ABSTRACT

Title of Document: THE IMPACT OF BAND DIRECTORS' TEACHING EXPERIENCE LEVEL ON THE USE OF SELECTED REHEARSAL BEHAVIORS.

Leigh Ovelgoenner Berkley, Master of Arts, 2011

Directed By: Professor Michael P. Hewitt, Department of Music

The purpose of this study was to examine whether differences exist between expert and novice band directors on the frequencies of selected rehearsal behaviors used to address identified performance targets, those musical elements and other aspects of performance in need of change. Participants included 12 high school and middle school band directors; three directors at each teaching level were expert and three were novice teachers. Rehearsals were video recorded and rehearsal frames with multiple performance trials were analyzed for performance targets and rehearsal behaviors. Results indicated that a difference did exist between expert and novice teachers on the performance targets identified and the rehearsal behaviors used to address those targets. Specifically, expert teachers were found to identify intonation/tone targets more and ask fewer questions than novice teachers.

THE IMPACT OF BAND DIRECTORS' TEACHING EXPERIENCE LEVEL ON THE USE OF SELECTED REHEARSAL BEHAVIORS.

By

Leigh Ovelgoenner Berkley

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Advisory Committee:
Professor Michael P. Hewitt, Chair
Professor Janet M. Montgomery
Professor Bruce A. Carter

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Chapter 1: Introduction

Background

The instrumental music ensemble plays a primary role in the secondary school music education curriculum (Price, 1981; Schleuter, 1997). Students spend a great deal of time performing during large ensemble rehearsals (Blocher, Greenwood, & Shellahamer, 1997). The events that occur within the rehearsal are many and vary depending on decisions made by the director. Although the majority of rehearsal time is devoted to the preparation of concert music for performance, the rehearsal structure may also include warm-up activities, technical drills, practice of a number of concert pieces, sight-reading, and administrative tasks (Colwell & Hewitt, 2011).

However, the specific events of the rehearsal can diverge even further depending upon the experience level of the teacher. Directors' behaviors regarding use of rehearsal time and instructional technique appear to differ depending on whether the teacher is an expert, with five or more years of teaching experience, or novice, with fewer than three years of teaching experience. Expert instrumental music teachers tend to spend less time providing verbal instruction, teach for shorter segments, and devote more time to student performance during rehearsal than novice teachers (Goolsby, 1999). Expert teachers also place greater emphasis on the overall sound of the ensemble and expressive performance (Goolsby, 1997). Generally, expert teachers have shown to be more efficient in their use of time and providing instruction within the instrumental music rehearsal when compared to novice teachers. If differences exist in the use of time and instructional techniques based on

the experience level of the director, it appears that differences may also exist in the methods used during rehearsals to shape ensemble performance.

Regardless of individual teaching experience level, a director needs to be able to effectively communicate musical concepts during rehearsals to promote improvement and progress in the ensemble (Kohut, 1996). Cavitt (1998) states that "[a] major goal of teaching instrumental music is to effect positive change and refine the quality of student performance within the music rehearsal" (p. 13). One of the most difficult tasks for the band director is determining which musical concepts should be addressed through diagnosis of performance problems (Kohut, 1996). But once problems are identified, how does the band director decide the specific methods that should be used to ensure positive change in the ensemble's performance?

Because determining which problems should be addressed and the methods with which to utilize to enact positive change are difficult, there is a variety of literature that discusses those topics. The following sections discuss research and publications that inform music educators on ways to enact change in ensemble performance once problems are identified starting with the initial diagnosis and prescription of a problem, commonly used instrumental methods textbooks, and research on error correction.

Diagnosis and Prescription

It is of primary importance for the band director to be able to efficiently and effectively diagnose problems and prescribe solutions (Brand & Burnsed, 1981), because rehearsal and instructional techniques determine a band's performance quality (Lisk, 1996). In Kohut's (1996) *Instrumental Music Pedagogy: Teaching*

Techniques for School Band and Orchestra Directors, an important step in providing effective instruction is to identify and assess complications. Only after a proper diagnosis is made can a remedy be administered. Two characteristics of an effective teacher listed by Doerksen (2006) are the ability to diagnose performance problems as they occur and to prescribe corrective feedback. In music, the diagnostic/prescriptive process refers to recognizing when something is wrong, analyzing the source of problems, and prescribing a solution. John Paynter once said, "A good conductor must be able to hear what is going on, while it is going on, and suggest what to do to change it" (Neidig, 1979, p. 12). Many directors are aware of common performance problems that occur during a rehearsal or performance from the content included in instrumental methods textbooks or from years of performance experience. Assessments for state concert festivals also list common musical elements, or performance targets, which typically focus on rhythm, pitch, tone/intonation, tempo, technique, balance, etc. What novice band directors often struggle with is the decision-making process regarding which performance problem to address and what suggestions should be made to affect positive change.

Instrumental Methods Textbooks

Expert and novice band directors could review instrumental methods textbooks in an attempt to discover techniques to employ in addressing performance problems in rehearsals. Many textbooks and methods courses devoted to the training of instrumental music teachers are designed to help future band directors develop the aural skills necessary to diagnose problems and assist them in building a "toolbox" of techniques to correct those problems. Some of the books used in instrumental music

methods courses include Kohut's (1996) *Instrumental Music Pedagogy*, Scheluter's (1997) *A Sound Approach to Teaching Instrumentalists,* and Colwell & Hewitt's (2011) *The Teaching of Instrumental Music*. Each of these texts were selected for reference in this study because they are commonly used in undergraduate music education courses and they include sections about conducting effective rehearsals, and more specifically diagnosing performance problems and suggesting possible solutions.

Schleuter (1997) states that, "Effective teachers must be able to diagnose and correct instrumental performance problems when they occur. The teacher must first discern that a problem exists, then determine specifically what the problem is, and lastly decide what to do and how to make corrections" (p. 138). Figure 1 is taken from a section of the text concerning diagnosis and prescription of errors. It lists common instrumental performance errors in the left column, the learning sequences used in the middle column, and a prescription column on the right. But the prescription column does not contain any information. Instead of providing techniques and strategies for correcting the problems, the prescription column "would be filled in by the teacher with appropriate materials, teaching techniques, and activities to meet the diagnosed need of individual students or classes" (p. 139).

In their chapter on rehearsal routines, Colwell & Hewitt (2011) discuss the planning processes and daily routines of the effective conductor. In regard to the rehearsal of concert music, "Rehearsing concert/performance music is the heart of the rehearsal, and the reasons the students are there. The bulk of the rehearsal is devoted to this music, whether it is actually scheduled for performance" (p. 348). Multiple

DIAGNOSIS		*PRESCRIPTION*
(problem is due to)	(where in learning sequence)	(appropriate materials and teaching techniques)
Musical Content Tonal or Rhythmic Key Mode Meter Tempo Articulation, Style Dynamics Instrumental Technique Tone quality Embouchure Bowing Posture Holding position Breath support Tonguing Finger technique Intonation Tuning	Aural/Oral Verbal Association Partial Synthesis Symbolic Association Composite Synthesis Generalization Creativity/Improvisation Theoretical Understanding	

Figure 1: Guidelines for Solving Performance Problems (Schleuter, 1997, p. 140)

musical elements to target in these rehearsals are listed and defined, but specific strategies to approach those targets are not given. Rather, "the director must be thinking of what to say before stopping the group…the teacher must have a strategy for enabling the problem to be understood and mastered" (p. 349).

Kohut (1996) provides two basic approaches to teaching: demonstration and analysis. Teaching through demonstration occurs when students learn by imitating the teacher. Analytical teaching is when the teacher analyzes the student's or group's performance and explains the analysis to the students in more technical terms. The text also includes information regarding tone quality, intonation, blend, articulation,

phrasing, and interpretation. Although Kohut provides some teaching techniques, the basic approaches given do not relate to specific musical elements identified for improvement within a rehearsal.

Instead of relying on instrumental method books, many directors learn rehearsal techniques and strategies through correspondence with other band directors, by sharing ideas and experiences to help others who may have encountered the same types of problems in rehearsal. Casey (1993) conducted interviews and distributed surveys to respected expert teachers to discover their opinions on issues related to rehearsing instrumental music ensembles, including teaching techniques and tools. He defined teaching techniques as what a teacher does, says, or asks students to do to promote student learning. Quotes and anecdotes were given with the goal of helping teachers understand what experts do to ensure an effective rehearsal and quality educational experience. The advice from the experts included musical objectives such as intonation, blend, balance, and phrasing. However, the experts' quotes provided very few solutions for achieving those goals, and Casey did not attempt to draw conclusions from the data concerning ideal methods for approaching musical objectives.

Error Correction

While textbooks provide some guidance for band directors on diagnosis and prescription, it is interesting that few researchers and writers have attempted to link musical elements to the strategies band directors use to bring about improvement of those selected performance targets. There appears to be a deficiency in music education research regarding musical concepts addressed during rehearsals and the

techniques used to correct common performance problems (Cavitt, 1998). Most of the research examining the band rehearsal has focused on the variables of time, teacher verbalizations, and the effects of teacher behaviors on student performance and behavior (Blocher, Greenwood, & Shellahammer, 1997; Duke, 1991; Duke & Henninger, 2002; Goolsby, 1996, 1997, 1999; Siebenaler, 1997). Other research on error detection and aural diagnostic skills exists (e.g., Brand & Burnsed, 1981; Doerksen, 1999), but those studies do not offer any practical advice as to what rehearsal techniques might be used to correct the problems once identified, or how those techniques differ based on experience level of the teacher.

The research on error correction primarily examines expert teachers and their rehearsal behaviors (Cavitt, 1998; Worthy, 2003), describing performance targets and goals. Error correction begins with the identification of a performance target, isolation of the problem to determine the nature of the error, and making decisions about what to address and how to address it (Cavitt, 1998). The few studies on error correction examine the rehearsal behaviors of expert band directors and the identification of selected aspects of performance. Only Cavitt (1998) begins to depict what teacher behaviors are most commonly used in correcting errors in rehearsal by examining the interaction between rehearsal behaviors and performance targets, but the focus is solely on the behaviors of expert teachers. Though Cavitt (1998) found that band director behavior varied with the error correction task, the particular behaviors and techniques used by those expert directors in the error correction task were not examined. Similarly, Worthy (2003) observed the rehearsal behaviors and identified performance targets of an expert wind conductor. While existing research

seems to indicate that novice teachers behave differently in the rehearsal setting, few studies have attempted to determine the rehearsal behaviors of novice teachers or sought to examine what novice band directors may be doing differently than experts.

Need for the Study

Given that there is a lack of evidence on what specifically it is that band directors do in rehearsal when addressing performance problems, more research is needed to determine what behaviors expert teachers are utilizing and what differences, if any, exist between expert and novice band directors. Analyzing the behaviors of novice band directors in comparison to experts may provide music educators with an understanding of how to accelerate novice teachers' progress. Thus, the present study attempts to satisfy a perceived need in the research on error correction in two ways: (a) to determine what expert and novice band directors are doing in rehearsal settings to improve performance problems once identified, and (b) to determine whether there is a difference between expert and novice band directors in the rehearsal techniques used and the types of those techniques.

Purpose and Research Questions

The purpose of the present study was to examine whether differences exist between expert and novice band directors on the frequencies of selected rehearsal behaviors used to address identified performance targets. The following research questions were investigated:

1. Are there differences between expert and novice band directors on the frequencies of identified performance targets?

2. Are there differences between expert and novice band directors on the frequencies of specified rehearsal behaviors?
3. Are there differences between expert and novice band directors on the behaviors used to address identified performance targets?

Null Hypotheses

1. There are no differences on the frequencies of performance targets identified by expert and novice band directors.
2. There are no differences on the frequencies of specified rehearsal behaviors used by expert and novice band directors.
3. There are no differences between expert and novice band directors on the behaviors used to address identified performance targets.

Definitions

In this section, the following terms will be defined: expert band director, novice band director, performance targets, rehearsal behaviors, concert band literature, and rehearsal frames.

Expert and novice band directors.

For the scope of this study, expert band directors are those teachers with a minimum of five years successful teaching experience and whose ensembles had received superior ratings at the state band festival for at least four out of the last five years. Characteristics of expert teachers were adapted from prior research (Cavitt, 1998; Doerksen, 1999; Goolsby, 1996, 1997, 1999). Novice band directors are teachers with less than three years of full-time teaching experience.

Performance targets.

The term performance target refers to the many musical elements, or variables, that occur within a performance, such as rhythm, pitch, dynamics, tempo, articulation, etc. Identified implicitly or explicitly, performance targets are aspects of the performance selected by the band director for improvement (Worthy, 2003).

Rehearsal behaviors.

Rehearsal behaviors are the verbal or nonverbal actions of the band director during a rehearsal. Band directors "do a number of things during rehearsals that may influence the teaching/learning process. Band directors give instruction. They listen. They give feedback. They attend to many nonmusical tasks." (Blocher, Greenwood, & Shellahamer, 1997, p. 458)

Band literature.

Band literature includes the musical selections rehearsed in preparation for an upcoming performance or concert. In Maryland, these selections are typically listed and evaluated based on difficulty level in the Maryland Music Educators Association music list. Band literature does not include warm-up exercises, scale studies, chorales, or sight-reading.

Rehearsal frames.

Rehearsal frames are the divisions of instrumental music rehearsals into segments that focus on the accomplishment of identified goals (Duke, 1994). Worthy (2003) divides rehearsal frames into three sections:

The rehearsal frame begins with the implicit or explicit identification of one or more aspects of the performance for improvement ("targets") and involves the whole

or any part of the ensemble. The second part might involve the decontextualization and/or remediation of the target through altered practice (slower tempo, simplified articulations, etc.) or the execution of a related exercise. The teacher may give verbal directions or model the desired outcome to facilitate the independent demonstration of the desired student behavior. The third part of the rehearsal frame recontextualizes the improved aspect of performance into the full, original context. (p. 12)

Assumptions

The results from this study may help expert, novice, and preservice band directors in their search for additional rehearsal strategies and may help directors become aware of those techniques that are most frequently used to address specific performance targets. Determining whether differences exist between the rehearsal techniques employed by expert and novice teachers may help novice teachers to be more effective in diagnosing and prescribing solutions to performance problems by providing a model of efficient instruction. If expert teachers utilize specific techniques to promote improvement within their performing ensembles, then novice teachers can attempt to use those same techniques in their rehearsals to enact change more effectively.

Limitations

Because this study examined the rehearsal behaviors of expert and novice teachers over the course of one semester, in fact in two rehearsals, limitations may exist in the ability to generalize findings to other populations. The rehearsal behaviors and performance targets identified and observed in this study were limited to the categories listed and described. Though other behaviors and performance

targets may exist, they were not examined in this study. Additionally, this study did not evaluate whether the identified performance target errors were corrected.

Other limitations include the sample of band directors chosen and the presence of the video camera in their ensemble rehearsals. The sample was comprised of middle and high school band directors who were teaching in the state of Maryland in 2005. The small sample of teachers was chosen based on recommendations from county music supervisors and do not represent all of the expert or novice teachers within the state. The presence of the camera may have had an impact on the rehearsal used by the participants as well as the performance abilities of the student members within the ensemble.

Overview

The first chapter provided background information about the topic of error correction in instrumental music rehearsals. The second chapter contains a review of relevant literature including research examining the use of time in music rehearsals, units of analysis for music rehearsals including sequential patterns of instruction and rehearsal frames, rehearsal behaviors of instrumental music teachers, error detection and aural diagnostic skills, and error correction. The third chapter describes the methodology used in this study. Results from collected data are presented in chapter four while the fifth chapter discusses the findings and implications for future research in music education.

Chapter 2: Review of Related Literature

Introduction

The instrumental music ensemble plays a central role in the music curriculum of secondary schools (Price, 1981). For many middle and high schools, the performing ensemble is the only available music course offered to students. Though the emphasis on the ensemble experience through rehearsals and performances may be consistent among secondary schools, the content of rehearsals can vary. The events that occur within an instrumental music rehearsal are also quite complex. Many researchers have set out to identify and analyze the components within a music rehearsal in an attempt to understand the complexities of the ensemble rehearsal that comprises the majority of instrumental music students' secondary instructional experiences.

In 1999, Robert Duke conducted a literature review on research measuring instructional effectiveness. Articles from the *Journal of Research in Music Education*, the *Bulletin of the Council for Research in Music Education*, and the *Journal of Music Therapy* were included in his review as they contained specified instructional variables, usually controlled by the teacher, such as teacher behavior, distribution of time, and instructional activities. Of the 86 articles reviewed, five main categories of purpose emerged: allocation of time-activities; teacher verbalizations, gestures, and activities; effects of multiple components of teaching on student behavior; variables affecting evaluations by observers; and experimental attempts to improve teaching. Duke concluded that a better unit of analysis needed to be developed for music education research; one that focuses on teacher effectiveness

related to the accomplishment of musical goals, in that the studies reviewed showed statistically insignificant results on the behavior of the teacher and student achievement. For the present study on the rehearsal behaviors specific to error correction, articles relevant to the rehearsal behaviors and activities of teachers were of particular interest.

The literature reviewed for the present study was compiled from online databases, print-only journals, and music education related texts. The literature has been classified into 5 categories: (a) use of time in music rehearsals, (b) units of analysis in music rehearsals: sequential patterns and rehearsal frames, (c) rehearsal behaviors, (d) aural diagnostic skills and error detection, and (e) error correction.

Use of Time in Music Rehearsals

In an attempt to determine the rates and occurrences of selected events within a music rehearsal, a number of authors have conducted studies measuring the use of time (Blocher, Greenwood, & Shellahammer, 1997; Cavitt, 1998; Goolsby, 1996; Goolsby, 1999; Pontious, 1982; Worthy, 2003). The majority of the research studies on time use employed comparative designs, where differences between experience level (expert and novice music teachers) or ensemble level (high school/middle school) were examined. Findings from these studies suggest that conductors overall spend 50% of rehearsal time talking (Cavitt, 1998; Pontious, 1982; Worthy, 2003) and that novice teachers spend less time having students perform during rehearsal when compared to expert teachers (Goolsby, 1996; Goolsby, 1999).

Blocher et al (1997) investigated middle school and high school band directors' rehearsal behaviors and the amount of time they engaged in conceptual

teaching. Conceptual teaching was defined as verbal behaviors "to make students aware of, have an understanding of, and/or be able to transfer any musical concept" (p. 459). Observing verbal, nonverbal, and conceptual behaviors, Blocher et al found that an average of 32 seconds of teaching time was spent on conceptual teaching out of the average teaching segment of 19 minutes (p. 463). Nonverbal instruction was used 43% of the time in the high school rehearsals observed, and 11% of the time in middle school rehearsals.

Goolsby (1996) examined use of time in instrumental music rehearsals to compare experienced, novice, and student teachers in both middle and high school settings. Variables in the study included total duration of the class period, preparation time, initial teacher talk, total time in ensemble warm-up, time devoted to a break following warm-up selection, total time rehearsing the different selections, time for breaks between the selections, final teacher talk, and dismissal. The mean percentages of class time devoted to the teaching and non-teaching events listed above were calculated for the analyzed rehearsals at each level: experienced, novice, and student teachers. Data showed that there was little difference (less than four percent) in the use of time designated towards musical instruction and performance between student teachers and experienced teachers. The author suggests one explanation for the findings between experienced and student teachers was that student teachers were working with the experienced teachers in the study, and could possibly be modeling themselves after the experienced teachers. Differences were found between novice and experienced teachers: experienced teachers spent 81% of class time on musical instruction and performance compared to novice teachers 67%,

and experienced teachers spent less time on nonteaching activities (19% of class time) than novice teachers (33%). Other relevant findings from the study were that student teachers spent a large amount of the rehearsal time talking, while experienced teachers engaged students in performance for more than half of the class period. Experienced teachers also allowed for less time between the start of class and the start of the rehearsal, though they provided more breaks between selections for student social time than both novice and student teachers, which often didn't provide breaks at all. Goolsby suggests that the defining characteristic of an experienced teacher may be amount of class time dedicated to musical performance (p. 295).

Continuing his research on use of time in music rehearsals, Goolsby (1999) sought to determine whether there was a difference in the use of rehearsal time between expert and novice teachers when preparing an identical piece of music, specifically total rehearsal time, rehearsal time spent in full ensemble, small group/sections/individual performance, verbal instruction, nonverbal instruction, and verbal discipline. Verbal instruction was subdivided into the categories of performance variables (such as tempo, rhythm, articulation, etc.), teaching variables (demonstrations, explanations, feedback, etc.), and sequential patterns of instruction. Participants included 10 expert and 10 novice teachers, each group containing five middle school and five high school directors, who prepared an identical piece of music with their middle or high school ensembles. Differences were found between expert and novice teachers, but not between middle and high school levels. Novice teachers used more time to prepare the piece than expert teachers (13 rehearsals as compared to expert teachers' 7 rehearsals) and spent more time in verbal instruction

rather than performance. Expert teachers spent almost twice as much time performing when compared to novice teachers and their performances were rated superior over those of the novice teachers. Novice teachers also stopped and restarted without providing feedback or instruction more than expert teachers. Statistically significant results were found in regards to the following performance variables, in which experienced teachers exhibited more often: rhythm/tempo, followed by tone, dynamics, articulation, style, expression/phrasing, entrances/confidence, and intonation. Of the teaching variables, significant results were found in listening (both guided and unguided), specific positive feedback, and use of the words "again" and "one more time." Experienced teachers used the word "again" more often while novice teachers used "one more time" more often. Novice teachers had a tendency to sing notes and rhythms to students to model different performance problems such as phrasing, dynamics, and/or articulations. Expert teachers almost never sang to the ensemble, rather they spent more time teaching the students how to figure it out for themselves. Both experienced and novice groups addressed rhythm/tempo more than any other performance variable. When analyzing teaching variables, no instruction and teacher demonstrations were used the most by novice teachers, while experienced teachers used teacher demonstrations, explanations, guided listening, specific positive feedback, the word "again," and focused questions most often.

Units of Analysis in Music Rehearsals

The rehearsal itself is too broad of a unit of analysis when analyzing the various events that occur within the instrumental music ensemble rehearsal (Duke, 1994). This section identifies, defines, and documents research pertaining to two

different units of analysis commonly used in music education research to analyze the complex music rehearsal: sequential patterns of instruction and rehearsal frames.

Sequential patterns of instruction.

Coined by Yarbrough & Price (1981), the term sequential patterns of instruction was developed as a three-step sequence from observations in the classrooms of music teachers. First known as a music teaching unit, the following three-step sequence results in effective teaching: teacher presentation of a task, student response, and teacher reinforcement (Yarbrough & Price, 1989). The figure below defines the three steps included in a complete sequential pattern and gives examples of correct and incorrect uses.

Many research studies in music education use the sequential pattern as the unit of analysis for measuring variables within the rehearsal setting (Goolsby, 1997; Goolsby, 1999; Hendel, 1995; Price, 1992; Yarbrough & Price, 1989; Yarbrough, Price, & Hendel, 1994).

Teacher presentations (1)	
1A	Academic musical task presentation (talking about musical or performance aspects, including modeling by teacher or piano)
1D	Direction (giving directions regarding who will or where to sing/play)
Student response (2)	
2P	Performance (entire ensemble or sections performing)
Reinforcement (3)	
3A	Verbal academic or social approval (positive statement about student performance or social behavior)

3D	Verbal academic or social disapproval (negative statement about student performance or social behavior)
Specific	Exact feedback containing musical information
Nonspecific	Vague feedback containing no musical information
Sequential Patterns:	
Complete	Presentation of task (1) – student response (2) – reinforcement (3)
Correct	1A-2P-3A specific 1A-2P-3D specific
Incorrect	1D-2P-3A specific 1D-2P-3A nonspecific 1D-2P-3D specific 1D-2P-3D nonspecific 1A-2P-3A nonspecific 1A-2P-3D nonspecific
Incomplete	presentation of task (1) – student response (2) 1A-2P 1D-2P

Figure 2: Components of Sequential Patterns (Yarbrough, Price, & Hendel, 1994, p. 35)

Rehearsal frames.

Since its inception, a number of research studies in music education have utilized the rehearsal frame as the unit of analysis in studies analyzing music rehearsals (Cavitt, 1998; Montemayor, 2006; Worthy, 2003; Worthy, 2009). The rehearsal frame is a term created by Duke (1999) in an effort to establish a unit of analysis that narrows the focus of observation down from the broad perspective of the

entire ensemble rehearsal, but is not too restricted that it oversimplifies the interactions between student and teacher. Duke states, "In nearly all examples of excellent music performance instruction are periods of concentrated attention and effort directed toward the skill of music making – periods during which students play or sing and teachers instruct and evaluate, all of which is directed toward the development of students' knowledge and skills. It is this aspect of instruction on which rehearsal frames focus" (p. 19).

The start of a rehearsal frame is the teacher identification, verbal or nonverbal, of a specific performance goal or target. A target is defined as performance goals that the instructional activities are devoted to accomplishing (p. 20). After identifying the goal or target, performance trial(s) follow. A performance trial is a period of student performance, full ensemble and/or individual, that follows the teacher's identification of a performance target. Several variations of the rehearsal frame exist. One example is verbal directive followed by one performance trial. The teacher then provides directives regarding the performance target and one performance trial is all that is needed to successfully reach the target or goal. Another example is multiple directives, multiple repetitions in context. When effective change requires more than one directive or performance trial, repetitions occur within the context of the piece. A third example provided by Duke (1999) is multiple directives, decontextualization-modification of the target passage, multiple repetitions, recontextualization. When performance trials are unsuccessful, the teacher can provide multiple instructions, modify the passage to be more readily accessible to students, and then place the

passage of music back in the context of the piece after multiple performance trials render the target accomplished.

Rehearsal Behaviors and Performance Targets

Using either the sequential pattern or rehearsal frame as a unit of analysis, a number of researchers have observed, identified, and categorized the rehearsal behaviors of music educators (Duke & Henninger, 2002; Fiocca, 1986; Goolsby, 1999; Menchaca, 1988; Pontious, 1982; Siebenaler, 1997).

Teacher verbalizations are often the behavior observed in music education research. Fiocca (1986) identified the behaviors of exemplary junior high and middle school choral directors and found that talking was minimal and more nonverbal behaviors were used to encourage and motivate students. However, Pontious (1982) and Menchaca (1988) found that verbal instruction and explanation were used most often in band rehearsals. Pontious (1982) observed more than 42% of active rehearsal time and 58% of rehearsal trials in which conductor talk was used. More than 56% of the time in rehearsals was spent addressing instrument performance, phrasing/dynamics, and rhythms. Menchaca (1988) found that verbal instruction was used most when problem solving and that pitch, rhythm, tempo, articulation, and dynamic targets were addressed most often. Expressive, pedagogical, and other elements were often not identified.

Siebenaler (1997) observed student-teacher behaviors and interactions in piano lessons to identify elements of effective piano teaching. The teacher behaviors identified were labeled into the following categories: clap/sing, play, play/talk, general/specific directive, questions, music talk, specific/general approval,

specific/general disapproval, approval/disapproval of mistake, off-task, and inactive. Student behaviors were similar to teacher behaviors adding verbal response and not including approval/disapproval categories. Student progress was also measured. Results indicated that teacher behaviors of play/talk, music talk, and approval were related to higher student performance scores. The frequency and duration of teacher directives and the pacing of the lesson appeared to be important factors in evaluating teacher effectiveness. Higher ratings coincided with more frequent modeling and corrective feedback.

In a follow-up to a previous study (Goolsby, 1996), Goolsby (1997) investigated the performance variables that make up the verbal instruction of expert, novice, and student teachers. Goolsby hypothesized that if expert instrumental music teachers spend more time in performance, less time in verbal instruction, and stop for shorter durations to provide instruction than novice teachers, then the content of the verbal instruction must be different. Two rehearsals for each of the 30 participants (many of whom were used in the 1996 study) were analyzed to record the number of times certain performance variables were addressed. The 15 performance variables observed were posture, rhythm/tempo, notes, airstream, tone quality, dynamics, balance/blend, articulations, style, expression/phrasing, energy, tuning, intonation, guided listening, and unguided listening. Rehearsal variables included the following: teacher demonstrations, explanations, specific and unspecific feedback, use of the words “again” and “watch,” use of the phrase “one more time,” no instruction, and focused and vague questions. Data indicated that expert teachers stopped more frequently than novice teachers and tended to address more performance variables at

one stop. Expert teachers also used the most nonverbal demonstrations and explanations, as well as drilled shorter passages more often than the novice and student teachers. All groups addressed rhythm/tempo performance variables the most often. When analyzing the verbal instruction category of questions, expert teachers asked fewer questions than novice or student teachers, but their questions were more focused and specific. The student teachers in the study asked the most questions, which were vague and unspecific, and also provided little instruction between stopping and starting musical passages.

Worthy (2009) examined the behaviors and targets addressed by three expert beginning band teachers to identify common characteristics. Three rehearsals for each band teacher were recorded and analyzed for performance targets using the categories of articulations, dynamics, intonation/tone, pitch accuracy, rhythm accuracy, tempo, technical facility, multiple targets, and other, which were adapted from prior research. The study of beginning band teachers required the addition of the following targets: posture/instrument carriage, breathing/airflow, and embouchure. Behaviors analyzed fell under the categories of classroom management, instructional materials/activities, and teaching techniques/strategies. All three of the expert beginning band teachers used proactive approaches to classroom management, kept students engaged in instructional activities throughout the entire lesson, were mobile, included periods for students to recover from fatigue, kept students on task during transitional periods, used a variety of instructional materials, and prioritized the development of characteristic tones and pitch accuracy (p. 33). Additionally, the performance targets most frequently identified among the teachers were pitch

accuracy (28%), multiple targets (24%), and posture/instrument carriage (16%). Teachers talked for approximately 64% of the 25 rehearsal frames analyzed, where ensemble performance comprised of 17% of the rehearsal frames followed by modeling at 10%. Directives were the most common category of teacher verbalizations occurring at approximately 3.8 per minute (p. 38). Results from this study differed from research on expert teachers at other levels of instruction. The beginning band teachers talked and modeled more often than expert teachers at middle and high school levels. These results indicate that the instructional pace and teaching strategies for beginning band may be different than those needed at other levels of band performance.

Aural Diagnostic Skills and Error Detection

Asking the question whether the ability to detect errors can be linked to prior musical experiences, Brand & Burnsed (1981) sought to determine the factors that contributed to instrumental music education majors' skills in error detection. Factors considered in the study that could have an impact on error detection skills were number of instruments played, ensemble experience, ability in music theory, sightsinging and ear training, and years of private instruction prior to college. Undergraduate music education majors listened to tape recordings of public school band performances/rehearsals and completed a Music Background and Information Form and a Music Error Detection Inventory, developed by the researchers. The results indicated that error detection skills in instrumental music might be independent of other music abilities.

Doerksen (1999) compared preservice and expert instrumental music teachers' aural diagnostic and prescriptive skills associated with the weakest-performed music elements. Using the investigator-designed Aural Diagnostic and Prescriptive Skills Test (ADPST), 23 preservice and 37 expert instrumental music teachers assessed four types of band performances (difficult/moderate music and excellent/average performance). The participants rated the performances on a one to five scale and ranked selected music elements such as tone quality, intonation, blend/balance, rhythm/precision, articulation, technical facility, musical interpretation, phrasing, and dynamics. Participants were asked to provide prescriptive statements to address the identified performance problems for the lowest-ranked music elements. Data concluded that differences existed between preservice and expert teachers on aural-diagnostic and prescriptive skills. Regardless of performance types, preservice teachers ranked Intonation lower than expert teachers. Overall, expert teachers rated blend/balance and musical interpretation as the weakest-performed music elements. Results also indicated that prescriptive comments mostly focused on listening and performance fundamentals for both preservice and expert teachers. The qualitative data in the study were examined for descriptive categories according to both diagnoses and prescriptions offered by the participants. Of the prescriptive categories, both preservice and expert teachers' comments were focused on listening and performance fundamentals. Preservice teachers stressed nonverbal communication compared to expert teachers who tended to make comments on issues concerning instruments/accessories.

Error Correction

The topic of error correction has received little attention in the field of music education. While many studies investigate aural diagnostic skills and error detection, what occurs after the identification of an error lacks empirical research (Cavitt, 1998, 2003). Cavitt responded to the deficiency in error correction studies and investigated the process of error correction by expert instrumental music teachers. More specifically, Cavitt examined which teacher behaviors and student performance activities followed the detection of an error in middle and high school instrumental music ensembles to determine whether the behavior or activity differed according to the type of error identified.

Participants included five middle school and five high school expert band directors. Videotapes of instrumental music rehearsals were divided into rehearsal frames and categorized according to teacher behavior and performance target. Teacher behaviors were initially recorded as two categories, teacher talk and modeling, and student behaviors were labeled as full ensemble plays, section plays, individual plays, student talk, or marking music. Teacher talk and modeling were then divided into the following categories: directive, information, questions, positive feedback, negative feedback, positive modeling, negative modeling, assistant director talking, and off-task talking. Once teacher behaviors were identified, performance targets were labeled in the following categories: articulations, dynamics, intonation/tone, multiple targets, pitch accuracy, rhythm accuracy, technical facility, tempo, and unidentified target. Of the 332 rehearsal frames analyzed, 59% of the frames included teacher behaviors where student activities were the focus of

approximately 40% of the frames. Teachers were found to have talked for approximately half of the rehearsal frames, and used twice as much negative feedback when compared to positive feedback. Results indicated that intonation/tone targets were the most frequently identified by the directors, followed by articulation, rhythm, multiple targets, dynamics, tempo, pitch accuracy, unidentified targets, and technical facility. The most important finding, as stated by Cavitt (2003), was "that the pace of instruction or level of interaction between teacher and student performance varied with the error correction task." (p. 224) For example, when addressing pitch accuracy and intonation/tone, teachers were more likely to have students play individually, while when addressing rhythm targets teachers tended to utilize a variety of teacher and student behaviors. Student behaviors included having students play individually, in sections, or as a full ensemble and asking students to clap and count rhythms out loud.

Based on Cavitt's (1998) methodology and categories for teacher behavior and student behavior, Worthy (2003) used the rehearsal frame as the unit of analysis to determine the errors corrected by an expert wind band conductor and how the teacher behaviors used brought about positive changes in performances. The expert conductor rehearsed the same piece with a high school honor band and an intercollegiate honor band. All rehearsals involving preparation of the chosen piece were recorded and analyzed for rehearsal frames, performance targets, and teacher and student behaviors. Performance targets were categorized using articulation, dynamics, editorial, intonation/tone, pitch accuracy, rhythm accuracy, tempo, unidentified target, multiple targets, and other. Results indicated that the performance

targets most identified in the high school rehearsals were rhythm and multiple targets, followed by tempo, dynamics, and articulation. In the intercollegiate band, multiple targets were addressed most frequently followed by rhythm, dynamics, tempo, and articulation. These results showed the conductor was more likely to address multiple targets with the collegiate ensemble rather than with the high school honor band. When working with both the high school and the collegiate ensemble, the conductor talked approximately half of the time (48%), though the mean duration of talk times was longer with the collegiate ensemble, the rates per minute were higher with the high school ensemble. Teacher verbalizations were highest in the directive category, higher in the high school rehearsal frames analyzed than in the collegiate rehearsal frames. Student behaviors consisted mostly of ensemble performance (28%), followed by section performance (13%) and then individual performance (3%).

Summary

Research on the use of time in instrumental music rehearsals highlights differences between experienced, novice, and preservice teachers. Experienced music teachers spend more time during rehearsal engaging students in performance, less time talking, and less time between the start of class and the start of rehearsal. In comparison, novice teachers spend more time providing verbal instruction, spend more time stopping and starting student performance, and provide less feedback. When examining rehearsal behaviors of expert band directors, intonation, tone, and rhythm were the most frequently identified performance targets. The pace of instruction was different depending on the target addressed. Findings indicate an interest in the differences between expert and novice band directors, though to date no

research was found comparing the two experience levels in reference to rehearsal behaviors used to subsequently address performance targets.

Chapter 3: Methodology

The previous chapters outlined existing research that examined teacher behaviors during instrumental music rehearsals, and more specifically those behaviors that were used to enact change in identified performance elements. Cavitt (2003) determined that teacher-student interaction in the rehearsals of expert teachers varied depending on the performance target addressed. Goolsby (1996, 1997, 1999) studied preservice, novice, and expert teachers' use of time in rehearsals and Worthy (2003, 2009) examined the rehearsal behaviors and performance targets identified by expert teachers. However, no research was found to date that examined the types of rehearsal behaviors teachers utilize when attempting to accomplish musical goals they have identified and whether the behaviors or targets are affected by the experience level of the teacher. Therefore, the purpose of the present study was to examine whether differences exist between expert and novice band directors on the frequencies of selected rehearsal behaviors used to address identified performance targets. The following research questions were investigated:

1. Are there differences between expert and novice band directors on the frequencies of identified performance targets?
2. Are there differences between expert and novice band directors on the frequencies of specified rehearsal behaviors?
3. Are there differences between expert and novice band directors on the behaviors used to address identified performance targets?

Sample

Participants in this study included 12 high school and middle school band directors who taught in the state of Maryland during the spring of 2005. Three teachers at each level were expert and three were novice teachers. Expert band directors were defined as teachers with a minimum of five years successful teaching experience and whose ensembles received superior ratings at the state band festival for at least four out of the last five years. Novice band directors were defined as teachers with fewer than three years of full time teaching experience. Participants were selected based on recommendations from music supervisors from six county-wide school systems in Maryland. Supervisors were asked to identify both expert and novice band directors based on the years of full-time teaching experience, and in the case of expert teachers, the quality of their programs over a period of time. All identified band directors were randomly placed according to the county school district in which they taught, and the first director on the list was contacted to determine their interest in participating. If the first director declined, the next was contacted. Those band directors who completed consent forms were considered for participation in the study.

Unit of Analysis

The rehearsal frame (Duke, 1994) served as the unit of analysis. Rehearsal frames are segments of an instrumental music rehearsal dedicated to the accomplishment of identified goals. The rehearsal frame is organized in three main parts: A Rehearsal Frame begins when the conductor first identifies a problem in need of correction in the ensemble. The problem may involve the entire ensemble or may

be specific to a single performer. During subsequent performance episodes, the conductor may direct either the entire ensemble or some portion of the ensemble to perform a sequence of tasks toward the goal of remediating the identified problem and thus improving the quality of the overall performance. The rehearsal frame ends when the identified problem is performed in its original context by the full ensemble (Duke, 1994, p. 84). Figure 3 outlines the three parts of the rehearsal frame.

Rehearsal frames were designed to measure the complex interactions that occur during an instrumental music rehearsal, as Duke (1999) thought that the rehearsal itself was too broad of a focus for research on teacher effectiveness while the content of each verbalization was too narrow. Focusing research on these broad or narrow units of analysis ignored the interaction between events within the rehearsal. By using rehearsal frames, the focus was on "the process by which specific changes are accomplished by the conductor" (Duke, 1994, p. 92). The use of rehearsal frames for the present study helped to determine the impact of teaching experience level on the use of rehearsal behaviors to address selected performance targets because the focus of the rehearsal frame was the identified musical goal and the subsequent behaviors displayed by the band director.

Dependent Variables

Performance targets.

Performance targets have been defined by Duke (1994) as those aspects of a performance that a director determines are in need of change. The types of performance targets selected for analysis in the present study were adapted from prior research (Cavitt, 1998; Doerksen, 1999; Goolsby, 1999; Siebenaler, 1997; Worthy,

Rehearsal Frame Outline

Part 1A (conductor verbalization) – Identify the Target

- Prioritize aspects of performance that require attention
  - Tone/intonation
  - Rhythm/articulation/precision
  - Style/character
  - Phrasing/dynamics
  - Balance/blend

Part 1B (performance episode[s]) – Limit

- Reduce the magnitude and complexity of the stimulus
- Locate individuals who require attention

Part 2A (performance episode[s]) – Decontextualize/Remediate

- Select rehearsal ensemble that facilitates remediation
- Determine how far out of context to rehearse
  - Slow practice
  - Partial practice
  - Altered practice
  - Related practice
- Encourage transfer through successive approximations

Part 2B (performance episode[s]) – Demonstrate the Target

- Have the rehearsal group demonstrate that they can perform the target successfully and independently

Part 3 (performance episode[s]) – Recontextualize

- Determine how much of the original context should be performed
- Insist on maintenance of changes

Figure 3: Rehearsal Frame Outline (Duke, 1994, p. 85)

2003) and are listed in Table 1 along with their assigned codes and definitions used in the study. Definitions and codes for performance targets were from the work of Cavitt (1998).

Performance targets were measured through observation of video recordings of participants' band rehearsals. The identification of a performance target based on the categories listed above was documented on the *Band Director Rating Form (BDRF)* (see Appendix A), a researcher-designed form created specifically for use in the current study. Each time the director identified a performance target within a rehearsal frame, the corresponding code was circled under the performance target column on the *BDRF*. The sum of each performance target category was calculated to determine the frequencies of performance targets identified by each participant.

Rehearsal behaviors.

Rehearsal behaviors are the actions of the band director that take place during a rehearsal (Blocher, Greenwood, & Shellahamer, 1997). Behaviors include providing instruction, feedback, verbalizations, and listening. The rehearsal behaviors selected for analysis were adapted from prior research (Cavitt, 1998; Doerksen, 1999; Goolsby, 1999; Siebenaler, 1997; Worthy, 2003) and are listed in Table 2 along with their assigned codes and definitions used in the study. Definitions and codes for rehearsal behaviors were also from the work of Cavitt (1998). Rehearsal behaviors were measured through observation of video recordings of participants' band rehearsals. Following the identification of a performance target, the behavior of the director was documented by circling the corresponding code under the rehearsal behaviors column on the *BDRF*. If more than one behavior was

Table 1

Performance Target Categories and Definitions

Category	Code	Definition
Articulation	Art	The manner in which the beginnings and endings of successive notes are performed. Articulation targets include note length, note shape, releases, accents, tonguing, slurring, and phrasing.
Dynamics	Dyn	Variations in volume, including crescendos, diminuendos, and the balance among voices in a texture.
Intonation/Tone	I/T	The adjustment of the pitch level of an instrument or the adjustment of intervals in relation to a predetermined pitch standard or to other ensemble members. This target includes all aspects of intonation, including timbre or tone quality.
Pitch Accuracy	PA	Performance of correct notes and use of correct fingering.
Rhythm Accuracy	RA	This target includes all aspects of timing, including rhythmic precision among ensemble members and the grouping of musical sounds by means of duration and stress.
Technical Facility	Tech	Woodwind and brass fingering agility in rapid passages, trombone slide technique, percussion sticking technique, and other aspects of performance related to motor skills.
Tempo	Temp	The speed at which the beat of the music is performed. This target category includes ritards, accelerandos, rushing, dragging, and transitions in tempi.
Unidentified Target	UT	No discernible target is identified by the teacher, yet the teacher directs the ensemble to repeat a single passage of music without verbalizing any specific directives or

		feedback.

observed in the rehearsal frame following the identification of a performance target, multiple codes were circled and numerically labeled to signify the order in which the behaviors occurred. The sum of each rehearsal behavior category was calculated to determine the frequencies of observed rehearsal behaviors for each participant.

Design

The design of the study was causal-comparative. Relationships among the independent variable of band director experience level and the dependent variables of identified performance targets and selected rehearsal behaviors were examined. The rehearsal behaviors used by expert and novice band directors were observed through analysis of rehearsal frames where multiple performance trials occurred. Rehearsal frames selected for analysis were coded based on the categories listed above for both performance targets and rehearsal behaviors.

To negate any bias or error in categorization of rehearsal frames, an independent observer classified 20% of the rehearsal frames into performance target categories using the same codes and definitions as the researcher. The independent observer has both undergraduate and graduate degrees in music education and has been a middle school band director at the same school for 13 years. After classifying performance targets, the independent observer also classified the rehearsal behaviors used to address the identified performance targets in the selected rehearsal frames. Inter-rater reliability was found by using the formula of agreements divided by agreements plus disagreements, and was .87 between the two raters.

Table 2

Teacher Rehearsal Behavior Categories and Definitions

Category	Code	Definition
Directive	D	This category includes general and specific instruction(s) regarding how to play in a subsequent performance trial. Instructions about where in the music to begin and end playing or signals to start and stop are not included in this category nor were these instructions and start-stop cues recorded elsewhere.
Information	I	This includes any verbalization by the teacher that conveys information about the subject matter (e.g., an explanation), but does not direct the student to perform any specific action.
Questions	Q	Any "on-task" question posed by the teacher related to the subject matter or rehearsal, and to which the teacher expects the student or assistant director to respond. This category does not include rhetorical questions (e.g., "Can you believe it?", "Not very good, huh?", "What's your problem?") for which no student response is expected. This category does not include questions that are "off-task"; that is, questions that are not germane to the task at hand (e.g., "When did you get those new shoes?"), which are included in the off task category.
Positive Feedback	F+	General or specific positive evaluations of one or more preceding performance trials.
Negative Feedback	F-	General or specific negative evaluations of one or more preceding performance trials.
Positive Modeling	M+	Teacher demonstrates correct performance or an approximation of correct performance.
Negative Modeling	M-	Teacher demonstrates incorrect performance or an approximation of incorrect performance.

Assistant Director Talking	AT	Any verbalizations made by an assistant director (or other teacher) that are related to the subject matter or rehearsal.
Off-task Talking	OT	Any verbalizations that do not pertain to the task at hand. This category may include comments made during interruptions or off-task comments initiated by the teacher.

The third research question was descriptive in nature. Using content analysis, the data on performance targets and rehearsal behaviors collected from rehearsal frame analyses were used to determine what behaviors were linked specifically to identified performance targets and whether differences existed between expert and novice band directors. The descriptive data collected were used to help enhance the findings presented in the discussion section.

Procedures

Three rehearsals for each band director were recorded in the spring of 2005 of each director's best performing ensemble, or if the director did not audition students for placement, the group in which the older students in the school were enrolled. Recordings were made within two months of an upcoming performance/assessment using a Panasonic PV-GS19 video camera and recordable Mini-DV tapes. The Panasonic PV-GS19 documented recorded time in hours, minutes, and seconds through a time stamp that was visible upon playback on the bottom left hand corner of the screen. The video camera was positioned near the back of the classroom and focused on the director. In an effort to reduce the effects of an observer and video camera in the classroom, the first recorded rehearsal of each ensemble was not analyzed. Thus, a total of 24 videorecordings were analyzed for the current study.

The process of identifying rehearsal frames was based on research conducted by Cavitt (1998) and Worthy (2003). The recorded rehearsals were viewed by connecting the Panasonic video camera to a Magnavox 32" television with A/V cables. An initial viewing of the recordings was undertaken to divide the rehearsal into sections based on the performance of concert music or other activities. In particular, the start and end time of each section of the rehearsal that focused on concert band music was noted on the *BDRF* by using the time stamp. Only the portions of the rehearsal that included the rehearsal of band literature were analyzed for the present study; warm-up, sight-reading, and other non-rehearsal activities were not examined.

Rehearsal frames were identified by viewing participants' recordings in chronological order of the date of the rehearsal. Band director identification of a performance target signaled the start of a rehearsal frame (Duke, 1994). Directors identified targets both verbally and nonverbally. Nonverbal methods included conducting gestures, facial expressions, or physical movements. Once a target was identified, the recording was paused and the clock time was noted on the observation form. The recording was then restarted and resumed until the identification of the next target, at which time the recording was again paused and the clock time noted. Each rehearsal frame was documented on the *BDRF* by noting the start and end time of the frame via the time stamp on the videotape and then numbered. The end of a rehearsal frame was determined from the recontextualization of the identified problem (Duke, 1994) or the identification of a new performance target.

After rehearsal frames for each recording were identified, the researcher viewed each frame independently to determine the performance target addressed by the director. The target and the number of performance trials that occurred throughout that rehearsal frame were recorded in the columns titled “Performance Target” and “Performance Trials” respectively. Performance trials are the decontextualization and altered practice of identified performance targets by the entire ensemble or selected groups within the ensemble as designated by the band director (Duke, 1994). Some rehearsal frames required identification of a target and a single performance trial to accomplish the goal, though others required multiple performance episodes. To analyze rehearsal behaviors used to promote improvement of identified performance targets, only those rehearsal frames that utilized multiple performance trials were considered for analysis in this study (Cavitt, 1998).

After rehearsal frames and performance targets were identified and noted on the observation form, each frame was viewed again to determine the band directors’ rehearsal behaviors. Based on the rehearsal behavior categories and definitions, the behavior of the director was recorded on the observation form in the column titled “Rehearsal Behaviors.” Some rehearsal frames included more than one rehearsal behavior, which was recorded by circling multiple behavior categories and numbering the behaviors according to the order observed. Additionally, transcriptions of behaviors both verbal and nonverbal were noted on the *BDRF* and used for descriptive analysis.

Null Hypotheses

The following null hypotheses were investigated:

1. There are no differences on the frequencies of performance targets identified by expert and novice band directors.
2. There are no differences on the frequencies of specified rehearsal behaviors used by expert and novice band directors.
3. There are no differences between expert and novice band directors on the behaviors used to address identified performance targets.

Analysis

A *BDRF* was completed for each rehearsal, two for each participant. Data concerning the frequencies of performance targets and rehearsal behaviors for rehearsal frames containing multiple performance trials were extracted and entered into an Excel spreadsheet for analysis. Separate spreadsheets were prepared for expert and novice directors listing the categories of performance targets and the rehearsal behaviors to discern any differences between the observed frequencies for expert and novice band directors. Multiple *t*-tests were performed to determine whether differences existed between the experience level of the band director on the frequencies of performance targets identified or the frequencies of selected rehearsal behaviors, as well as whether a relationship existed between the target addressed and the behavior that followed.

Time Table

Observation and analysis of recorded rehearsals took place between December 2009 and March 2010. As videos were observed, data were recorded on the *BDRF* and frequencies were entered into Excel spreadsheets to determine the sum of the targets and behaviors observed. *T*-tests were completed using SPSS software in

October 2011. The results and discussion were completed in October with the final report prepared in November 2011.

Summary

The rehearsals of 12 expert and novice band directors were videotaped to determine the impact teacher experience had on the performance targets and rehearsal behaviors observed in the rehearsal setting. Rehearsal frames were analyzed to discover the frequencies of identified performance targets and the types of rehearsal behaviors used in rehearsal to address those targets to determine whether a difference existed between the behaviors of expert and novice teachers and to identify any relationships between targets addressed and subsequent behaviors.

Chapter 4: Results

The purpose of the present study was to examine whether differences exist between expert and novice band directors on the frequency of selected rehearsal behaviors used to address identified performance targets. Three rehearsals were recorded of high school (n=6) and middle school (n=6) band directors. Three directors at each teaching level were expert and three were novice teachers. A total of 103 rehearsal frames with multiple performance trials were detected across 24 video recordings (2 for each director) and then analyzed to identify performance targets and rehearsal behaviors using the Band Director Rating Form (*BDRF)*. To analyze rehearsal behaviors used to promote improvement of identified performance targets, only those rehearsal frames that utilized two or more performance trials were considered for analysis in this study. Frequencies of performance targets and rehearsal behaviors were established by first sorting the analyzed rehearsal frames into spreadsheets based on the performance target identified and band director experience level. The data were analyzed using SPSS software version 17.0. Multiple independent samples *t*-tests were used to determine whether differences existed between expert and novice teachers on the frequency of performance targets identified and the rehearsal behaviors used to address those targets. An alpha level was set at .05 for each test. When equal variances were not present, data from equal variances not assumed was used. The following research questions were investigated:

1. Are there differences between expert and novice band directors on the frequencies of identified performance targets?

2. Are there differences between expert and novice band directors on the frequencies of specified rehearsal behaviors?
3. Are there differences between expert and novice band directors on the behaviors used to address identified performance targets?

Research Question 1: Performance Targets

To determine whether there were differences between novice and expert band directors on the frequency of identified performance targets a series of multiple independent *t*-tests was used. Results of these tests are displayed in Table 3 while the means and standard deviations are reported in Table 4. Of the eight performance targets investigated, only the performance target "Tempo" yielded statistically significant results. Novice teachers identified Tempo more often than expert teachers.

Table 3

t-test for Independent Samples for Performance Targets

Performance Target	*t*-test	df	Sig. (2-tailed)
Articulation	.97	5.19	.38
Dynamics	.55	6.80	.60
Intonation/Tone	-1.28	10.00	.23
Pitch Accuracy	1.19	6.13	.28
Rhythm Accuracy	.84	5.93	.43
Technical Facility	1.18	10.00	.27
Tempo	2.83	10.00	.02
Unidentified Target	-.19	10.00	.85

Table 4

Means (and Standard Deviations) of Identified Performance Targets by Expert and Novice Teachers

Performance Target	Expert	Novice
Articulation	4.83 (2.48)	12.00 (18.01)
Dynamics	6.17 (2.64)	7.67 (6.12)
Intonation/Tone	9.33 (9.33)	3.83 (4.96)
Pitch Accuracy	1.67 (2.42)	5.33 (7.15)
Rhythm Accuracy	4.67 (4.27)	9.67 (13.92)
Technical Facility	.83 (2.04)	2.67 (3.20)
Tempo	.83 (1.33)	8.83 (6.80)
Unidentified Target	.83 (1.33)	.67 (1.63)

In the rehearsal frames analyzed, expert teachers addressed Intonation/Tone targets most often (24.88%), followed by Dynamics (22.01%), Articulation (16.27%), Rhythm Accuracy (13.88%), Tempo (9.57%), Pitch Accuracy (7.66%), Unidentified Target (3.35%), and Technical Facility (2.39%). Novice teachers identified Articulation targets most often (29.19%), followed by Tempo (22.01%), Rhythm Accuracy (20.57%), Dynamics (18.66%), Pitch Accuracy (15.79%), Intonation/Tone (12.92%), Technical Facility (5.74%), and Unidentified Targets (1.91%).

Research Question 2: Rehearsal Behaviors

To determine whether there were differences between novice and expert band directors on the frequency of rehearsal behaviors a series of multiple independent *t*-

tests was used. Results of these tests are displayed in Table 5 while the means and standard deviations are reported in Table 6. Of the eight rehearsal behaviors analyzed, the category Questions was found to be statistically significant. Novice teachers (M = 5.00, SD = 2.53) were observed asking more questions than expert teachers (M = .67, SD = .82). There were no other statistically significant findings concerning the impact of the experience level on rehearsal behaviors identified.

Table 5

t-test for Independent Samples for Rehearsal Behaviors

Rehearsal Behavior	*t*-test	df	Sig. (2-tailed)
Directive	1.31	10.00	.22
Information	1.49	10.00	.17
Questions	3.99	6.03	.01
Positive Feedback	-.50	10.00	.63
Negative Feedback	.16	10.00	.87
Positive Modeling	1.51	10.00	.16
Negative Modeling	-.68	10.00	.51
Off-Task Talking	.35	10.00	.73

Both expert and novice teachers were found to have Provided Information most often (36.36% and 33.96% respectively), followed by Giving Directives (24.88% and 26.79% respectively). Rehearsal behaviors observed in expert teachers then proceeded to Positive Feedback (13.88%), Positive Modeling (12.92%), Negative Feedback (4.31%), Negative Modeling (3.83%), Off-Task Talking (1.92%) and Questions (1.91%). Novice teachers continued with Positive Modeling (16.23%),

Questions (9.81%), Positive Feedback (8.30%), Negative Modeling (1.89%), and then Negative Feedback (1.51%) and Off-Task Talking (1.51%). Table 4 shows the means and standard deviations of rehearsal behaviors by expert and novice teachers. Assistant Director Talking was not analyzed in this study because none of the participants had assistant directors in the room during the recorded rehearsals.

Table 6

Means (and Standard Deviations) of Rehearsal Behaviors by Expert and Novice Teachers

Rehearsal Behavior	Expert	Novice
Directive	6.67 (3.98)	12.00 (9.12)
Information	10.33 (4.37)	17.17 (10.34)
Questions	.67 (.82)	5.00 (2.53)
Positive Feedback	4.50 (2.43)	3.67 (3.33)
Negative Feedback	1.50 (1.05)	1.67 (2.25)
Positive Modeling	3.67 (2.25)	9.67 (9.50)
Negative Modeling	1.33 (.82)	.83 (1.60)
Off-Task Talking	.50 (.84)	.67 (.82)

Research Question 3: Impact of Performance Targets on Rehearsal Behaviors

To determine whether there were differences between novice and expert band directors on the rehearsal behaviors used to address identified performance targets a series of multiple independent *t*-tests was used. Results of these tests are displayed in Table 7. An Independent Samples *t*-test found statistically significant results in the

areas of Tempo-Information, Tempo-Directive, and Tempo-Positive Modeling, as shown in Table 8.

Table 7

t-test for Independent Samples for Performance Targets on Rehearsal Behaviors

Performance Target Rehearsal Behavior	*t*-test	df	Sig. (2-tailed)
Intonation/Tone			
Directive	-1.03	10.00	.24
Information	-1.07	10.00	.31
Question	-1.58	5.00	.18
Positive Feedback	-1.20	10.00	.26
Negative Feedback	-1.20	10.00	.26
Positive Modeling	-.74	10.00	.48
Negative Modeling	-1.58	5.00	.18
Pitch Accuracy			
Directive	1.21	6.05	.27
Information	1.13	10.00	.29
Question	2.08	5.00	.09
Positive Feedback	1.58	5.00	.18
Negative Feedback	.00	10.00	1.00
Positive Modeling	.62	10.00	.55
Off-Task Talking	-1.00	5.00	.36
Rhythm Accuracy			
Directive	1.33	5.15	.24
Information	.50	6.50	.63
Question	2.24	5.00	.08
Positive Feedback	-.47	10.00	.65
Negative Feedback	1.27	5.00	.26
Positive Modeling	1.24	5.68	.27
Negative Modeling	-2.00	5.00	.10
Off-Task Talking	1.58	5.00	.18
Tempo			
Directive	2.67	10.00	.02
Information	2.58	10.00	.03
Question	1.46	5.00	.20
Positive Feedback	1.86	10.00	.09
Negative Feedback	1.00	5.00	.36
Positive Modeling	2.67	5.00	.05
Negative Modeling	1.00	5.00	.36

Articulation			
Directive	.72	10.00	.49
Information	1.44	5.12	.21
Question	1.48	5.65	.19
Positive Feedback	.00	6.40	1.00
Negative Feedback	.00	10.00	1.00
Positive Modeling	.89	10.00	.40
Negative Modeling	.63	10.00	.54
Technical Facility			
Directive	.96	10.00	.36
Information	.96	10.00	.36
Question	1.00	5.00	.36
Positive Feedback	.62	10.00	.55
Positive Modeling	1.00	5.00	.36
Off Task Talking	1.00	5.00	.36
Dynamics			
Directive	-.19	10.00	.86
Information	.38	10.00	.71
Question	1.76	5.94	.13
Positive Feedback	-1.84	10.00	.10
Negative Feedback	-1.46	5.00	.20
Positive Modeling	2.04	10.00	.07
Negative Modeling	.00	10.00	1.00
Off Task Talking	.00	10.00	1.00

Table 8

t-test for Independent Samples for Performance Target Tempo on Rehearsal Behaviors

Target – Behavior	*t*-test	df	Sig. (2-tailed)	*M* (*SD*)	
				Expert	Novice
Tempo – Information	2.58	5.38	.05	.33 (.52)	3.17 (2.64)
Tempo – Directive	2.67	6.03	.04	.33 (.52)	2.17 (1.60)
Tempo – Positive Modeling	2.67	5.00	.05	.00 (.00)	1.50 (1.38)

Table 9 indicates that novice teachers were found to have used Information, Directives, and Positive Modeling more than expert teachers when addressing Tempo performance targets. Expert teachers utilized the rehearsal behaviors Information and Directive equally, but exhibited no Positive Modeling when working on Tempo performance targets in the analyzed rehearsal frames.

Table 9

Means (and Standard Deviations) for Rehearsal Behaviors when Addressing Performance Target "Tempo" for Expert and Novice Teachers

Rehearsal Behavior	Expert	Novice
Information	.33 (.52)	3.17 (2.64)
Directive	.33 (.52)	2.17 (1.60)
Positive Modeling	.00 (.00)	1.50 (1.38)
Negative Modeling	.00 (.00)	.17 (.41)
Questions	.00 (.00)	1.00 (1.67)
Positive Feedback	.17 (.41)	.67 (.52)
Negative Feedback	.00 (.00)	.17 (.41)

The order of rehearsal behaviors in which novice teachers' addressed the performance target Tempo were Information (9.09%), Directives (6.22%), Positive Modeling (4.31%), Questions (2.87%), Positive Feedback (1.91%), Negative Modeling (.48%), and Negative Feedback (.48%). Expert teachers used Information and Directives equally (.96%), followed by Positive Feedback (.48%). In the rehearsal frames analyzed, expert teachers were not observed using Positive/Negative Modeling, Questions, or Negative Feedback when working on Tempo performance

targets. Neither expert nor novice teachers exhibited the rehearsal behaviors Off-Task talking or Assistant Director talking when addressing the performance target Tempo.

The means and standard deviations for the performance targets Articulation, Intonation/Tone, Dynamics, and Rhythm Accuracy are shown in Tables 10 through 13.

When addressing Articulation targets, results indicated that novice teachers had higher means and standard deviations than expert teachers for the rehearsal behaviors Information, Positive Modeling, and Directive. Expert teachers used Directives the most, followed by Positive Modeling and Positive Feedback.

Table 10

Means (and Standard Deviations) for Rehearsal Behaviors when Addressing Performance Target "Articulation" for Expert and Novice Teachers

Rehearsal Behavior	Expert	Novice
Directive	1.33 (.82)	2.50 (3.89)
Information	.67 (.52)	3.50 (4.81)
Questions	.17 (.41)	1.17 (1.60)
Positive Feedback	1.00 (.63)	1.00 (1.67)
Negative Feedback	.33 (.52)	.33 (.82)
Positive Modeling	1.17 (.41)	3.00 (5.06)
Negative Modeling	.17 (.41)	.50 (1.23)

Table 11

Means (and Standard Deviations) for Rehearsal Behaviors when Addressing Performance Target "Intonation/Tone" for Expert and Novice Teachers

Rehearsal Behavior	Expert	Novice
Directive	2.50 (2.17)	1.33 (1.75)
Information	3.33 (3.78)	1.50 (1.87)
Questions	.33 (.52)	.00 (.00)
Positive Feedback	1.00 (1.10)	.33 (.82)
Negative Feedback	.50 (.55)	.17 (.41)
Positive Modeling	1.17 (2.04)	.50 (.84)
Negative Modeling	.33 (.52)	.00 (.00)

Expert teachers identified Intonation/Tone targets more often than novice teachers. Both expert and novice teachers provided Information and Directives more often than the other rehearsal behavior categories. Expert teachers also utilized positive modeling and positive feedback more often than novice teachers.

When addressing the performance target Dynamics, both expert and novice teachers provided Information the most out of the rehearsal behavior categories. Expert teachers also used Directives and Positive Feedback more often than novice teachers, while novice teachers used more Positive Modeling and Questions than experts.

For the performance target Rhythm Accuracy, both expert and novice teachers Provided Information the most, followed by Positive Feedback and Positive Modeling for the expert teachers and Directive and Positive Modeling for the novice teachers.

The categories Information and Positive Modeling occurred more often with the novice teachers. Expert teachers did not show any occurrences of Questions or Negative Feedback when working on Rhythm Accuracy targets.

Table 12

Means (and Standard Deviations) for Rehearsal Behaviors when Addressing Performance Target "Dynamics" for Expert and Novice Teachers

Rehearsal Behavior	Expert	Novice
Directive	1.33 (1.51)	1.17 (1.60)
Information	2.50 (1.23)	3.00 (2.97)
Questions	.17 (.41)	1.17 (1.33)
Positive Feedback	1.17 (.75)	.33 (.82)
Negative Feedback	.50 (.84)	.00 (.00)
Positive Modeling	.17 (.41)	1.67 (1.75)
Negative Modeling	.17 (.41)	.17 (.41)

Table 13

Means (and Standard Deviations) for Rehearsal Behaviors when Addressing Performance Target "Rhythm Accuracy" for Expert and Novice Teachers

Rehearsal Behavior	Expert	Novice
Directive	.17 (.41)	2.00 (3.35)
Information	2.00 (1.79)	3.00 (4.56)
Questions	.00 (.00)	.50 (.55)
Positive Feedback	1.00 (1.27)	.67 (1.21)
Negative Feedback	.00 (.00)	.83 (1.60)
Positive Modeling	.83 (.75)	2.33 (2.88)
Negative Modeling	.67 (.82)	.00 (.00)

Summary of Results

Results indicated that expert teachers were found to have identified Tempo targets less often and asked Questions less often than novice teachers. Also, expert teachers used Information, Directives, and Positive Modeling rehearsal behaviors less often than novice teachers when working on Tempo targets.

When ranking performance targets by experience level, expert teachers identified Intonation/Tone and Dynamics performance targets more than novice teachers, who identified Articulation and Tempo more often than the other performance targets. Both expert and novice teachers exhibited similar rehearsal behaviors by providing Information and Directives more than Positive or Negative Feedback, Modeling, or asking Questions.

Differences were found between expert and novice teachers on their use of specified rehearsal behaviors used to address select performance targets. Expert teachers had more occurrences of Positive Modeling when working on Articulation and Intonation/Tone targets than novice teachers. Novice teachers asked more Questions when working on Dynamics and Pitch Accuracy performance targets than expert teachers.

Null Hypotheses

Null hypothesis 1.

There are no differences between expert and novice band directors on the frequency of performance targets identified. This hypothesis was rejected. Differences were found between expert and novice band directors on the identification of performance targets.

Null hypothesis 2.

There are no differences between expert and novice band directors on the frequency of specified rehearsal behaviors. This hypothesis was rejected. Differences were found between expert and novice band directors on the frequency of specified rehearsal behaviors.

Null hypothesis 3.

There are no differences between expert and novice band directors on the behaviors used to address identified performance targets. This hypothesis was rejected. Differences were found between expert and novice band directors on the rehearsal behaviors used to address identified performance targets.

Chapter 5: Discussion

The purpose of this study was to examine whether differences exist between expert and novice band directors on the frequency of selected rehearsal behaviors used to address identified performance targets. Results indicated that differences exist between expert and novice teachers on the frequency of performance targets identified and the frequency of rehearsal behaviors used when addressing those targets. In addition, it appears that the performance target identified had some effect on the type of behavior displayed by both expert and novice band directors. The remainder of this chapter will discuss the results. The first section will present an explanation of results, followed by relationship of results to prior research, implications for music education, and suggestions for further research.

Explanation of Results

Performance targets.

The results from this study showed that novice band directors identified Tempo targets more than expert band directors in the rehearsal frames analyzed. Tempo targets were one of the least often identified targets by expert band directors, as the performance targets identified most often by the expert directors were Intonation/Tone, followed by Dynamics and then Articulation. Novice band directors identified Articulation targets the most, followed by Tempo and Rhythm Accuracy; addressing Intonation/Tone targets the least. Perhaps this is one of the differences between the rehearsal techniques of expert and novice teachers, in that experts focus more of their rehearsals of concert music on identifying and working on ensemble sound with Intonation/Tone and Dynamics targets (which included balance)

than novices, who tended to focus on Articulation targets such as note lengths and tonguing. When rating musical performances, Doerksen (1999) found that expert instrumental music teachers were more focused on blend/balance and musical interpretation than preservice teachers. Goolsby (1997) found that expert teachers place more emphasis on the overall sound of an ensemble and expressive performance. It appears that the more experience a band director has, the more focused the ear training and listening abilities are on overall ensemble sound.

Rehearsal behaviors.

Results indicated that one of the significant findings was that novice band directors were found to have asked more Questions than expert band directors in the rehearsal frames analyzed. Again, Questions was one of the least observed behaviors of expert band directors. The questions asked by novice teachers were mostly rhetorical in nature; often the novice teachers did not give the students time to answer the questions, nor did it seem they expected students to answer. Examples included, “Do you have it memorized?”, “What note do you start on?”, and “Do you hear how part of that isn’t clear?” Perhaps asking questions is a way for novice teachers to slow the pace of instruction and give themselves a chance to think about what to do next.

Though a difference was found on the frequency of the rehearsal behavior category Questions, both expert and novice band directors exhibited the behaviors of Information and Directives the most. These findings may suggest that the content of the verbalizations is of most importance, not the behavior used to address performance targets, that distinguishes expert from novice band directors. Goolsby

(1997) hypothesized that the content of verbalizations between expert and novice teachers must be different, due to the fact that experts spend more rehearsal time in performance and less time talking than novices. For example, when addressing Tempo targets, novice teachers often directed their students to watch and listen where expert teachers told students when they were dragging or when the tempo stayed the same. Another example was when working on Articulation targets, novice band directors told students to "stick it" or "sting that note" or "use your tongues," where expert band directors told students "you gotta have a little separation here to hear the attack," "release tubas, bari sax, and bassoons a little after us," and "if you're single tonguing you're going to have to use light tongue and fast air." Overall, the content of the expert directors' information and directives was more specific than the novices, while the novice teachers' verbalizations were lengthier and more vague when compared to the experts.

Impact of performance targets on rehearsal behaviors.

The most interesting findings in the study relate to the types of rehearsal behaviors used to address identified performance targets. Novice band directors were found to have used Information, Directives, and Positive Modeling more than expert band directors when working on Tempo. Examples of Information provided to students by novice directors when addressing Tempo targets included: "Last time we rushed it, now we're slowing it down. I just don't feel that we're all feeling this together. You can fit anything into this beat if you feel it strong", and

The best spot to do that is measure 9-11 and then 13-15 where everyone is playing eighth notes. If everyone is playing eighth notes it'll be a little easier to

speed that up. Ok? Because we can cue into the snare drum a lot easier, cause that's what the snare drum is doing, ok? The beginning should be much slower, just imagine a train, if you've ever seen a train take off from a station, how that wheel gets going, that's what we need here, that kind of effect. (Participant 11)

Similar to the rehearsal behavior category Questions, novice teachers' Information tended to be lengthier than the Information provided by the expert band directors.

Many of the Directives given by the novice band directors included use of the word "watch." Examples include: "watch and listen," "guys you've got to watch me," and "flutes you're not watching. You must watch, watch. All of you must watch. Second clarinets you must watch as well." The expert band directors used phrases such as "don't drag" or "space those accents so the tempo stays the same." When compared to the Directives used to address Tempo targets by the expert band directors, those of the novice teachers are more redundant and vague.

The Positive Modeling by novice band directors primarily consisted of singing or counting melodic and rhythmic patterns at the designated speed. In the rehearsal frames analyzed, expert band directors weren't observed using Positive Modeling at all when working on Tempo targets. The limited identification of Tempo targets by expert teachers probably contributed to these results.

When addressing Articulation targets, both expert and novice band directors exhibited Directives and Positive Modeling, but the differences occurred in how the students were directed and how the band directors modeled the desired effect. Expert band directors were very specific in notifying students when to separate, when to release, and when to add space. Transcriptions from these rehearsal frames included

very little talking. One example occurred when an expert band director heard an incorrect articulation style. The director verbalized the correct articulation style using the syllables "dee-dah-dah-dah" and then immediately modeled the incorrect articulation style that was heard, also using syllables, "but I'm getting dah-dah-dee-dee." Another example by an expert director said, "those of you who have that, who have mixed up dotted half notes, you have to separate just like the woodwinds were separating. Be with them on their releases. Lift at the end of the notes." On the contrary, novice band directors were less specific and talked more. Examples include: "give us the articulations," "use your tongues," "sting it – give that note some life," and "dig into it so we hear that sound." When providing positive models for the students, expert band directors used specific examples of the desired Articulations by using syllables such as "dee," "dah," and "tah." Novice teachers primarily sang melodic passages to students, and also used conducting or visuals on the board in the classroom to convey their expectations.

Expert band directors were observed using more Positive Feedback than novice directors when addressing the performance targets Intonation/Tone, Dynamics, and Rhythm Accuracy, though overall feedback given by both expert and novice band directors was not specific. Examples of Positive Feedback included statements such as "much better" and "that sounded really good." The majority of negative feedback given included the word "no" and nonverbal signs of dissatisfaction such as shaking head no or frowning.

Relationship to Prior Research

Performance targets.

Prior research by Goolsby (1997, 1999) indicated that expert and novice band directors identified Rhythm and Tempo targets more than any other performance variable. These results were inconsistent with findings from the current study. One explanation is that in the Goolsby studies, both Rhythm and Tempo were included in the same category, while in this study Rhythm Accuracy and Tempo were separate categories.

Band directors identified Intonation/Tone targets the most, while novice band directors identified Articulation targets more than any other. These results are consistent with Cavitt's research (1998, 2003), which found that expert teachers tend to focus their attention on Intonation/Tone targets more than the other categories including Articulation, Tempo, Pitch Accuracy, Rhythm Accuracy, Dynamics, and Technical Facility. However, there are discrepancies between these findings and other research. In 2003, Worthy found that expert band directors identified Rhythm and Multiple Targets the most when rehearsing a high school and intercollegiate band, while in 2009 he found that expert beginning band directors identified Pitch Accuracy targets the most. Perhaps the inconsistencies between the studies are due to the types of ensembles the expert teachers were rehearsing. Worthy's studies (2003, 2009) examined an expert wind conductor rehearsing honors ensembles and expert band directors rehearsing beginning bands, while the results from this study derived from analysis of expert and novice band directors rehearsing the top ensembles at their middle/high schools. The type of ensemble might have an impact on what types

of performance targets the directors tend to identify most often when preparing a concert selection for performance.

Rehearsal behaviors.

Results indicated that novice band directors asked more questions than expert band directors. These findings are consistent with prior research. Goolsby (1997) found that not only did expert teachers ask fewer questions, but also that their questions were more focused than the novice teachers, whose questions were vague. He concluded, "Expert teachers seem to simply avoid questioning." (p. 38)

Pontious (1982) and Menchaca (1988) found that verbal instruction and explanation were used most often in band rehearsals. Cavitt (1998) and Worthy (2003, 2009) stated that of the teacher verbalization categories, directives were the most common when analyzing expert band directors. The present study supports these findings. Both expert and novice teachers were found to give Directives and provide Information more than the other rehearsal behavior categories.

When analyzing expert band directors, Cavitt (1998) found that positive modeling occurred more than negative modeling across all of the performance target categories. Expert and novice band directors in this study were found to have used positive modeling more than negative modeling over all of the analyzed rehearsal frames.

Impact of performance targets on rehearsal behaviors.

To date, the only study that focused on whether the performance target addressed had any impact on the rehearsal behaviors employed by the band director was Cavitt's (1998) study. Cavitt found that modeling behavior was highest when

addressing rhythm errors and lowest when addressing Intonation/Tone targets. Other findings included that positive and negative feedback were used most when addressing Intonation/Tone targets, and that Directives were highest in Articulation targets. The results from the current study support the findings regarding feedback in Intonation/Tone targets and Directives used to address Articulation targets; expert band directors in this study were found to exhibit positive and negative feedback more when addressing Intonation/Tone and Dynamics targets and Directives were highest in Articulation targets for both expert and novice band directors. Inconsistencies with Cavitt's (1998) study relate to the use of modeling in rhythm error targets. While novice band directors in this study exhibited more positive modeling in Rhythm Accuracy targets, expert band directors used positive modeling more in Articulation and Intonation/Tone targets.

Implications for Music Education

Results from this study indicate that the performance target identified and the specific verbalizations of the band directors appear to be the most significant differences between expert and novice band directors. Expert band directors address Intonation/Tone targets more often than the other performance target categories and rarely ask Questions. Novice band directors and students in music teacher preparation programs could use this information in an attempt to accelerate their progress as band directors and to rehearse with their ensembles in a manner more similar to expert teachers, who have more experience.

Both expert and novice band directors should understand the importance of the content of their verbalizations. Because both expert and novice band directors

used Information and Directive rehearsal behaviors the most often, it appears that some differences must exist between the experience levels on what exactly band directors are saying when correcting performance problems in their ensembles. The specific content of the verbalizations appears to have an impact on the rehearsal of concert music and correction of errors, and therefore ensemble performance.

The performance target addressed appears to have an impact on the type of behavior exhibited by the teacher. To help enhance their prescriptive skills, novice band directors can observe expert teachers to gain examples of how to correct a problem once diagnosed. Results from Goolsby's study (1996) found that student teachers and expert teachers were more similar in their use of time in rehearsals when compared to novice teachers, specifically with time used for musical instruction and performance. Goolsby provides one possible explanation in that the student teachers modeled themselves after the expert teachers with whom they were working. Perhaps if novice teachers had expert teachers as models in close proximity, then they too would use their time and exhibit the same behaviors as expert band directors. For example, expert band directors in this study used positive modeling more when addressing Articulation and Intonation/Tone targets, and negative modeling more when addressing Rhythm Accuracy Targets. By observing those more experienced in their field, novices can attempt to learn the nuances of rehearsing common performance problems. Novice band directors can also record and transcribe their own rehearsals to identify places where their verbalizations can be more direct and succinct.

Results from this study appear to suggest a possible redefining of the term expert band director. Rather than being categorized as an expert solely based on years of experience or the performance evaluations from an annual concert festival, perhaps an expert band director should be defined by their behaviors or activities displayed in the classroom. In addition to years of experience and ensemble performance, an expert band director could be one that focuses on intonation/tone targets, asks few questions, and provides specific directives when instructing students.

Suggestions for Further Research

More research is needed to determine any differences regarding expert and novice band director verbalizations, specifically when band directors provide information or give directives. Qualitative analysis of the transcriptions of the rehearsal frames analyzed from this study, or from other participants, could help determine more detailed categories of teacher behaviors that focus on what exactly the teacher is saying and doing, particularly in reference to the performance target addressed. Also, a qualitative analysis of teachers' verbalizations could further delineate the differences between expert and novice band directors in the rehearsal setting.

Replicating the present study and additionally analyzing the rates, durations, and the number of performance targets and rehearsal behaviors would give additional perspective to the differences between expert and novice band directors. In analyzing only the frequencies, this study was limited in how much it could compare the performance targets identified and rehearsal behaviors observed.

Another suggestion for future research would include replicating this study but adding student performance activities in addition to teacher rehearsal behaviors observed. Student performance activities could include ensemble playing, section playing, individual playing, etc. It would be interesting to determine whether any differences exist between the experience levels of band directors on the types of student performance activities as related to the specific performance target addressed.

Summary

"A major goal of teaching instrumental music is to effect positive change and refine the quality of student performance within the music rehearsal" (Cavitt, 1998, p. 13). With the performance of concert music being the focus of most school instrumental music ensembles, the behaviors used by the band director to improve upon that performance are an important tool for all teachers, regardless of experience level. The findings from this study just begin to expand upon the existing research on error correction. The majority of research on performance targets and rehearsal behaviors focuses on the rehearsal techniques of expert band directors. Perhaps by continuing to analyze the differences between expert and novice band directors, instrumental music teachers and preservice teachers can build upon their existing "toolbox" of techniques and become more efficient at diagnosing problems and prescribing solutions.

Appendix A

Band Director Rating Form

Participant ID # _________

Date recorded: _________

Session 1 2 3

Total time of rehearsal: _________

Grade level: Middle High

Time rehearsing CM: _________

Experience level: Exp Nov

Date coded: _________ By _________

Reh. F #	Time	Performance Target	Performance Trials	Rehearsal Behaviors	Comments
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	
		X: I/T PA **Y:** RA Temp Art Tech **Z:** Dyn UT Other?		**T Mod:** M+ M- **T Talk:** D I Q F+ F- AT OT	

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