in Appendix B.

A “musical performing organization” is a class that meets as part of the regular class schedule, but also performs music concerts outside of the regular class schedule. Band, choir, and orchestra are examples of musical performing organizations.

A “rehearsal element” is an event that occurs regularly as a part of the process of teaching music in a band, choir or orchestra rehearsal. The rehearsal elements for this study were selected through a review of the literature, a review of contest adjudication sheets, and interviews with music instructors.

For the purpose of this study, “vowel development vocalises” are defined as an exercise used in choir rehearsal to develop the singer’s vowel production. An example of a vowel development vocalise would be the pronunciation of a series of syllables containing long and short vowel sounds on a single pitch and repeating them on each degree of a scale.
“Tuning” is an exercise used by bands and orchestras to establish a tonal center for the ensemble. This exercise is usually performed at the beginning of the rehearsal, although some directors use it prior to each concert selection rehearsed.

“Consonant development vocalises” are exercises used in choir rehearsals to develop the singer’s articulate consonant production. These exercises often force the singers to use their throat and tongue in a variety of sequences to develop more agility in consonant pronunciation. They also serve to develop consistency in the consonant sounds among the singers in the ensemble.

“Scales” are often played by bands and orchestras as a warm-up exercise to develop the ensemble’s feeling of tonality. They consist of a series of notes arranged around a pattern of whole tones and semi-tones.

“Chordal warm-ups” are used by bands, choirs, and orchestras. The ensemble is divided into three or four groups; these groups are usually established by a graduated pitch range. Each group is assigned one note of a chord as a beginning note. The director then modulates the chord through a predetermined set of signals. This exercise is used to develop the ensemble’s ability to listen to one another and to the texture and quality of the sound.

“Chorale studies” are used in both instrumental and choral ensembles, often as a warm-up exercise, that, like chordal warm-ups, develop the ability of the ensemble to listen for texture and tone quality. Chorales, which originated in the German Protestant
Church (Aple & Daniel, 1960), are richly orchestrated hymns often using chord suspensions to sustain a feeling of dissonance that will resolve to a dominant or tonic chord. “Intonation training” is any number of exercises used to develop the musician’s sense of tonality and intonation. Intonation is the degree of adherence to correct pitch (Aple & Daniel, 1960).

“Music theory study” is the study of the mechanics of music. Music theory involves harmonic structure, melodic structure, rhythmic structure, and shape.

“Rhythm study” consists of exercises focusing only on rhythm that use a single note or percussive sound. These are used to develop an ensemble’s ability to read rhythms. Rhythm is defined by Aple & Daniel (1960) as “everything pertaining to the duration quality of musical sounds.”

“Tone quality development” is a process or exercise used in instrumental or choral rehearsals that is focused on the individual ensemble member’s tonal quality. The goal of these exercises is to develop the individual’s tone purity.

“Music history study” is the study of the evolution of music through time. It is often incorporated into the rehearsal of concert literature and is occasionally taught independently from the class rehearsal structure.

“Sight singing/sight reading” is the practice of taking a musical selection that is unfamiliar to the ensemble and reading it for the first time. This skill is assessed at music contests and festivals.
“Rehearsal of concert literature” is the act of playing music selected specifically to be performed in a concert. The rehearsal involves continuous revision and correction by the director.

“Listening exercises” are procedures used in ensemble training that require individuals to match other individuals’ pitch and timbre. Other applications include having individuals or groups check for a disparity in pitch or timbre when listening to others play or sing. The goal of listening exercises is to develop the musician’s critical listening skills.

Overview of the Study

Musical success is not easily quantified. Each year musical performing organizations from all over the country perform before judges who, in turn, assign a numerical figure that represents their subjective opinion about various aspects of the musical performances on a given occasion. Because of the subjectivity of the evaluator, these scores may be inconsistent and unreliable. To determine the impact of the block schedule, one needs to move beyond the yearly music festival scores and survey educators who are involved on a daily basis with the music rehearsals. Identifying the impact of the schedule on the actual rehearsals is an important first step in evaluating its overall impact on the music program. Longitudinal studies could be applied to evaluate the long-term impact of the block schedule. However, too many other factors can influence the overall performance of an organization, and in most cases, the block
This study identifies which elements of musical rehearsal are enhanced and which elements are hindered by the alternating day block schedule. In addition, the relative importance of each of the rehearsal elements is determined with regard to the success of the performance organization. Other factors, including experience, length of time in the block schedule, and length of time in the director's present position are considered.

**Research Hypotheses**

This investigation was designed to assess the following hypotheses:

H₁. A significant difference will be established for each rehearsal element between the degree to which the traditional schedule enhances or hinders the element, and the degree to which the alternating day block schedule enhances or hinders the element. There were twelve sub-hypotheses.

SH₁. The ability of the director to utilize vowel development vocalises (choral directors) and tuning (instrumental directors) will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH₂. The ability of the director to utilize consonant development vocalises (choral directors) and scales (instrumental directors) will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH₃. The ability of the director (choral and instrumental) to incorporate chordal warm-up exercises into the rehearsal will be more enhanced by the alternating day
block schedule when compared to the traditional schedule.

SH4. The ability of the director (choral and instrumental) to incorporate chorale studies into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH5. The ability of the director (choral and instrumental) to incorporate intonation training into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH6. The ability of the director (choral and instrumental) to incorporate music theory study into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH7. The ability of the director (choral and instrumental) to incorporate rhythm study into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH8. The ability of the director (choral and instrumental) to incorporate tone quality development into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH9. The ability of the director (choral and instrumental) to incorporate music history study into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

SH10. The ability of the director (choral and instrumental) to incorporate sight
reading/sight singing into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

\( H_1 \). The ability of the director (choral and instrumental) to incorporate the rehearsal of concert literature into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

\( H_{12} \). The ability of the director (choral and instrumental) to incorporate listening exercises into the rehearsal will be more enhanced by the alternating day block schedule when compared to the traditional schedule.

\( H_2 \). The lengths of time individual directors have been teaching music will impact their response to the level of importance assigned to each of the rehearsal elements.

There was one sub-hypothesis.

\( H_{13} \). The directors who have taught music the longest will view fewer elements as important to the success of their performing organization.

\( H_3 \). The length of time individuals are involved in their schedule at the time they fill out the survey will impact their response to the question of whether the schedule enhances or hinders each rehearsal element. There was one sub-hypothesis.

\( H_{14} \). Directors who have been involved with their schedule for a longer period of time will view more elements as hindered by the schedule.

\( H_4 \). The length of time the responding directors have been in their present position will have an impact on their response to the degree each rehearsal element is enhanced or
hindered by their schedule. There was one sub-hypothesis.

SH$_{15}$. The longer an individual is in their present position the more likely he/she will be to identify their schedule as hindering important elements of rehearsal.

**Importance of the Study**

Studies of this nature are important in the evaluation of a new system of academic time management. Most teachers, after spending a few years teaching in the block schedule, prefer it to the traditional schedule (Curry School of Education, 1996; Gusky & Kifer, 1995; Davis-Wiley, 1995; Staunton, 1997; Staunton & Adams, 1997). Teachers (not necessarily music teachers) identify a less hectic environment realized from the benefit of the block schedule’s extended class time (Gusky & Kifer, 1995). One should not assume that because the environment is preferable, education improves. A better working environment is certainly a contributing factor, however, it may be outweighed by other contrary results like a diminished amount of curriculum covered, or reduced retention due to the class meeting every other day.

The field of music education needs to be better understood by administrators across the country as educational innovations are explored. The results of this study add valuable information to the field that can be understood and considered by all parties involved in educational change.
CHAPTER TWO

Literature Review

The implementation and institutionalization of the block schedule, both the alternating day and the alternating semester, are discussed in a variety of articles and presentations authored by administrators/practitioners who have successfully incorporated this innovation into their organizations. In addition, several research institutions are beginning to study block scheduling. Although this study is limited to the impact of the alternating day block schedule, much of the literature reviewed combines the most common variety of block scheduling, the alternating day schedule, with the alternating semester block schedule, or, in some cases, the trimester block schedule. Indeed, the bulk of the literature on block scheduling investigates, or comments on, the alternating semester block schedule.

Block Scheduling

The alternating semester block schedule, which is also known as the Copernican Plan (Carroll, 1994; Carroll, 1990), accelerated schedule (Queen & Isenhour, 1998) or the immersion block, is designed to have four classes meeting for ninety minutes each day for an entire semester (Mutter, Chase & Nichols, 1997). The students then take four different classes during the second semester of the school year. In the example in Appendix B, the first four periods, all labeled "A" would meet first semester and periods five through eight, labeled "B," would meet second semester.
The trimester plan involves, most typically, three sessions, each with three 120-minute classes (Sassoms, 1995). In yet another variation of the trimester schedule, classes can meet for three sessions of two 180-minute classes (Geisner & Pollease, 1996).

Block scheduling is being implemented in a large number of high schools across the country (Shortt & Thayer, 1997). Cawelti (1994) indicated that block scheduling has been fully implemented in 11% of high schools in his sample and partially implemented in 12%. Sixteen percent of his sample was in the planning stages of block schedule implementation. Hackman (1995a) cited Cawelti's study and indicated that block scheduling had been fully implemented in 39% of the sample. This is not completely accurate; Cawelti found full, partial or planned implementation in 39%, but did not indicate, in any way, that 39% had fully implemented block scheduling. Cawelti (1994) also indicated that private schools were "...more likely to report using the block schedule (14.5 percent) than were public schools (10.5 percent)" (p. 23).

The impact of the block schedule on musical performing organizations can be either direct or indirect. The Curry School of Education (1996) identified a drastic decrease in the number of tardies as a benefit of block scheduling. A decrease in student tardies is a benefit to a performing organization. It is important to note that the decrease in tardies is a natural event related to a 50% decrease in the number of classes that are held under the alternating day block schedule (Blaz, 1998).

The block schedule approach is considered to be more congruent than is the
traditional schedule to the manner in which high school students learn (Fitzgerald, 1996; Gardner, 1987; Marshak, 1998), allowing for more in-depth involvement in a single subject as opposed to a day fragmented with small sections of differing facets of the curriculum. On the other hand, a single activity planned for the entire ninety minutes is deemed an inappropriate practice in block schedule teaching (Canady & Rettig, 1996b). The longer period of focus, which is identified as a benefit, is certainly a consideration when evaluating the impact of the block schedule on performing organizations (Canady & Rettig, 1995; Blaz, 1998; Fitzgerald, 1996; Carroll, 1994; Munroe, 1989; Reid, 1996; Guskey & Kifer, 1995; Salvaterra & Adams, 1995; West, 1996; Kramer, 1997; Carroll, 1994; Day, Ivanov & Binkley, 1996; Day, 1995; Fitzgerald, 1996; Wilson, 1995; Eineder & Bishop, 1997; Cawelti, 1994; Ubben, 1976; Hackman, 1995; Hoffman, 1995).

Several studies have investigated the effect of the extended class time on student achievement in the "core" (math, science, social studies and language arts) subjects; these studies deal exclusively with high school students. In a study comparing achievement for students in a block schedule with students who were in a traditional schedule, Spencer and Lowe (1994) concluded there was no significant impact on achievement in math, science and social science, as measured by teacher assigned grades. An improvement in achievement was realized in language arts for students in the experimental (block schedule) group when compared to those in the control group. Guskey and Kifer (1995) conducted a similar study using a smaller sample and obtained similar results. Their
study also surveyed the amount of curriculum that was covered under the block and traditional schedules and discovered that teachers, in general, covered the same amount of material in both schedules.

Schoenstein (1995) indicated the block schedule contributed to a variety of improvements experienced at Roy J. Wasson High School in Colorado Springs. He specifically identified improvements in attendance rates, percentage of students on the honor roll, and number of credits earned, as well as smaller class sizes, reduced failure rate, and increased college enrollment. However, Schoenstein’s study was not controlled for extraneous variables (no mention was made of other variables) and was not a scientific study. The author, who is the chair of the foreign language department at Wasson High School, also identified a decrease in SAT scores, but an increase in ACT scores. The author noted that most students take the ACT, not the SAT.

Davis-Wiley (1995) determined that after the implementation of an alternating semester block schedule in two large Tennessee high schools, the “English, math and foreign language teachers, followed by science, social studies, business, and special education teachers, respectively, were most opposed to remaining on the block schedule format” (p.10). The author also stated that only three teachers (of 175 surveyed) expressed a desire to return to the previous schedule.

In a study conducted at Chaparral High School in Las Vegas, Nevada, West (1996) identified a change in instructional methodology utilized by teachers in an
alternating day block schedule as a shift from lecture to group activities. Chaparral High
School's block schedule utilizes three classes per day averaging 104 minutes for each
class. West also indicated the music and foreign language teachers had all accepted and
supported the transition to the block schedule, then in its third year of implementation.
This support was essentially a result of the change to 102-minute classes, which increased
the amount of student contact time over a two-day period.

In a study titled “Teacher Perceptions of Extended Time Scheduling in Four High
Schools” by Salvaterra and Adams (1995), teachers were surveyed in two high schools
that were in their first year of an alternating semester block schedule and in two high
schools that were planning to implement the alternating semester block schedule the
following year. The study involved questions about teachers’ perceptions and practices
with regard to the amount of planning time required, opportunities to meet the needs of
special education students, opportunities for collaborative grouping, and several other
pre-identified opportunities related to the block schedule. Although the authors found
little difference in the two groups’ perceptions (except when special education students
were considered), the methodology of the study ignored the ordinal nature of the data and
improperly applied parametric statistical procedures to the data. Although their study
was flawed, the authors’ recommendations at the conclusion of the article give merit to
the need for this study. They state, “High schools that have identified manipulation of the
time structure as the key to instructional improvement need to consider the impact [of

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block scheduling) on special student groups and instructional practices of teachers in both quantitative and non-quantitative disciplines" (p.28). Block scheduling is, however, a small piece of school reform with the ultimate goal of instructional improvement.

Bruckner (1997) gives insight into the joys and frustrations of teachers in their first year of teaching in the block schedule at Fremont High School in Fremont, Nebraska. This qualitative study illuminates the anxiety teachers feel in the early stages of a change. It also highlights the rewards and the problem-solving activities that transpire throughout the transition. One of the most universal concerns expressed at Fremont at the end of the first year using the block schedule was meeting the needs of the slower learner or lower-ability student.

Conti-D'Antonio, Bertrando, and Eisenberger (1998) have developed a comprehensive guide for meeting the needs of students with special needs in the block schedule. Their book discusses the limitations of the schedule and offers ideas that tap the strengths of the schedule in order to enhance the learning atmosphere for special needs students.

James, Kelly, Sikonia and Thorpe (1998) interviewed and surveyed teachers at Woodrow Wilson High School in Tacoma, Washington to determine how the block schedule, utilizing a six-period alternating day block, had improved the quality of student learning. After two years of involvement with the schedule, two-thirds of the staff felt comfortable in it. Positive quotes from teachers revolved around the improved
atmosphere and having less time spent introducing and concluding class. No comments were supplied by music instructors, although an art and foreign language instructor spoke positively regarding the success of the change from the traditional schedule to the block schedule.

Beyond the studies of school climate, the body of literature pertaining to the block schedule is void of any conscientious study of the less quantifiable impacts on the facets of the educational program that, like musical performance classes, pursue a qualitative end. The premier studies on academic areas (Kramer, 1997 [in math] and Reid, 1996 [in English]) approach the affective aspects of program design, but are not directly applicable to musical performing organizations that have a purely qualitative aim. This study will begin filling that void by seeking information about which elements of the musical organization rehearsal are enhanced by the block schedule and which are hindered.

**Block Scheduling and Performance Organizations**

Shortt and Thayer (1997) state that issues concerning performing arts classes need to be addressed as part of the process of implementing the block schedule. Canady and Rettig (1995) have warned of the potential political clout of music booster organizations as a potential obstacle to the transition to a semester block schedule. Strategies are offered in their treatise to mitigate the concerns of music organizations moving into a semester block schedule, but no mention is made of any problems with an alternating day block schedule. These strategies basically involve inclusion of the
booster organizations in the process of change.

With the exception of the impact of the immersion block schedule on enrollment, the question of direct impact on performance organizations appears unaddressed in reputable research. Elizabeth Hoffman (1996) compiled a variety of opinions from music educators who are teaching in the block schedule. Although some responses illuminated the value of the block schedule to the performance group rehearsal, most expressed concern. The most consistently identified concern of the teachers was time lost when students are absent. Of the two most common forms of block schedule (alternating day and alternating semester), the instructors identified the greatest concern with the alternating semester schedule. They cited the reluctance of administrators to make two semesters of musical participation a requirement. A two-semester enrollment requirement is recommended by Canady and Rettig (1995) as a viable mitigation to address the concerns of both the music director and the music booster clubs that have “formidable political clout.” Aguilera (1996), in a brief discussion of the advantages and disadvantages of the alternating semester block schedule, noted that “elective strands [those not considered part of the core educational program] will be affected” (p.1).

Guthrie, Hegarty, Louden and Thom (1998) explored the changes in teaching strategies that were made by teachers as a result of implementation of the block schedule in Shorewood High School in Shoreline, Washington. They discovered the block schedule allowed for a wide variety of teaching strategies, some of which were limited by
the traditional schedule. The music teachers in the district stated, “The level of performance that students display has diminished as a result of not having daily contact with the instrument and the instructor.” The study did not delve into the specifics of music rehearsal affected by the schedule change.

Sassoms (1995) identified variations in responses to a survey about the implications of block scheduling by various academic departments (band was included) when compared to the most common responses given. In an alternating day block scheduled school, the band director indicated the number of daily preparations had decreased when the most frequent response (57%) indicated no change in the number of preparations. Where the majority of the teachers (64%) had found an increase in planning time, the band director indicated the number of minutes for planning in his/her schedule had not changed. The number of students taught each day by the band director had not changed, while 52% of the teachers identified a decrease in the number of students taught each day. The band director also identified a decrease in discipline problems under the block schedule when the majority of other teachers (57%) had experienced no change in the number of discipline problems. The band director also indicated the use of interdisciplinary teaching had increased when most other teachers (57%) believed that it had not changed. Overall, “the band director's responses differed 16% of the time from the most frequent teacher's responses for the whole school” (pp. 282-283). The study also presented similar information about a school on a semester block schedule and a trimester
block schedule. Comparisons cannot be drawn because different schools and programs were used for each type of schedule.

Hall (1992) studied the impact of block scheduling on high school performing arts classes in Colorado. Of the 35 schools in the study, only seven were involved in an alternating day schedule; most (23) were involved in an immersion block schedule. Teachers in the study reported a decrease in student enrollment as a result of the move to a block schedule. This was particularly true in the immersion block schools where all teacher participants reported a decrease in enrollment. The Colorado study focused on enrollment and concluded the decrease in enrollment for performing arts classes that resulted from the move to the block schedule was detrimental to the success of the performing arts programs. Some directors indicated the schedule impacted their curriculum due to the loss in number of students and the corresponding loss of a balanced ensemble. Diminished attention and increased fatigue were cited as problems with the longer classes. The study was limited by the sample size, particularly if the results were to be generalized to alternating block schools.

Meidl (1995) discovered similar results in a national survey of 32 schools in 13 states. Of the 32 teachers, 41% were in their first year of teaching in the block schedule; 69% of the teachers reported a drop in enrollment in performing organizations as a result of the move to the block schedule. A negative impact on enrollment in performing arts classes in the immersion block was identified also by Ferry (1997), Blocher and Miles.
Plants and Barber (1997) tout the success of the block schedule in Mountain View High School in Bend, Oregon. After four years in an alternating day block schedule, an enrollment increase of 50% was realized in performing arts classes. In addition, the dropout rate decreased from 7.4% to 2.33% and SAT scores increased.

Hurley (1997a) quoted a band instructor in a discussion of the advantages to a 4x4 block schedule, “With the extended period, I am able to do more scale work. I'm not limited at all in the amount of scales that we play, and arpeggios, major and minor.” In the ensuing discussion of disadvantages the music instructor was not quoted. In the same school district, students were interviewed for their impressions of the advantages and disadvantages of the 4x4 block schedule (Hurley, 1997b). None of the students interviewed discussed any problems with course conflicts; they cited too many seniors graduating early as the main concern, along with some teachers still trying to lecture for a full 90 minutes.

Blocher and Miles (1996) studied block scheduled schools in Michigan, Indiana, Kentucky, and Wisconsin to determine the implications of block scheduling for music education. As confirmed by several studies of less magnitude, the block schedule, particularly the immersion block schedule, had a negative impact on enrollment in performing arts classes. In their book “Block Scheduling: Implications for Music Education,” Blocher and Miles present a thorough guide to block scheduling options that
are used to minimize the class conflict problems for students who take performing arts classes. The studies of Blocher and Miles are important because student enrollment is an essential component of a successful performing organization. Their studies will assist music educators in making scheduling committees aware of the needs of the performing arts classes and provide alternatives that will lessen the possible impact on enrollment.

Elements of Music Rehearsal

Although Ulrich (1993) implies that “the quality of performance is a direct result of what transpired in the rehearsal,” few studies have endeavored to rank the importance of rehearsal elements. The pace of the music rehearsal and the appropriate time in the rehearsal to approach more difficult material was studied by James Cox (1989). He determined that, although music educators believe the “rehearsal structure is vital to the musical growth of an ensemble,” there is much disagreement about “which specific organizational structure should be used.” (p.201)

The need for study in the area of proactive instruction in the field of music is identified by Duke and Madsen (1991). Proactive instruction is defined in the article as “instruction that is designed specifically to maximize the probability of student's success throughout the learning process (p.4).” They also acknowledge that no instrument exists to assess this.

Several researchers have identified individual components of a rehearsal that are significant, including listening skills (Byo, 1990) and fundamental studies (Bobbett,
Dorothy & Bobbett, 1994). These elements were presented to the exclusion of others and no rankings were explored.

Taebel (1980) conducted a study that ranked the musical competencies of instructors and their importance to the success of the musical organization. Aural competency was identified as the most significant. This study dealt only with instructor competencies and did not involve specific rehearsal elements directed at student competencies.

Abeles, Hoffer and Klotman (1984) believe that musical performing organizations need to concern themselves with academic areas of music education, like music history and theory, to better understand the music being performed. They believe that musical knowledge and skills can be obtained in the context of music rehearsal.

Block schedules can be modified to accommodate programs that are perceived as needing to meet daily (Williams, 1997; Paterson, 1997; Blocher & Miles, 1995; Caldwell & Caldwell, 1996; Canady & Rettig 1996a; Blocher & Miles, 1996). These modifications are often made as a concession to help ease the implementation of the schedule without a true assessment of the impact, either positive or negative, of the schedule change. Most music teachers prefer the alternating block schedule to the immersion block because it allows the performing organization to meet all year with the same personnel (National Coalition for Education of the Arts. 1997; Ferry, 1997). None of the studies identify which aspects of a music rehearsal are enhanced or hindered by the
alternating day block schedule. Consequently, this study represents a true assessment of the impact of the block schedule beyond the impact on enrollment, and can serve as a model for studies in disciplines outside of the field of music.
CHAPTER THREE

Methodology

Survey Design

A survey design was selected because it is a parsimonious method of generalizing from the sample to the population, allowing the researcher to incorporate a large sample (Creswell, 1994, p.118). A two-part Likert scale provides information about each of the research sub-questions independently, while allowing for the comparison of block and non-block schedule school responses. The survey instrument appears in Appendix A.

Population and Sample

The population for this study encompassed all public high schools in the United States. A random sample of public high schools across the United States was identified in a two-stage sampling process (Creswell, 1994, p.119). The number of high schools selected per state was determined by the population of that state as identified in the 1990 census. One school district was selected randomly, using a random number generator, for each 600,000 people in the state with standard mathematical rounding applied. This process identified 413 high schools in the study (see Appendix D for census information and calculations). From the National Center for Educational Statistics web site, a list of all high schools in each state was downloaded. They appear in alphabetical order with a number assigned to each school. The randomly generated numbers for each state were

25
used to identify the sample schools. A survey was sent to each high school, addressed to each music department chair.

**Anonymity and Confidentiality**

Each high school was identified by a number. A master list of school names and corresponding numbers were kept for the purpose of follow-up letters and dissemination of results.

**Instrumentation and Survey Question Rational**

The survey forms appear in Appendix A and the accompanying cover letter appears in Appendix C. Questions 1 and 2 are for the purpose of stratification. The first question establishes the number of years the respondent has been teaching music. These questions are based on the studies of Webb and Sherman (1989). They indicate that a teacher's perceptions change as their career lengthens. The responses to the first question identify any statistically significant differences in the responses that may be attributable to the length of a teacher's tenure. Webb and Sherman (1989) also indicate the length of time a teacher has been in his/her present position can influence their responses due to familiarity with the routine of the position.

The third question establishes the type of schedule a teacher is presently working under. The responses are categorized into traditional schedule, alternating block schedule, 90-minute daily, or 4x4 block schedule. All directors who have rehearsal on alternating days for a period of longer than 75 minutes will be considered to be in an
alternating day block schedule, while all directors who have a rehearsal every school day for a period of 60 minutes or less are considered to be in a traditional schedule. Because this study deals specifically with the alternating day block schedule, all other variations will not be included in the statistical considerations of this study.

The rehearsal elements included in this survey were selected through a review of the literature and a review of adjudication practices at music contests and festivals (see Appendix E). The rehearsal elements selected from adjudication sheets are used in scoring musical performances at district and state level contests. Most of the elements selected are aimed at developing skills assessed on Richard Caldwell’s Music Achievement Tests (Abeles, Hoffer & Klotman, 1984). The selection of rehearsal elements and the survey instrument were reviewed by four practicing music instructors who, through familiarity with the researcher, were eliminated from the sampling procedure.

Tone quality, intonation, and rhythm are elements that are assigned scores by the judges. Thus, they constitute elements that would likely be given rehearsal time by a director who is preparing a musical organization for performance. The skills associated with these elements are assessed on Caldwell’s Music Achievement Tests.

Sight reading is a skill that is evaluated by a separate performance at music contests. It is also an element of music rehearsal to which directors devote varying amounts of time. It is included in this instrument because it is, more often than not,
treated as a separate rehearsal element and given varying levels of emphasis by directors (Bolinger, 1979).

The study of music theory and history are included as rehearsal elements. These elements were identified as "more academic" elements that are often aspired to, but not always implemented, according to several of the educators who reviewed the instrument. Abeles, Hoffer and Klotman (1984) contend that "performing groups should concern themselves with a degree of academic study to achieve understanding and analysis of the music being performed" (p. 273).

Tuning, scales, vocalises, chordal warm-ups, and chorale studies are common elements used by directors to prepare an ensemble for rehearsal (Bolinger, 1979). These warm-up elements are often geared to prepare the organization for the rehearsal of specific concert literature. When a director selects a scale or scales to use in a warm-up, it is often related to the key in which the first musical selection is written.

The validity of the rehearsal elements selected is supported by the lack of consistency in additional elements that were added by the sample directors. The list of additional elements appears in the Director Comments in Chapter 4; many of the additional elements are representative of specialized performing organizations like Jazz Band, Swing Choir or Marching Band. One director, prior to noticing the back page of the survey instrument, began listing the elements that were on the back of the sheet as
though they were an oversight on the researchers part. He later noticed the back of the sheet contained additional elements and proceeded to respond to them.

Variables

Two primary variables in this study are the importance of each rehearsal element to the success of a musical organization, and whether the block schedule enhances or hinders those rehearsal elements. These are both measured variables (Wallen & Fraenkel, 1991, p.33). The survey results are plotted on the following chart:

![Diagram](image)

**Figure 1.** Importance and impact chart for plotting the importance of each rehearsal element, and whether the block schedule enhances or hinders each element.
The importance of the rehearsal element is plotted on the y-axis and the impact of the schedule on the element on the x-axis. An additional independent variable is considered when plotting the x-axis whether or not the schools are involved in an alternating day block schedule. The results in each of the dependent variables area stratified by the responses to the background questions. The independent variables are: number of years of teaching experience, number of years in the director’s present position, and number of years in the block schedule. The survey includes a cross-validation of the directors’ responses by asking the director to estimate the amount of rehearsal time spent on each of the rehearsal elements.

**Data Analysis**

The survey responses are divided into two groups. Alternating day block schedule schools make up one group and traditional schedule schools make up the other group. The sample mean response to the importance question is determined for each of the rehearsal elements and plotted using the y-axis of the chart without regard to which group (block or traditional) the respondent belongs. The mean response to the “enhancement/hindrance” question is calculated by group, with the alternating day block scheduled schools identified by the element number followed by a “BA” and the traditional schools followed by an “N.” These results are plotted using the x-axis of the chart. The mean responses of the alternating day block and traditional responses are compared using a t-test.
Since the responses do not render a similar sample size, the variances are pooled. A test for homogeneity of variance is applied with $\alpha = .05$. If the null hypothesis for homogeneity of variance is rejected, the variances will be handled separately. The null hypothesis for the comparison of the means states there is no statistically significant difference between the mean response of the directors in block scheduled schools when compared to the responses of directors in the traditional scheduled schools ($\alpha = .05$).

The results are stratified by the length of time each teacher has been teaching music. The respondents are divided into four groups: 1-2 years, 3-5 years, 6-10 years, and 11+ years. An analysis of variance (ANOVA) is applied to compare each group's responses. The null hypothesis states there is no statistically significant difference between the responses of the four groups ($\alpha = .05$). To apply the ANOVA, homogeneity of variance must be established (Howell, 1992). Levene's F test for homogeneity of variance is applied with $\alpha = .05$. When homogeneity of variance is not established, the Games-Howell post hoc test is applied. When homogeneity of variance is established the Tukey/Kramer post hoc procedure is applied. When a statistically significant difference is identified between highly experienced and lesser-experienced instructors with an effect size greater than 0.25, separate charts using only the responses of teachers within each of the four experience groups are developed.

The results of second question will lead to the stratification by years of experience in the director's present position. The respondents are divided into four groups: 1-2 years,
3-5 years, 6-10 years, and 11+ years. An analysis of variance (ANOVA) is applied to compare each group's responses. The null hypothesis states there is no statistically significant difference between the responses of the four groups \((\alpha = .05)\). Homogeneity of variance is again established prior to the application using Levene’s F Test with \(\alpha = .05\). When a statistically significant difference is identified by the post hoc test between instructors who have been in their position for some time and those newer to the position with an effect size greater than 0.25, separate charts using only the responses of teachers within each of the four groups are developed.

The results of the fourth question lead to stratification of the block scheduled directors' responses by years of experience in the block schedule with regard to the impact (x-axis) of the schedule on rehearsal elements. The respondents are divided into four groups: 1 year, 2-3 years, 4-6 years, and 7+ years. An analysis of variance (ANOVA) is applied to compare each group's responses. The null hypothesis states there is no statistically significant difference between the responses of the four groups \((\alpha = .05)\). Homogeneity of variance is again established prior to the application with \(\alpha = .05\). When a statistically significant difference is identified between those more experienced and those less experienced in the block schedule with an effect size greater than 0.25, comparison charts using the responses of teachers within each of the four experience groups are...
CHAPTER FOUR

Results

From the sample of 413 schools, there were 145 responses. Fifteen percent of the schools were identified as using alternating block schedule. The 35% response rate was less than hoped for. However, a demographic comparison of the sample surveyed and the responses that make up the final sample are very similar. The following charts show the comparison in terms of the ethnicity of the districts and the locale of the districts:
Figure 2. Demographic comparison of district ethnicity of the sample surveyed.
Figure 3. Demographic comparison of district locale of the sample surveyed.
When studying a discipline as demanding of the instructor as a band, choir or orchestra, where no time of year is considered to be "slack time," a low response rate can be expected. A sample of 12 of the individuals who did not respond to the survey was contacted to discern their reason for not responding. One individual stated that he hates doing surveys. Another individual, who was chairman of the music department, stated that he did not want his staff spending time filling out surveys. The remaining 10 cited a lack of time as the reason. The significant findings, which are made more likely by an increased number of respondents (Thompson, 1993), add validity to the sample.

**Importance of the Rehearsal Elements**

The rehearsal elements were identified by the directors according to their importance to the success of their musical organization. For some rehearsal elements, a statistically significant difference existed between the mean importance reported by choral directors and those reported by instrumental directors. For those rehearsal elements the mean of each of the director groups will be reported separately.
Table I

Mean Importance Rating

<table>
<thead>
<tr>
<th>Element</th>
<th>Mean</th>
<th>Choral</th>
<th>Instrumental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehearsal of Concert Literature</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone Quality Development</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vowel Development Vocalises /Tuning</td>
<td>1.4</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Intonation Training</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhythm Study</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consonant Development Vocalises /Scales</td>
<td>1.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sight Singing/Sight Reading</td>
<td>1.7</td>
<td>1.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Chordal Warm-ups</td>
<td>2.0</td>
<td>1.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Listening Exercises</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chorale Studies</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Theory Study</td>
<td>2.5</td>
<td>2.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Music History Study</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the five-point Likert scale used, one (1) represents “very important,” two (2) represents “important,” three (3) is “less important,” four (4) is “unimportant,” and five (5) represents “very unimportant.” It is significant to note that none of the means reached three (3) “less important,” although four of the means ranged between three (3) “less important” and two (2) “important.”
Throughout this dissertation the following abbreviations will be applied to the rehearsal elements:

VD or T = Vowel Development Vocalises /Tuning
CD or S = Consonant Development Vocalises /Scales
Chordal, Chordal WU or CWU = Chordal Warm-ups
Chorale, Chorale St., or CHST = Chorale Studies
Intone = Intonation Training
Theory or THEO = Music Theory Study
Rhy = Rhythm Study
Tone Q. or TQ = Tone Quality Development
Hist = Music History Study
SR = Sight Singing/Sight Reading
Con Lit or CL = Rehearsal of Concert Literature
List = Listening Exercises

The following table shows the results of a t-test comparing the means of the choral and instrumental directors on the importance question for each rehearsal element:
### Table II

**t-Test Comparing Choral and Instrumental Directors' Responses to the Importance Question**

<table>
<thead>
<tr>
<th></th>
<th>VD/T</th>
<th>CD/S</th>
<th>CWU</th>
<th>CHST</th>
<th>INTONE</th>
<th>THEO</th>
<th>RHY</th>
<th>TQ</th>
<th>HIST</th>
<th>SR</th>
<th>CL</th>
<th>LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-value</td>
<td>2.41</td>
<td>.13</td>
<td>2.76</td>
<td>-.57</td>
<td>1.22</td>
<td>2.12</td>
<td>-.52</td>
<td>1.11</td>
<td>1.29</td>
<td>2.21</td>
<td>1.0</td>
<td>.77</td>
</tr>
<tr>
<td>2-tail p.</td>
<td>.02</td>
<td>.90</td>
<td>.01*</td>
<td>.57</td>
<td>.22</td>
<td>.04*</td>
<td>.60</td>
<td>.27</td>
<td>.2</td>
<td>.03*</td>
<td>.32</td>
<td>.43</td>
</tr>
</tbody>
</table>

*indicates a statistically significant difference.

The chart below indicates which of the rehearsal element means have a statistically significant difference at p. < .05. These represent the results of an Analysis of Variance test (ANOVA). The ANOVA produced a p value of less than 0.05 and homogeneity of variance was not established; the Games Howell post hoc multiple comparison test was performed.
Table III

**Statistically Significant Results of ANOVA**

<table>
<thead>
<tr>
<th>CD or S</th>
<th>CWA</th>
<th>CHST</th>
<th>Intone</th>
<th>Theory</th>
<th>RHY</th>
<th>TQ</th>
<th>Hist</th>
<th>SR</th>
<th>Con Lit</th>
<th>LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>VD or T</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CD or S</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CWA</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CHST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Intone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Rhythm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>X</td>
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<tr>
<td>SR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Con Lit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Cross Validation**

To support their answers, the directors were asked to give an approximation of the percentage of rehearsal time that is allotted for each rehearsal element. The average percentages are listed below for each rehearsal element:
Table IV

**Average Percentage of Rehearsal Allotted to Each Rehearsal Element**

<table>
<thead>
<tr>
<th>Element</th>
<th>Mean %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehearsal of Concert Literature</td>
<td>53</td>
</tr>
<tr>
<td>Tone Quality Development</td>
<td>17</td>
</tr>
<tr>
<td>Vowel Development Vocalises /Tuning</td>
<td>11</td>
</tr>
<tr>
<td>Intonation Training</td>
<td>11</td>
</tr>
<tr>
<td>Rhythm Study</td>
<td>7.6</td>
</tr>
<tr>
<td>Consonant Development Vocalises /Scales</td>
<td>7.1</td>
</tr>
<tr>
<td>Sight Singing/Sight Reading</td>
<td>8.8</td>
</tr>
<tr>
<td>Chordal Warm-ups</td>
<td>6.2</td>
</tr>
<tr>
<td>Listening Exercises</td>
<td>5.2</td>
</tr>
<tr>
<td>Chorale Studies</td>
<td>6.7</td>
</tr>
<tr>
<td>Music Theory Study</td>
<td>4.9</td>
</tr>
<tr>
<td>Music History Study</td>
<td>2.7</td>
</tr>
</tbody>
</table>

The correlation between the mean percentage of time allotted for each rehearsal element and the importance of the rehearsal element to the success of the organization as expressed by the directors on a Likert scale is $r = -.57$. Pearson’s $r$ was used for these correlated pairs, and statistical significance was not established. The mean percentage of
time allotted by the directors follows closely the order for the relative importance indicated; there were only three exceptions. Sight Reading/Sight Singing received a higher mean percentage than Rhythm Study and Consonant Development Vocalises/Scales, both of which were identified as more important elements in the success of the organization. Likewise, Chorale Studies received a higher mean percentage than Listening Studies and Chordal Warm-ups, which were also identified as more important. Intonation Training had a slightly higher mean percentage than Vowel Development Vocalises/Tuning, which was identified as more important. It is important to note there is not necessarily a natural correlation between importance and length of time allotted because some rehearsal elements take more or less time than others to successfully apply.

The cross validation clearly shows the elements that are identified by directors as being the most important are those elements to which they devote the greatest amount of rehearsal time. This supports the validity of the director’s responses.

**Impact of the Schedule on the Rehearsal Elements**

The directors used a five-point Likert scale to identify the extent to which each rehearsal element is enhanced or hindered by their schedule. A response of one (1) represents “greatly enhanced by the schedule,” two (2) represents “somewhat enhanced by the schedule,” three (3) indicates is “not impacted by the schedule,” four (4) equals “somewhat hindered by the schedule,” and five (5) represents “greatly hindered by the
There was no statistically significant difference between the mean responses from the choral directors and the instrumental directors on the enhancement/hindrance question for each of the elements. Thus, all choral and instrumental directors will be reported in the same mean for each element. The following table shows the results of the t-test comparing the means of the choral and instrumental directors on the enhancement/hindrance questions:

Table V

<table>
<thead>
<tr>
<th>t-Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>VD/T</td>
</tr>
<tr>
<td>t-value</td>
</tr>
<tr>
<td>2-tail p.</td>
</tr>
</tbody>
</table>

The Rehearsal Elements

The chart introduced in Figure 1 was used as a visualization of the results for each rehearsal element. The placement of the results on the y-axis represents the importance of the element. A mean of one (1) represents a "very important" element, two (2) represents an "important" element, three (3) is a "less important" element, four (4) is an "unimportant" element, and five (5) represents a "very unimportant" element.

Two points are plotted on the x-axis. The mean enhancement/hindrance response
for the traditional scheduled schools is identified by the letter "N." The mean enhancement/hindrance response for the alternating day block scheduled schools is identified by the letters "BA." These points are connected with a line that represents the effect size or the difference between the means. The chart also contains the effect size (ES) and the p-value for the t-test that compared the means. In situations where a statistically significant difference was identified between choral and instrumental directors’ responses to the importance question, two lines are included, one representing the choral director’s mean response, and one representing the instrumental director’s mean response.

**Vowel Development Vocalises and Tuning**

Warm-up exercises like vowel development vocalises in choral rehearsals and tuning in instrumental rehearsals were identified by the directors as the third most important element for the success of the musical organization. The mean director response for the question of whether the ability to vocalize or tune is enhanced or hindered by the alternating day block schedule was 1.8, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.0, indicating this element is not impacted by the schedule. With a mean importance rating of 1.4 (very important), the following chart (see Figure 4) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
It is important to note that, although the mean for all of the directors for the sample places these elements third, the choral directors placed the vowel development vocalises first with a mean rating of 1.2 (very important). The instrumental directors’ mean was 1.5 (important - very important) which does not influence the importance order of the elements.

A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -3.7338 and a two-tailed probability of
0.0008 using pooled because homogeneity of variance was not established \( (F \text{ ratio } = 1.0223; p = 1.0109) \). For this rehearsal element, the null hypothesis was rejected. With an effect size of 1.2, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with regard to the enhancement or hindrance of these warm-up elements by the given schedule. Vowel development vocalises in choral rehearsals and tuning in instrumental rehearsals are enhanced by the alternating day block schedule and SH, was accepted.

**Consonant Development Vocalises and Scales**

Warm-up exercises like consonant development vocalises in choral rehearsals and scales in instrumental rehearsals were identified by the directors as the sixth most important element for the success of the musical organization. The mean director response for the question of whether the ability to vocalise or practice scales is enhanced or hindered by the alternating day block schedule was 2.2, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 2.9, indicating this element is not impacted by the schedule. With a mean importance rating of 1.7 (important), the following chart (see Figure 5) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
A t-test comparing the means of the alternating day block school responses and traditional scheduled school responses generated a t score of -2.782 and a two-tailed probability of 0.0063 using pooled because homogeneity of variance was not established (F ratio = 1.012; p = 1.0337). For this rehearsal element, the null hypothesis was rejected. With an effect size of 0.7, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with regard to the enhancement or hindrance of these warm up elements by the
given schedule. Consonant development vocalises in choral rehearsals and scales in instrumental rehearsals are enhanced by the alternating day block schedule and $SH_2$ was accepted.

**Chordal Warm-up Exercises**

Chordal warm-up exercises were identified by the directors as the eighth most important element for the success of the musical organization. The mean director response for the question of whether the ability to use chordal warm-ups is enhanced or hindered by the alternating day block schedule was 2.2, indicating the element was somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.1, indicating this element is not impacted by the schedule. With a mean importance rating of 2.0 (important), the following chart (see Figure 6) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -3.434 and a two-tailed probability of 0.0008 using pooled because homogeneity of variance was not established (F ratio = 1.022; p = 1.011). For this rehearsal element, the null hypothesis was rejected. With an effect size of 0.9, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with
regard to the enhancement or hindrance of using chordal warm-up exercises by the given schedule. Chordal warm-up exercises are enhanced by the alternating day block schedule and SH3 was accepted.

Chorale Studies

Chorale studies were identified by the directors as the tenth most important element for the success of the musical organization. The mean director response for the question of whether the ability to use chorale studies is enhanced or hindered by the alternating day block schedule was 2.2, indicating this element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.3, indicating this element is not impacted by the schedule. With a mean importance rating of 2.3 (important), the following chart (see Figure 7) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
Figure 7. Chorale Studies

A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -4.152 and a two-tailed probability of 0.0001 using pooled because homogeneity of variance was not established (F ratio = 1.004; p = 1.0574). For this rehearsal element, the null hypothesis was rejected. With an effect size of 1.1, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with
regard to the enhancement or hindrance of using chorale studies by the given schedule. Chorale studies are enhanced by the alternating day block schedule and SH₄ was accepted.

**Intonation Training**

Intonation training was identified by the directors as the fourth most important element for the success of the musical organization. The mean director response for the question of whether the ability to develop intonation is enhanced or hindered by the alternating day block schedule was 2.3, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.1, indicating this element is not impacted by the schedule. With a mean importance rating of 1.5 (important - very important), the following chart (Figure 8) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
Figure 8. Intonation Training

A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -2.4791 and a two-tailed probability of 0.0146 using pooled because homogeneity of variance was not established (F ratio = 1.143; p = .7646). For this rehearsal element, the null hypothesis was rejected. With an effect size of 0.8, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with
regard to the enhancement or hindrance of intonation training by the given schedule. Intonation training is enhanced by the alternating day block schedule and SH, was accepted.

Music Theory Study

Music theory study was identified by the directors as the eleventh most important element for the success of the musical organization. The mean director response for the question of whether music theory study is enhanced or hindered by the alternating day block schedule was 2.0, indicating this element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.6, indicating this element is hindered by the schedule. With a mean importance rating of 2.5 (less important - important), the following chart (see Figure 9) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
It is important to note that, although the mean for all of the directors for the sample places this element eleventh in importance, the choral directors placed it ninth with a mean rating of 2.2 (important). The instrumental directors' mean was 2.6 (less important) which does not influence the importance order of the elements.

A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -5.139 and a two-tailed probability of .0001.
less than 0.0001 using pooled because homogeneity of variance was not established (F ratio = 1.79; p = .1263). For this rehearsal element, the null hypothesis was rejected.

With an effect size of 1.6, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with regard to the enhancement or hindrance of music theory study by the given schedule. Music theory study is enhanced by the alternating day block schedule and SH₆ was accepted.

**Rhythm Study**

Rhythm study was identified by the directors as the fifth most important element for the success of the musical organization. The mean director response for the question of whether the ability to study rhythm is enhanced or hindered by the alternating day block schedule was 1.8, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.3, indicating this element is not impacted by the schedule. With a mean importance rating of 1.6 (important), the following chart (see Figure 10) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
Figure 10. Rhythm Study

A t-test comparing the means of the alternating day block school responses and traditional scheduled school responses generated a t score of -4.824 and a two-tailed probability of less than 0.0001 using pooled because homogeneity of variance was not established (F ratio = 1.43; p = .3525). For this rehearsal element, the null hypothesis was rejected. With an effect size of 1.5, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled
school directors with regard to the enhancement or hindrance of rhythm study by the given schedule. Rhythm study is enhanced by the alternating day block schedule and SH$_1$ was accepted.

**Tone Quality**

Tone quality development exercises were identified by the directors as the second most important element for the success of the musical organization. The mean director response for the question of whether the ability to develop tone quality is enhanced or hindered by the alternating day block schedule was 2.0, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 2.9, indicating this element is not impacted by the schedule. With a mean importance rating of 1.3 (very important), the following chart (see Figure 11) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
A t-test comparing the means of the alternating day block school responses and traditional scheduled school responses generated a t score of -2.681 and a two-tailed probability of 0.0085 using pooled variances because homogeneity of variance was not established (F ratio = 1.216; p = .6385). For this rehearsal element, the null hypothesis was rejected. With an effect size of 0.9, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with regard to the enhancement or hindrance of tone quality development.
by the given schedule. Tone quality development is enhanced by the alternating day block schedule and $\text{SH}_g$ was accepted.

**Music History Study**

Music history study was identified by the directors as the least important element for the success of the musical organization. The mean director response for the question of whether music history study is enhanced or hindered by the alternating day block schedule was 2.4, indicating this element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.7, indicating this element is hindered by the schedule. With a mean importance rating of 2.8 (less important), the following chart (see Figure 12) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -3.95 and a two-tailed probability of 0.0001 using pooled because homogeneity of variance was not established (F ratio = 1.108; p = .8231). For this rehearsal element, the null hypothesis was rejected. With an effect size of 1.3, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with
regard to the enhancement or hindrance of music history study by the given schedule. Music history study is enhanced by the alternating day block schedule and SH, was accepted.

**Sight Reading and Sight Singing**

Sight Reading/Sight Singing were identified by the directors as the seventh most important element for the success of the musical organization. The mean director response for the question of whether the ability to sight read/sing is enhanced or hindered by the alternating day block schedule was 2.0, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.3, indicating this element is not impacted by the schedule. With a mean importance rating of 1.7 (important), the following chart (see Figure 13) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
It is important to note that, although the mean for all of the directors for the sample places this element seventh in importance, the choral directors placed it fifth with a mean rating of 1.5 (important - very important). The instrumental directors' mean was 1.8 (important) which does not influence the importance order of the elements.

A t-test comparing the means of the alternating day block school responses and traditional scheduled school responses generated a t score of -3.962 and a two-tailed
probability of 0.0001 using pooled because homogeneity of variance was not established
(F ratio = 1.409; p = .3742). For this rehearsal element, the null hypothesis was rejected.

With an effect size of 1.3, there was a statistically significant difference in the responses
of the alternating day block school directors and traditional scheduled school directors
with regard to the enhancement or hindrance of sight reading/singing by the given
schedule. Sight singing in choral rehearsals and sight reading in instrumental rehearsals
are enhanced by the alternating day block schedule and $H_{10}$ was accepted.

The Rehearsal of Concert Literature

The rehearsal of concert literature was identified by the directors as the most
important element for the success of the musical organization. The mean director
response for the question of whether the ability to rehearse concert literature is enhanced
or hindered by the alternating day block schedule was 2.2, indicating this element is
somewhat enhanced by the schedule. The mean response for directors in a traditional
schedule was 2.8, indicating this element is not impacted by the schedule. With a mean
importance rating of 1.3 (very important), the following chart (see Figure 14) shows the
comparison of the alternating day block schools (BA) and the traditional scheduled
schools (N):
A t-test comparing the means of the alternating day block school responses and traditional scheduled school responses generated a t score of -1.555 and a two-tailed probability of 0.1229 using pooled because homogeneity of variance was not established (F ratio = 1.434; p = .3633). For this rehearsal element, the null hypothesis was not rejected. With an effect size of 0.6, there is no statistically significant difference in the responses of the alternating day block school directors and the traditional scheduled
school directors with regard to the enhancement or hindrance of the rehearsal of concert literature by the given schedule. Although the mean responses for the alternating day block schedule schools and the traditional schedule schools indicate this element is more enhanced by the alternating day block schedule, the difference is not statistically significant and $H_{11}$ was rejected.

**Listening Exercises**

Listening exercises were identified by the directors as the ninth most important element for the success of the musical organization. The mean director response for the question of whether the ability to use listening exercises is enhanced or hindered by the alternating day block schedule was 2.0, indicating the element is somewhat enhanced by the schedule. The mean response for directors in a traditional schedule was 3.6, indicating this element is hindered by the schedule. With a mean importance rating of 2.3 (important), the following chart (see Figure 15) shows the comparison of the alternating day block schools (BA) and the traditional scheduled schools (N):
Figure 15. Listening Exercises

A t-test comparing the means of the alternating day block school and traditional scheduled school responses generated a t score of -4.606 and a two-tailed probability of less than 0.0001 using separate because homogeneity of variance was not established (F ratio = 2.3; p = .049). For this rehearsal element, the null hypothesis was rejected. With an effect size of 1.6, there was a statistically significant difference in the responses of the alternating day block school directors and traditional scheduled school directors with
regard to the enhancement or hindrance of using listening exercises by the given schedule. Listening exercises are enhanced by the alternating day block schedule and SH$_{12}$ was accepted.

Not all schools fell into the categories of traditional schedule or alternating day block schedule. Some schools are involved in an immersion (4x4) block, and some schools have a traditional schedule, but allow music performing organizations to have 90 minutes of rehearsal every day. Table IV below is a summary of the means and standard deviations for the enhancement/hindrance question for each type of schedule in each of the rehearsal elements.

Table VI

Results for All Types of Schedules

<table>
<thead>
<tr>
<th></th>
<th>Alternating Block</th>
<th>Traditional Schedule</th>
<th>90 min daily</th>
<th>4x4 Block*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>St. Dev.</td>
<td>Mean</td>
<td>St. Dev.</td>
</tr>
<tr>
<td>Rehearsal of Concert Literature</td>
<td>2.2</td>
<td>1.5</td>
<td>2.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Tone Quality Development</td>
<td>2</td>
<td>1.3</td>
<td>2.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Vowel Development Vocalises /Tuning</td>
<td>1.8</td>
<td>1.9</td>
<td>3.0</td>
<td>1.2</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th></th>
<th>Alternating Block</th>
<th>Traditional Schedule</th>
<th>90 min daily</th>
<th>4x4 Block*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean St. Dev.</td>
<td>Mean St. Dev.</td>
<td>Mean St. Dev.</td>
<td>Mean St. Dev.</td>
</tr>
<tr>
<td>Intonation Training</td>
<td>2.3 1.1</td>
<td>3.1 1.2</td>
<td>1.7 0.9</td>
<td>2 1</td>
</tr>
<tr>
<td>Rhythm Study</td>
<td>1.8 1</td>
<td>3.3 1.2</td>
<td>1.8 0.9</td>
<td>1.3 0.6</td>
</tr>
<tr>
<td>Consonant Development Vocalises/Scales</td>
<td>2.2 1.1</td>
<td>2.9 1.1</td>
<td>1.9 1.2</td>
<td>2.3 0.6</td>
</tr>
<tr>
<td>Sight Singing/Sight Reading</td>
<td>2 1.1</td>
<td>3.3 1.3</td>
<td>1.9 0.8</td>
<td>2.3 1.2</td>
</tr>
<tr>
<td>Choral Warm-ups</td>
<td>2.2 1.2</td>
<td>3.1 1.1</td>
<td>1.8 0.8</td>
<td>1.7 1.2</td>
</tr>
<tr>
<td>Listening Exercises</td>
<td>2 0.8</td>
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<td>2.3 0.9</td>
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<tr>
<td>Choral Studies</td>
<td>2.2 0.9</td>
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</tr>
<tr>
<td>Music Theory Study</td>
<td>2 0.9</td>
<td>3.6 1.3</td>
<td>2.1 1.1</td>
<td>1 0</td>
</tr>
<tr>
<td>Music History Study</td>
<td>2.4 1.1</td>
<td>3.7 1.2</td>
<td>2.1 0.9</td>
<td>3 0</td>
</tr>
</tbody>
</table>

*insufficient n
Stratification By Number of Years Teaching Music

The data below is stratified by the directors' responses to the first survey question.

Table VII

**Mean Importance Response**

<table>
<thead>
<tr>
<th>Question 1</th>
<th>V D or T</th>
<th>C D or S</th>
<th>Chordal WU</th>
<th>Chorale St</th>
<th>Intonation Tr.</th>
<th>Theory St.</th>
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</thead>
<tbody>
<tr>
<td>1-2 years</td>
<td>1.4</td>
<td>1.8</td>
<td>1.8</td>
<td>2.1</td>
<td>1.5</td>
<td>2.2</td>
</tr>
<tr>
<td>3-5 years</td>
<td>1.2</td>
<td>1.6</td>
<td>1.9</td>
<td>2.1</td>
<td>1.2</td>
<td>2.3</td>
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<tr>
<td>6-10 years</td>
<td>1.5</td>
<td>2.0</td>
<td>2.2</td>
<td>2.5</td>
<td>1.5</td>
<td>2.4</td>
</tr>
<tr>
<td>11+ years</td>
<td>1.4</td>
<td>1.7</td>
<td>1.9</td>
<td>2.4</td>
<td>1.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>F-Ratio</th>
<th>Prob</th>
<th>F-Ratio</th>
<th>Prob</th>
<th>F-Ratio</th>
<th>Prob</th>
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</thead>
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<tr>
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<td>0.93423</td>
<td>0.4261</td>
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<td>0.61614</td>
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(continuation)

<table>
<thead>
<tr>
<th>Rhythm St.</th>
<th>Tone Qual</th>
<th>History St.</th>
<th>Sight R/S</th>
<th>Concert Lit</th>
<th>Listening Ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 years</td>
<td>1.2</td>
<td>1.2</td>
<td>2.8</td>
<td>1.3</td>
<td>1.9</td>
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<tr>
<td>3-5 years</td>
<td>1.6</td>
<td>1.3</td>
<td>2.4</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>6-10 years</td>
<td>1.7</td>
<td>1.3</td>
<td>2.9</td>
<td>1.8</td>
<td>1.6</td>
</tr>
<tr>
<td>11+ years</td>
<td>1.7</td>
<td>1.3</td>
<td>2.9</td>
<td>1.7</td>
<td>1.2</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>F-Ratio</th>
<th>Prob</th>
<th>F-Ratio</th>
<th>Prob</th>
<th>F-Ratio</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.21866</td>
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<td>1.20524</td>
<td>0.3112</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
An analysis of variance performed on each of the rehearsal elements to determine the relationship between the means of each of the experience groups generated the above listed F-Ratios and Probabilities. For each rehearsal element, the null hypothesis was not rejected. There was no statistically significant difference between the responses made by each of the experience groups. Eight percent of the directors indicated they had 1-2 years teaching experience; 13% had 3-5 years; 17% had 6-10 years; and 62% had 11 or more years. The number of years the respondents have been teaching music had no impact on their responses to the question of how important each rehearsal element is to the success of their performing organization. SH$_{13}$ was rejected.

**Stratification by the Number of Years in the Respondent’s Present Position**

The data below is stratified by the directors’ responses to the second survey question.
Table VIII

**Mean Enhancement/Hindrance Response**

<table>
<thead>
<tr>
<th>Question 2</th>
<th>V D or T</th>
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<th>Chordal WU</th>
<th>Chorale St</th>
<th>Intonation</th>
<th>Tr.</th>
<th>Theory St.</th>
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<tr>
<td>1-2 years</td>
<td>2.48</td>
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<tr>
<td>3-5 years</td>
<td>2.63</td>
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<td>2.77</td>
<td>3.57</td>
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<tr>
<td>6-10 years</td>
<td>2.74</td>
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<tr>
<td>11+ years</td>
<td>2.59</td>
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**ANOVA**

| F-Ratio    | 0.27396  | 1.42441  | 0.30091    | 2.01725    | 0.5059    | 1.37715 |
| Prob       | 0.8441   | 0.2385   | 0.8247     | 0.1148     | 0.6789    | 0.2526  |

(continuation)

<table>
<thead>
<tr>
<th>Rhythm St.</th>
<th>Tone Qual</th>
<th>History St.</th>
<th>Sight R/S</th>
<th>Concert Lit</th>
<th>Listening Ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 years</td>
<td>2.39</td>
<td>2.37</td>
<td>3</td>
<td>2.74</td>
<td>2.27</td>
</tr>
<tr>
<td>3-5 years</td>
<td>2.77</td>
<td>2.52</td>
<td>3.57</td>
<td>3</td>
<td>2.52</td>
</tr>
<tr>
<td>6-10 years</td>
<td>2.82</td>
<td>2.59</td>
<td>3.35</td>
<td>2.68</td>
<td>2.47</td>
</tr>
<tr>
<td>11+ years</td>
<td>2.91</td>
<td>2.81</td>
<td>3.24</td>
<td>3.09</td>
<td>2.83</td>
</tr>
</tbody>
</table>

**ANOVA**

| F-Ratio    | 0.93689   | 0.72325    | 0.99857    | 0.73933     | 0.93786     | 0.89844  |
| Prob       | 0.425     | 0.54       | 0.396      | 0.5305      | 0.4248      | 0.4445   |

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An analysis of variance performed on each of the rehearsal elements to determine the relationship between the means of each of the experience groups generated the above listed F-Ratios and Probabilities. For each rehearsal element, the null hypothesis was not rejected. There was no statistically significant difference between the responses made by each of the experience groups. Twenty-two percent of the directors indicated they had 1-2 years in their present position; 22% had 3-5 years; 28% had 6-10 years; and 28% had 11 or more years. The number of years the respondents have been in their present teaching position had no impact on their responses to the question of how much their schedule enhanced or hindered each rehearsal element. $SH_{14}$ was rejected.

**Stratification by the Number of Years in the Respondent's Present Schedule**

The data below is stratified by the directors' responses to the fourth survey question.
Table IX

Mean Enhancement/Hindrance Response

<table>
<thead>
<tr>
<th>Question 4</th>
<th>V D or T</th>
<th>C D or S</th>
<th>Chordal WU</th>
<th>Chorale St</th>
<th>Intonation Tr.</th>
<th>Theory St.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>2.18</td>
<td>1.88</td>
<td>2.59</td>
<td>2.56</td>
<td>2.18</td>
<td>2.53</td>
</tr>
<tr>
<td>2-3 years</td>
<td>2.64</td>
<td>2.61</td>
<td>2.55</td>
<td>2.61</td>
<td>2.82</td>
<td>2.85</td>
</tr>
<tr>
<td>4-6 years</td>
<td>2.5</td>
<td>2.68</td>
<td>2.79</td>
<td>2.79</td>
<td>2.71</td>
<td>3.35</td>
</tr>
<tr>
<td>7+ years</td>
<td>2.88</td>
<td>2.86</td>
<td>2.94</td>
<td>3.34</td>
<td>2.98</td>
<td>3.33</td>
</tr>
</tbody>
</table>

ANOVA

F-Ratio  | 1.71794 | 3.39439 | 1.25655 | 4.61512 | 1.92747 | 2.28008 |
Prob     | 0.1664  | 0.0199* | 0.2921  | 0.0042* | 0.1282  | 0.0823  |

(continuation)

<table>
<thead>
<tr>
<th></th>
<th>Rhythm St.</th>
<th>Tone Qual</th>
<th>History St.</th>
<th>Sight R/S</th>
<th>Concert Lit</th>
<th>Listening Ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>2.35</td>
<td>2.19</td>
<td>2.94</td>
<td>2.44</td>
<td>2.13</td>
<td>2.77</td>
</tr>
<tr>
<td>2-3 years</td>
<td>2.36</td>
<td>2.44</td>
<td>3.19</td>
<td>2.72</td>
<td>2.38</td>
<td>2.04</td>
</tr>
<tr>
<td>4-6 years</td>
<td>2.85</td>
<td>2.52</td>
<td>3.26</td>
<td>2.76</td>
<td>2.42</td>
<td>3.19</td>
</tr>
<tr>
<td>7+ years</td>
<td>3.17</td>
<td>2.91</td>
<td>3.56</td>
<td>3.24</td>
<td>2.86</td>
<td>3.28</td>
</tr>
</tbody>
</table>

ANOVA

F-Ratio  | 3.26486   | 1.91862   | 1.13787    | 1.95413   | 1.71529    | 0.55756       |
Prob     | 0.0236*   | 0.1301    | 0.3366     | 0.1244    | 0.1677     | 0.6442        |

*statistical significance
An analysis of variance performed on each of the rehearsal elements to determine the relationship between the means of each of the experience groups generated the above listed F-Ratios and Probabilities. A statistically significant difference between the director responses having 1 year of experience and those having 7+ years of experience in their schedule was identified for the following elements:

**Consonant Development Vocalises /Scales**  
**Rhythm Study**

A statistically significant difference between the director responses having 2 to 3 years of experience and those having 7+ years of experience in their schedule was identified for Chorale Studies. Although the effect size was greater for the 1 year vs. 7+ years directors, the disparity in n reduced the probability of significance when those means were compared.

In each of the rehearsal elements where the null hypothesis was rejected, the directors with less experience in their schedules had a lower mean response to the question of enhancement or hindrance. Thirteen percent of the directors indicated they had 1 year in their present schedule; 25% had 2-3 years; 25% had 4-5 years; and 37% had 7 or more years. For Consonant Development vocalises, scales, and Rhythm Study, $SH_{15}$ was accepted. For all other rehearsal elements, $SH_{15}$ was rejected.

Several directors included unsolicited comments on their survey forms. Appendix F contains a transcription of those comments separated into block scheduled schools and non-block scheduled schools.
Some directors added rehearsal elements in the spaces provided. There was no consistency to the rehearsal elements added. The following is a list of those elements:

- Technical Studies/Arpeggios
- Singing (an instrumental director)
- Posture Study/Breathing
- Ensemble Work
- Vocal Health/Anatomy
- Improvisation/Professional Behavior/Practice Advice
- Handing In and Out Music
- Announcements and Info.
- Bookkeeping/Attendance/Announcements
- Listening to Media Recording of Organization

The results of this study provide important information about the nature of various elements of music rehearsal and the impact of the alternating day block schedule on those elements. Directors who review this data will need to take into account their own rehearsal techniques and evaluate the impact of the schedule based on their personal approach to rehearsal.
CHAPTER FIVE

Findings, Conclusions and Recommendations

Findings

Music educators who have been involved in the alternating day block schedule believe that most elements of daily rehearsal are enhanced by the schedule. No elements listed in the survey are identified as hindered by the mean responses of the alternating day block scheduled directors. That is not the case for the directors who teach in a traditional schedule. The mean response by the directors in a traditional schedule for intonation training, rhythm study, sight reading/sight singing, chordal warm ups, listening exercises, choral studies, music theory study, and music history are all greater than three, which placed them in the hindrance side of the y-axis.

For every rehearsal element, the mean responses for the alternating day block scheduled schools are lower (more enhanced) than the means for the traditional scheduled schools. The rehearsal of concert literature was the only rehearsal element where there was no statistically significant difference between those two means. The rehearsal of concert literature is deemed to be the most important element of rehearsal by the directors as a whole. It is the second most important element when the responses of only the choral directors are considered. Tone quality exercises are considered to be the most important by the choral directors.

For directors who viewed the role of music education as the preparation and
performance of concert literature, the alternating day block schedule has no apparent impact on their ability to accomplish that objective. For directors who wished for a more comprehensive program that involves aspects of musical training, like the study of music theory and history or listening skills development, an alternating day block schedule will enhance the ability to accomplish the objective.

It is important to note, as several directors have pointed out, that many elements of a rehearsal can be included in the rehearsal of concert literature. Tone quality development and rhythm study are a goal of the rehearsal of concert literature. The alternating day block schedule allows directors to not only address those areas within the scope of concert literature rehearsal, but also those skills with separate drills and practice.

For many of the elements, the mean response for school districts that have rehearsal for 90 minutes every day (N*) is very similar to the mean response for the alternating day block scheduled directors (BA). In some cases, the alternating day block response mean is lower than the 90 minute daily mean (see Table IV on page 65). This indicates a generally high level of satisfaction with the alternating day block.

A Florida music teacher who has been a critic of the alternating day block schedule and is now a supporter states, “I get so much more accomplished in the long block that all the musical groups sound better than ever. We are earning superior ratings at state competitions” (Dow & George, 1998). Directors who capitalize on the more important elements of music rehearsal that are enhanced by the alternating day block
schedule will realize programmatic improvements not realized by colleagues that teach under the time constraints of the traditional schedule.

**Conclusions**

According to the findings of this study, the level of importance placed on each of the rehearsal elements does not change with the director's degree of experience, nor does the degree of enhancement or hindrance change with the number of years the director has been in the position. For three of the rehearsal elements, Consonant Vocalises/Scales, Chorale Studies, and Rhythm Studies, there is a statistically significant difference between the hindrance/enhancement responses when comparing the group with one year experience in their present schedule and over seven years of experience. This difference is manifested in the traditional scheduled directors and not in the alternating day block scheduled directors. This would indicate that as a director's level of experience increases, his or her level of satisfaction with the traditional schedule decreases.

Administrators who are considering implementation of the block schedule need to be cognizant of the concerns of music educators, but they also need to encourage music educators to explore the benefits of the alternating day block schedule to the various elements of music rehearsal which are often overlooked in a traditional schedule. Administrators need to work with music educators and music booster organizations to develop a vision of the music program, under the alternating day block schedule, that is based on actual experiences and research. Most of the opposition to the alternating day
block schedule seems to come from a lack of information about the impact of the schedule, and a great deal of supposition. This study adds significant information to the body of knowledge regarding the impact of the alternating day block schedule.

Administrators who are considering a change to the alternating day block schedule need to make this study available for their music directors. In addition, directors need to be given the opportunity to converse with, and observe, directors who have been successful in the alternating day block schedule. Administrators need to work closely with music educators to develop a curriculum for the alternating day block schedule that takes advantage of the rehearsal elements are enhanced by the new schedule.

Directors who implement the same practices and methodology that they used in the traditional schedule will not find the alternating day block schedule beneficial. The alternating day block schedule allows directors to rise to the challenge of incorporating academic studies, like music history and theory, into rehearsals without hindering their ability prepare for performances.

The alternating day block schedule allows music educators and all educators an opportunity, when the schedule is properly implemented, to collaborate with one another to develop a meaningful curriculum that crosses the traditional boundaries of discipline based study. The schedule also provides the time for teachers to become more actively involved in the decision making structure of the school. A properly implemented alternating day block schedule will allow all teachers the time to participate in planning
meetings and, themselves, become true educational leaders.

Recommendations for Further Study

The emphasis that was placed on the rehearsal of concert literature by the sample directors raises the question: Is the importance placed on that particular rehearsal element a result of years of scheduling where time allowed for only performance preparation? Has the traditional schedule been the catalyst that has lead to the performance driven curricula that is present in most music departments? In addition to the enhancement of the rehearsal elements in this study, what opportunities do the alternating day block schedule offer directors that could not be realized under a traditional schedule?

Additional studies need to survey directors who are finding success in the alternating day block schedule. These surveys need to determine what strategies have been employed by the directors and what specific modification have been implemented to take advantage of the new schedule. An inventory of implementation recommendations needs to be generated by directors who have reaped the benefits of the alternating day block schedule.

Music educators need to take a more active role in support of research. Although it has definitely lead to a significant increase in the body of knowledge regarding alternating day block scheduling and the music program, the 35% response rate of this study should not be indicative of music educators’ best efforts to support research in the field.
References


Educational Research Services.


(ERIC Document Reproduction Service No. ED 393 177)


Munroe, M. J. (1989). **BLOCK Successful alternative format addressing learner needs.**

St. Louis, MO. Association of Teacher Educators. (ERIC Document Reproduction Service No. ED 311 003)


Williams, K. E. (1997). Like death and taxes...block scheduling is a part of life!. *Florida Music Director*, August 1997, 6-9.


Appendix A – Survey Form

**BAND/ORCHESTRA REHEARSALS** (Please complete only if you are the director of a high school band or orchestra)

1. **How many years have you been teaching music?**
   Circle one: 1-2 years 3-5 years 6-10 years 11+ years

2. **How many years have you been in your present position?**
   Circle one: 1-2 years 3-5 years 6-10 years 11+ years

3. **How often does your high school Band, Orchestra or Choir meet and how long is each rehearsal?**

4. **How many years have you been teaching in this particular schedule?**
   Circle one: 1 years 2-3 years 4-6 years 7+ years

Please rate the following rehearsal elements as to their importance to the success of your organization and the extent to which your rehearsal/class schedule hinders or enhances these rehearsal elements. If your rehearsals consist of elements that are not listed please add them at the bottom of the list.

<table>
<thead>
<tr>
<th>Rehearsal element</th>
<th>Importance to success</th>
<th>Impact of schedule</th>
<th>Percentage of rehearsal time dedicated to the element.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1= very important</td>
<td>1=greatly enhanced by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2=important</td>
<td>2=somewhat enhanced by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3=less important</td>
<td>3=not impacted by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4=unimportant</td>
<td>4=somewhat hindered by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5=very unimportant</td>
<td>5=greatly hindered by the schedule</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Tuning                  | 1 2 3 4 5             | 1 2 3 4 5           |                                                        |
| Scales                  | 1 2 3 4 5             | 1 2 3 4 5           |                                                        |
| Chordal Warm-ups        | 1 2 3 4 5             | 1 2 3 4 5           |                                                        |
| Chorale Studies         | 1 2 3 4 5             | 1 2 3 4 5           |                                                        |
| Intonation Training     | 1 2 3 4 5             | 1 2 3 4 5           |                                                        |
| Music Theory Study      | 1 2 3 4 5             | 1 2 3 4 5           |                                                        |</p>
<table>
<thead>
<tr>
<th>Rehearsal element</th>
<th>Importance to success</th>
<th>Impact of schedule</th>
<th>Percentage of rehearsal time dedicated to the element per day.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1= very important</td>
<td>1=greatly enhanced by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2=important</td>
<td>2=somewhat enhanced by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3=less important</td>
<td>3=not impacted by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4=unimportant</td>
<td>4=somewhat hindered by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5=very unimportant</td>
<td>5=greatly hindered by the schedule</td>
<td></td>
</tr>
<tr>
<td>Rhythm Study</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Tone Quality Development</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Music History Study</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Sight-reading</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Rehearsal of Concert Literature</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Listening exercises</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td></td>
<td>1 2 3 4 5</td>
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<td></td>
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<td></td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

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**CHOIR REHEARSALS** (Please complete only if you are the director of a high school choir)

1. How many years have you been teaching music?
   Circle one: 1-2 years 3-5 years 6-10 years 11+ years

2. How many years have you been in your present position?
   Circle one: 1-2 years 3-5 years 6-10 years 11+ years

3. How often does your high school Band, Orchestra or Choir meet and how long is each rehearsal?

4. How many years have you been teaching in this particular schedule?
   Circle one: 1 years 2-3 years 4-6 years 7+ years

Please rate the following rehearsal elements as to their importance to the success of your organization and the extent to which your rehearsal/class schedule hinders or enhances these rehearsal elements. If your rehearsals consist of elements that are not listed please add them at the bottom of the list.

<table>
<thead>
<tr>
<th>Rehearsal element</th>
<th>Importance to success</th>
<th>Impact of schedule</th>
<th>Percentage of rehearsal time dedicated to the element.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1= very important</td>
<td>1=greatly enhanced by the schedule</td>
<td>1=very unimportant</td>
</tr>
<tr>
<td></td>
<td>2=important</td>
<td>2=somewhat enhanced by the schedule</td>
<td>2=important</td>
</tr>
<tr>
<td></td>
<td>3=less important</td>
<td>3=not impacted by the schedule</td>
<td>3=less important</td>
</tr>
<tr>
<td></td>
<td>4=unimportant</td>
<td>4=somewhat hindered by the schedule</td>
<td>4=unimportant</td>
</tr>
<tr>
<td></td>
<td>5=very unimportant</td>
<td>5=greatly hindered by the schedule</td>
<td>5=very unimportant</td>
</tr>
</tbody>
</table>

- Vowel development vocalises
  - 1 2 3 4 5
  - 1 2 3 4 5

- Consonant Development Vocalises
  - 1 2 3 4 5
  - 1 2 3 4 5

- Chordal Warm-ups
  - 1 2 3 4 5
  - 1 2 3 4 5

- Chorale Studies
  - 1 2 3 4 5
  - 1 2 3 4 5

- Intonation Training
  - 1 2 3 4 5
  - 1 2 3 4 5

- Music Theory Study
  - 1 2 3 4 5
  - 1 2 3 4 5

- Rhythm Study
  - 1 2 3 4 5
  - 1 2 3 4 5

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<table>
<thead>
<tr>
<th>Rehearsal element</th>
<th>Importance to success</th>
<th>Impact of schedule</th>
<th>Percentage of rehearsal time dedicated to the element.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 = very important</td>
<td>1 = greatly enhanced by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = important</td>
<td>2 = somewhat enhanced by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = less important</td>
<td>3 = not impacted by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = unimportant</td>
<td>4 = somewhat hindered by the schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 = very unimportant</td>
<td>5 = greatly hindered by the schedule</td>
<td></td>
</tr>
<tr>
<td>Tone Quality Development</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Music History Study</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Sight-singing</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Rehearsal of Concert Literature</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Listening exercises</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B – Sample of an Alternating Day Block Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Block A</th>
<th>Block B</th>
<th>Block C</th>
<th>Block D</th>
<th>Block E</th>
<th>Block F</th>
<th>Block G</th>
<th>Block H</th>
<th>Block I</th>
<th>Block J</th>
<th>Block K</th>
<th>Block L</th>
<th>Block M</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-10:05</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:10-11:45</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
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<td></td>
</tr>
<tr>
<td>12:25-2:00</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:05-3:40</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Staff/Period  | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       |         |         |         |         |         |

<table>
<thead>
<tr>
<th>Teacher</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
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</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Curr. Events</td>
<td>Int Math 4</td>
<td>English 9</td>
<td>Spanish 3</td>
<td>Biology</td>
<td>English 11</td>
<td>Int Math 1</td>
<td>El. Band</td>
<td>Comp. Apl.</td>
<td>PE</td>
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Note: The schedule is designed to alternate between two different blocks each day, with each block having its own set of classes and teachers.
Appendix C - Cover Letter

Dear Director,

You have been selected as part of a national sample of music educators to complete a survey about the use of various rehearsal elements, their relative importance in the success of your musical performing organization(s), and the impact your district's schedule has on your use of these rehearsal elements. This is part of a doctoral dissertation at The University of Montana. Your answers will be held confidential and your school will not be identified in the results. I appreciate your taking time to fill out this brief survey. Your response is vitally important to the success of the study. Once completed, please seal the survey in the enclosed return envelope and place it in the mail. Upon completion of the study I will send the conclusions to all participating schools.

Sincerely,

John J. Matt
Appendix D - Census Information and Calculations

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TOTAL 248,709,873 413
Appendix E - Rationale for Survey Selection of Rehearsal Elements

Vowel Development Vocalises - Recommended by all three choral directors who reviewed the list of elements.

Tuning - Considered by Bolinger (1979) to be an important element at the beginning of every rehearsal.

Consonant Development Vocalises - Recommended by all three choral directors who reviewed the list of elements.

Scales - Recommended by Bolinger (1979) as a vital element in establishing tonality.

Chordal Warm-up Exercises - Recommended by Bolinger (1979) as a useful element in establishing balance.

Chorale Studies - Recommended by Bolinger (1979) as a useful element in ensemble sound quality and balance.

Intonation Training - Intonation is evaluated by adjudicators at music contests and assessed in Richard Caldwell’s Music Achievement Tests (Abeles, Hoffer & Klotman, 1984).


Rhythm Study - Rhythm is evaluated by adjudicators at music contests and assessed in Richard Caldwell’s Music Achievement Tests (Abeles, Hoffer & Klotman, 1984).

Tone Quality Development - Evaluated by adjudicators at music contests (Bolinger, 1979).


Sight Reading/Sight Singing - Treated as an element separate from performance rehearsal (Bolinger, 1979).

Rehearsal of Concert Literature - Recommended by all four instructors as an element that makes up the body of the rehearsal.

Listening Exercises - Recommended by Bolinger (1979) as an element that improves the overall ensemble sound while developing the individual musicians critical listening skills.
Appendix F - Director Comments

Alternating day block scheduled schools:

“Regular choirs suffer without regular rehearsal.”

“[Music history] not a focus except as related to repertoire.”

“It is physically impossible to sing for 100 minutes. I have found we actually lose rehearsal time because of the necessity to fill time with non-singing activities. Our kids get more history & theory & listening than they would with a 45-50 minute, every day class, but we also greatly struggle to be prepared for our performances.”

“In our 90 min. we do 15 of warm up, 10 of theory, 10 of SR/listening. The rest of the 55 minutes is in rehearsal of literature. I work the music history into that part of the day. Good Luck.”

“The elements are not taught apart from the literature & theory, etc.”

Non-block scheduled schools:

“I run pre-professional Jazz, Rock, Classical, Hip-hop, Country, Metal bands that are by audition at a school for the arts. Students arrive with very good basic skills. They practice at home, rehearse at school. (Schedule = 80 minutes every day)

“[For sight singing] all parts sing each other’s parts. Each part learns to read & is never waiting, doing nothing.” (Schedule = 45 minutes daily)

“I’m not sure what you meant by percentage - I focus on several things at one time – so numbers won’t add up to 100%.” (Schedule = 45 minutes daily)
“This is the only schedule I’ve ever had in any position - so I’ve learned to do everything I think important within its [sic] limits - - as far as I emotionally & physically prefer, a 2 - hr or 90 minute rehearsal 2 or 3 times a week would be better. Seems I’m just getting going when 55 minutes are up (and it’s hard to be fresh 5 days a week). I use the first 10-20 (occasionally 30-55) minutes on specific technical skill building (intonation, sightreading, theory, rhythm, vocal quality, harmonization) the remainder of the period we work on performance literature.” (Schedule = 55 minutes daily)

“We can spend more time on music history study, sight singing, listening exercises because of the longer class time. Block scheduling requires after school rehearsal for students unable to take the class, scheduling nightmare.” (Schedule = 4x4 block)

“We have “block scheduling” allowing longer rehearsals, but a scheduling nightmare requiring continued after school rehearsal for members not able to take the class throughout the year.” (Schedule = 4x4 block)

“I hope I can help. We are in a block schedule, which is killing a very rich historical program. I realize I only have 75% of rehearsal time written down because the other 25% is wasted with travel from the high school (separate building) and other activities which band is considered less important than.” (Schedule = 40 minutes daily - shared students with choir)

“We don’t have time to do much more than learn music for performance. More
time would be wonderful!" (Schedule = 45 minutes daily)

"Not every category is covered on a daily basis (not enough time!!). As performance pressure allows." (Schedule = 45 minutes daily)