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A Descriptive Analysis of Rehearsal Techniques of Expert Middle School Band Directors from Kentucky, Mississippi, and Tennessee

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A DESCRIPTIVE ANALYSIS OF REHEARSAL TECHNIQUES OF EXPERT MIDDLE SCHOOL BAND DIRECTORS FROM KENTUCKY, MISSISSIPPI, AND TENNESSEE

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ABSTRACT

The purpose of the present study was to identify rehearsal techniques among expert middle school band directors Kentucky, Tennessee, and Mississippi. Twenty-one potential participants were recommended by university faculty and other leaders within the profession. Seven directors were identified who met criteria for participation in the study. Six directors agreed to participate, but due to scheduling conflicts, five were observed. Participants were observed and video recorded for three consecutive rehearsals. Initial analysis divided rehearsals into subsections including: warm-up, repertoire rehearsal, run-through performance, and non-instructional time. Repertoire rehearsal time for all participants was then systematically analyzed using rehearsal frames with two or more student performance trials as a means for selecting segments for analysis. Episodes of teacher talk, instructor modeling and student performance behaviors were observed in both frequency and duration. Data collected on these specified behaviors were analyzed to identify possible instructional differences and/or similarities to prior research in different settings.

Analysis of selected frames identified multiple targets, rhythmic accuracy, articulation, and dynamics as the four most rehearsed instructional target categories among the participants. Combined, multiple targets and rhythmic accuracy represent approximately 57% of total time spent in selected rehearsal frames. Participants were observed engaging in teacher talk 37% of repertoire rehearsal time. Observations found that participants were highly specific when identifying instructional targets, and maintained fast instructional pace. Participants also utilized modeling techniques as a means of supplementing verbal instruction nearly 12% of total selected

rehearsal frames. Total duration of all observed participant behaviors account for 49% of selected rehearsal frame time. Students were observed performing as a full ensemble 88 times, accounting for 19% of selected rehearsal frame time. Students were observed performing in sections or section combinations 155 times, accounting for 13% of selected rehearsal frame time. Total student behavior duration during selected rehearsal frames accounted for 36% of time. Analysis showed that the participants most effectively facilitated their instruction when rehearsing students in sections or section combinations. Further analysis shows that participants were observed coach modeling during student performance events nearly 20% of the time. This result supports the notion that modeling is an effective instructional tool, even when it is concurrent to student performance.

DEDICATION PAGE

This document is dedicated to my wife, Shera. Thank you for all of your support and sacrifice through the completion of this project and degree.

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CHAPTER 1

INTRODUCTION

When analyzing the rehearsal process of an instrumental ensemble in a secondary school setting, student achievement should factor prominently in determining the effectiveness of the teacher. The goal for band directors attempting to improve the level of performance of an ensemble should be to bring about positive changes in student behavior. In the instrumental music education profession, specifically, expert teaching has been described in terms of teacher behaviors that are explicit, identifiable, intentional, and associated with excellence in student performances. Waymire (2011) linked "expertise" with student performance in his operational definition: "Someone who has expertise in the education profession is understood to be effective at producing high-levels of measurable student achievement" (Waymire, 2011, p. 1). For music educators, their effectiveness may best be assessed by varying degrees of student performance. Differing instances include a director's immediate assessments of student performance regarding task presentation, and adjudication scores from festival performances. Although performance ratings are a common measure of success for band directors and their students, ongoing

performance evaluations of student performances are made during the rehearsal process. Analysis of the rehearsal process will be of concern for the present study; therefore, a series of "snapshots" of instruction will be central to the current study. As prior researchers have focused on the rehearsal process during rehearsals of band directors from middle school through college—ranging from pre-service to expert—the rehearsal process has not been compared among middle school band directors exclusively. The purpose of the present study is to identify rehearsal techniques among expert middle school band instructors across several rehearsals of their respective ensembles.

Modeling has been a consideration and recommendation for enhancing a student's educational experience for many years. John Amos Comenius describes the ideal teacher with these words, "…the teacher should know all the methods by which the understanding may be sharpened, and should put them into practice skillfully," (Comenius, 1657/1907, p. 121). To relate specifically to the act of performing music, David Elliott states, "Music making is essentially a matter of procedural knowledge" (Elliott, 1995, p. 53). Applying both ideas to the instrumental ensemble rehearsal setting in secondary schools, Comenius's and Elliott's concerns are for student performance achievement. Under these circumstances, student performance achievement can be attributed to careful instructional considerations from the instructor which are rooted in the director's own understanding and experiences of music performance. A speculative insight, then, arises suggesting that instrumental ensemble directors who model musical performance outcomes for students may in fact accelerate student achievement. Comenius clarifies this by stating, "It is sheer cruelty to force anyone to do what you wish, while he is ignorant what your wishes are…," (Comenius, 1657/1907, 195).

Research describing expertise in instrumental ensemble instruction has been of interest for several decades. Foci pertaining to pedagogy, student-teacher interaction, instructor feedback, and student performance ability have been addressed through both academic and action research in music education. As researchers have identified various pedagogical techniques of achieving instructional goals, teacher talk and instructor modeling have consistently emerged as common points of interest for researchers (Bergee, 2005; Cavitt, 1998; Dickey, 1988; Goolsby, 1996; Nicholson, 2009; Waymire, 2011; Worthy, 2003; 2006; Worthy & Thompson, 2009). Researchers have agreed that modeling during instruction occurs when the teacher performs a musical action to supplement verbal instruction (Benson, 1989; Cavitt, 1998; Dickey, 1988; 1991; Goolsby, 1996; 1997; Speer, 1994; Taylor, 2004; Waymire, 2011; Witt, 1986). However, reported percentages of observed modeling behaviors between prior research publications has been inconsistent (Carpenter, 1988; Cavitt, 1998; Dickey, 1991; Goolsby, 1996; 1999; Macleod, 2010; Pontious, 1982; Speer, 1994; Taylor, 2004; Waymire, 2011; Worthy, 2003; Worthy, 2006).

Expert band directors have consistently been found to engage in teacher talk more than any other observed behavior. As teacher talk is certainly one of the most important pedagogical domains of teaching, preservice and novice teachers have been found to talk more than expert teachers across observed rehearsals (Goolsby, 1996). Furthermore, average durations of expert teachers' teacher talk episodes tend to be shorter than those of preservice and novice teachers. Modeling has consistently been observed in greater amounts among expert teachers than preservice and novice teachers. For these teachers, a primary issue may be their reliance upon instructional verbalizations. Dickey states, "Music discriminations are not effectively taught through verbal description," (Dickey, 1988, p. 97). Simply put, talking about music performance

achievement is less effective than musicing about music. Providing students a model for the purpose of promoting a replication has been observed repeatedly in the rehearsals of expert instrumental ensemble instructors. Student replication, subsequently evaluated by the director with feedback, is the means by which student performances are elevated to the standards and expectations set forth by the director. Such replication, which some may criticize as robbing students of individual musical intuition, promotes the uniformity of performers within the large ensemble setting and, in turn, teaches students how to listen musically while learning to perform musically. David Elliott identifies this process by stating, "Artistic music listening ought to be taught and learned in conjunction with artistic music making" (Elliott, 1995, p. 175).

Encouraging the replication of an action with that same action is central to Albert Bandura's social learning theory and promotes the use of instructor modeling. He states, "Even when it is possible to establish new behaviors through other means, the process of acquisition can be considerably shortened through modeling," (Bandura, 1980, p. 13). Apropos, John Amos Comenius states, "The task of a pupil will be made easier, if the master, when he teachers him anything, shows him at the same time," (Comenius, 1657/1907, p. 140). Hewitt (2001) furthers this argument by suggesting that a model provides students with an opportunity to compare their own performances to the model itself. Without a performance demonstration, students may, in fact, begin to hold "inaccurate assumptions regarding their playing ability. This…could alter goals they set for themselves," (Hewitt, 2001, p. 318). Johnson-Laird's assertion of learning jazz improvisation is, "You learn by imitating successful creators and by trying to create for yourself in a particular domain," (Johnson-Laird, 2002, p. 422).

Though instructor modeling is an excellent medium with which to promote student musical achievement, overuse may hinder effective instruction. A common criticism of the

Suzuki method by many music education practitioners is the misuse of instructor modeling as a pedagogic end. Haugland (2009) reports the disapproval of the Suzuki method simply because of the singular modeling tendency that exemplifies its theoretical framework. Some Suzuki students have been weaker music readers than their classmates (p. 29). Dr. Karin Hendricks, Suzuki pedagogue and music educator, writes of this malpractice,

> …some Suzuki pedagogues [may] put aside the philosophy behind the pedagogy when they become caught up in the daily rigors of teaching…In these taxing occasions it may indeed be tempting for Suzuki-trained (and other) music educators to resign to a rote teaching style, if merely out of desperation. (Hendricks, 2011, p. 138)

A common concern of music educators regarding rote learning is that students become too reliant upon the instructor's performance models. Though instructor modeling within the context of the instrumental ensemble rehearsal can be viewed as a valid means of teaching and reinforcing student performance achievement, questions about quantity and frequency of instructor modeling arise. How much is too much or too little? Should instructor modeling occur? If so, when? To what extent do or should instructors incorporate modeling? Only through direct observation of the teacher-to-student interactions can answers be found. New light, then, can be shed upon the model itself. In previous research, instructor modeling has not been identified in terms of purpose; rather, modeling episodes of expert instrumental instructors are merely reported as being present. Multiple researchers have identified frequencies and durations of positive and negative modeling (Cavitt, 1998; Taylor, 2004; Waymire, 2011; Worthy, 2003; 2006). Providing a subtle qualitative description, Goolsby reports that experienced instructors

model by "primarily vocalizing rhythms and expressive phrasing" (Goolsby, 1996, p. 295). The delineation between types of models and their uses has yet to be identified in music education research. Instructor modeling in the present study will include the following subcategories: positive modeling, negative modeling, and coach modeling. The musical means by which the model is created will also be reported (e.g. singing, playing an instrument). Modeling subcategories will be reported in greater detail during the explanation of the current study's method.

Insofar as the current study is to examine the rehearsal characteristics of expert middle school band directors across three consecutive rehearsals of their most advanced ensembles, the following questions are central to the current study:

1. What instructional target categories are addressed by expert middle school band directors during the observed rehearsals?

2. What are the frequencies and durations of selected rehearsal frames of expert middle school band directors during rehearsals of their respective bands?

3. What are the frequencies and durations of specified teacher talk episodes and student performance behaviors in selected rehearsal frames?

4. What are the frequencies and durations of instructor modeling episodes of expert middle school band directors during selected rehearsal frames?

5. How do middle school band instructors facilitate student learning during various instructional target categories of selected rehearsal frames?

Modeling can be used as a means to clarify and supplement verbal instruction; however, for most of the recent past, modeling has been reported in research as simply being an exhibited behavior

among music instructors. The mode and function upon which the models are delivered have yet to be addressed. Nevertheless, Hewitt (2001) encourages instrumental ensemble directors to utilize modeling during their teaching.

The following chapter reviews literature regarding systematic methodologies of observation, followed by the uses of instructor modeling as a singular means of promoting student performance achievement.

CHAPTER 2

REVIEW OF LITERATURE

The purpose of the present study is to examine the rehearsal characteristics of expert middle school band directors across three rehearsals of their respective ensembles. The review of related literature has been divided up into two sections: methodologies for rehearsal analysis, and modeling methodologies. Central to the current study are the processes of error detection and correction, and the identification of teacher and student interactions during instrumental rehearsals. The first portion of the chapter will provide an overview of two primary systematic observational methodologies in the field of music education: rehearsal frames and sequential teaching patterns. Secondary to the current study is the role in which modeling plays during the instrumental rehearsal process among other discrete teacher behaviors. The second portion of the chapter will provide a case for the effect of instrumental modeling on student performance achievement.

PART ONE

Rehearsal Frames

Past research has utilized a systematic observational method through which rehearsals can be analyzed. Termed the rehearsal frame, this method provides a means of focusing an observer's attention to segments in which teaching and learning interactions are ideal. Duke (1999/2000) proposes a method by which an observer analyzes a rehearsal using "…performance goals as the organizing principle," (p. 20). The rehearsal frame begins with the instructor explicitly or implicitly identifying a performance goal. It is then that a variety of events may follow. Duke identifies "…verbal directive, one performance trial…multiple directive, multiple repetitions in context…multiple directives, decontextualization-modification of the target passage, multiple repetitions, recontextualization…," (p. 20) as three examples of possible rehearsal frames. The third example includes the process of decontextualization, which is described as, "approximations (decontextualizations) are created by altering one or more aspects of the target passage (e.g., tempo, instrumentation, dynamics, or articulation)" (p. 21). When students perform the approximation(s) correctly multiple times, the passage is then recontextualized (performed without alterations) and the teacher assesses if more attention to student performance achievement is needed or if the rehearsal can continue. The rehearsal frame method of analysis is highly effective because, "…[student] achievement is defined according to students' accomplishment of proximal goals…," (p. 22).

In a study assessing pedagogical differences between directors of low- and high-performing bands, Waymire (2011) vetted potential participants with an independent panel of expert instrumental instructors. Each panel member used a current instrumental music

performance assessment tool and rated recordings sent in by potential participants. Once ratings were completed, the directors were placed in high-, middle-, and low-performing categories; at which point, the middle group was eliminated from potential participation. Waymire then observed ten band directors for three consecutive rehearsals each, five directors of high-performing bands and five directors of low-performing bands. Using rehearsal frames and instructional target categories, the directors of high-performing bands exhibited mastery skills commensurate of other expert directors in research (Cavitt, 1998; Goolsby, 1996; 1997; 1999; Worthy, 2003; 2006). Instructor modeling of high-performing band directors accounted for approximately 9% of time observed in selected rehearsal frames. Directors of low-performing bands only modeled 2% of the time. As a descriptive supplement, directors of high-performing bands were also interviewed. Musical behaviors common among the directors of high-performing bands included performing on their instruments outside of rehearsal and maintaining their performance by modeling during rehearsals.

Cavitt (1998) observed five middle school and five high school expert teachers across four consecutive rehearsals and identified rehearsal frames that involved two or more student performance trials as the means for time sampling. Results showed that modeling was used for longer durations when rhythm and technical facility were the instructional targets. Modeling was found in shorter durations when the instructional target was intonation/tone. However, it should be noted that although the durations of intonation/tone modeling episodes were the shortest, there were more frequent rehearsal frames dealing with this instructional target than any other target observed. Cavitt found that inclusive of all forty recorded rehearsals and 332 selected rehearsal frames, modeling accounted for 6% of total rehearsal frame duration, less than the 9% found by Waymire (2011). Creating “prototypical” rehearsal models (p. 108) using mean rates per minute

of behaviors from the teacher and students, Cavitt found that modeling was almost always bookended by teacher talk episodes, regardless of the instructional goal. The effectiveness of modeling episodes during selected rehearsal frames were not within the scope of the study, warranting further research in this area. Instructor modeling was also observed more frequently with high school directors than middle school. Teacher talk was generally observed more with middle school directors than with high school directors.

Worthy (2003) observed an expert conductor rehearsing two separate auditioned ensembles—a high school and college wind band—using the same selected piece in both contexts from initial reading to performance. The expert conductor's teacher talk episodes varied between groups. With the high school group, the conductor talked less during task presentation and allowed the students more performance time; the finding was reversed for the collegiate ensemble. Another result showed the majority of conductor task presentations addressed multiple targets. However, the high school multiple targets seldom included any more than three at a time whereas the collegiate conductor regularly addressed three at once. Modeling conditions were categorized as either positive or negative modeling; the only reported conductor modeling behavior was singing.

Worthy (2006) observed three expert college wind band conductors rehearsing intercollegiate honor groups over the span of two days each. Observations were comprehensive in that he was able to collect data from the group's initial sight-reading to the concert. Only one selection from each conductor's concert program was chosen for analysis. One hundred, forty-nine rehearsal frames were selected and analyzed. Teacher talk percentages were under 50% among all participants. Furthermore, conductor modeling behaviors were substantially less than any other observed conductor behavior. Students were found performing in a full ensemble

context nearly twice as much as in any other performance condition (sections or individual). Results indicate that the conductors facilitated rehearsals primarily through verbal task presentations, conducting, and modeling. This result could be due to the technical abilities characteristic of collegiate honor band members. It could also be attributed to the brevity of the ensemble's performance timetable.

Through the lens of the rehearsal frame, the research aforementioned has helped to establish typical rehearsal tendencies of expert secondary instrumental directors. However, instruction with beginners has proved to be somewhat similar. Macleod (2010) video recorded experienced concert band and orchestra directors (N = 40, twenty per category) teaching a single lesson that introduced a new line of music to first-year student ensembles. Using an observation form constructed by Madsen and Madsen (1998), twelve teacher behaviors were identified after video analysis. The behaviors included: echoing technique, question and answer, verbal instruction, co-verbal instruction, modeling with instruments, modeling with instrument during student performance, modeling without instrument, modeling without instrument during student performance, conducting, student performance, pedagogical touch, and classroom management. Echoing techniques and modeling with instruments proved to be the most frequent behavior observed from the orchestra directors, where conducting and verbal instruction were the most frequent behaviors observed from the band directors. Macleod speculates that the nine band directors who neglected to model on an instrument may be replicating instructional strategies from their childhood band directors. She also suggests that another possible cause could be attributed to the instrumental heterogeneity of a concert band. Descriptions of modeling behaviors were not within the scope of the study and only frequency counts of teacher behaviors were reported.

Nicholson (2009) observed three novice and three experienced beginning band directors during four consecutive ensemble rehearsals. The purpose of the study was to identify differences in teacher and student behaviors within rehearsal frames during beginning band classes. Within selected rehearsal frames, experienced teachers were observed modeling approximately 10% of selected rehearsal time, where novice teachers modeled 4%. Total experienced instructor modeling percentage is incongruently higher than other research results (Cavitt, 1998; Goolsby, 1999; Worthy, 2003). Further analysis indicated that the majority of the 4% of novice instructor modeling was primarily singing and clapping. Experienced teachers modeled on instruments for the students and were also found to be fluent in the various types of fingerings and embouchures required of a heterogeneous ensemble.

Worthy & Thompson (2009) observed three expert beginning band directors across three consecutive rehearsals. Observation notes were thematically categorized into classroom management, instructional materials/activities, and teaching techniques/strategies. Video recordings of all rehearsals were analyzed using rehearsal frames (Duke, 1999) and participant interviews were conducted for qualitative support of the recorded data. Findings revealed that students were constantly engaged throughout the duration of each rehearsal. The participants were found to maintain a high level of student participation even during individualized instruction. Students not directly involved with individualized instruction were told to practice fingerings or sing. Instructors were also mobile in the classroom the majority of the time. The participants frequented different parts of the room and ensemble. In doing so, they abdicated themselves of a conductor's role and proceeded to take on the role of an applied instrument instructor, performing passages and excerpts on instruments as a means of demonstration with individual students. Instructor modeling, however, was incongruent among the three instructors.

The highest percentage of instructor modeling was 15%, similar to the findings of Carpenter (1988) and Speer (1994). Similar to the findings of Nicholson (2009), the other two instructor modeling percentages reported were 6.5% and 4%, which proved to be congruent with other research (Cavitt, 1988; Goolsby, 1999; Nicholson, 2009; Waymire, 2011; Worthy, 2003; 2006).

In a dissertation assessing student teacher instruction in a beginning band setting, Bonds (2015) had nine participants teach in two different conditions: on-podium and off-podium. Each participant taught for twenty minute segments in each condition. Video recorded rehearsals were analyzed through the lens of rehearsal frames. Only two multiple student performance trials were observed while student teachers were on the podium, while four multiple student performance trials were observed while off the podium. However, thirty-four single student performance trials occurred while student teachers were on the podium, while twenty-six student performance trials occurred when they were off the podium. Further analysis showed that instruction improved when student teachers were off the podium. Speculative implications from the condition of being off the podium "…forced the student teachers to rely less on the music score and more on what was happening around them…," (Bonds, 2015, p. 115). Feedback was observed in low quantities, which remains congruent of novice level practitioners (Goolsby, 1996; 1997; 1999). Instructor modeling episodes were rarely observed while teacher talk accounted for the vast majority of instructional delivery time.

In the field of music education, the rehearsal frame serves as an excellent tool through which an observer can analyze the rehearsal process. However, an earlier systematic observational methodology existed that focused more on the role of feedback in instruction.

Sequential Patterns of Instruction

Regarding feedback behaviors, researchers have observed directors during instrumental ensemble rehearsals using sequential patterns of instruction (Benson, 1989; Goolsby, 1997; 1999; Maclin, 1993; Price, 1983; 1992; Price & Yarbrough, 1991; Yarbrough & Price, 1989; Speer, 1994; Yarbrough & Hendel, 1993; Whitaker, 2011). Price (1983) conducted an experimental study with a single instrumental ensemble and single instructor under three conditions. Condition one involved the instructor giving performance directions followed immediately by student performance. Condition two added a description of the tasks presented, followed by detailed instructions, and finishing with student performance of the tasks. Neither condition one nor condition two incorporated feedback of any kind. The third and most effective condition built upon condition two by adding instructor feedback immediately after student performances. The level of rehearsal condition effectiveness was measured subjectively by student ensemble participants. Student responses indicated that their attitudes toward the conductor, rehearsal, and music were more positive when the conductor gave feedback as opposed to the two previous conditions. Price concluded that sequential patterns of instruction are hinged upon the strict chronological completion of his numbered coding system: 1) instructor task presentation, 2) student performance, and 3) immediate instructor feedback, with the effectiveness variable being immediate instructor feedback (see also Yarbrough & Price, 1989). A weakness of this methodology is the amount of focus given to the completion of the sequence. During analysis, identifications of teaching targets are not required. Only the presence of instructor and student behaviors are of concern. Therefore, instructor modeling episodes during instruction remained unidentified.

Speer (1994) focused on observing instructional behaviors of private piano teachers. Twenty-five participants were observed over the course of forty-seven lessons. Using sequential patterns of instruction, all rehearsals were scripted and the following behaviors were observed: teacher talk, teacher coaching, and student performance. Teacher coaching occurred when the piano instructors either verbally instructed or modeled "…simultaneously with student performance", (p. 18). These teacher coaching episodes were integrated into the rehearsals for the purpose of enhancing the student's technical and/or musical understanding of the task at hand. Analyses of recorded lessons showed that teacher talk durations ranged from 58% to 78% of total lesson time, much higher than instrumental ensemble research (Colprit, 2000; Goolsby, 1996; 1999; Murray, 2011; Pontious, 1982; Taylor, 2005; Waymire, 2011; Worthy, 2003). Instructor modeling was found between 14%-17% of total rehearsal time—a higher percentage than the 6%-9% of instrumental instructor modeling episodes found in other research (Cavitt, 1998; Goolsby, 1999; Nicholson, 2009; Worthy, 2003; 2006; Waymire, 2011). The higher modeling percentages notwithstanding, Speer reported that teacher coaching was observed less with students above the age of eleven. The effectiveness of modeling within the focus of private piano lessons was not within the scope of the study.

A study by Whitaker (2011) observed six high school band directors over the course of five consecutive rehearsals (the first recorded observation was thrown out for acclimation purposes). Rehearsals were timed, scripted, and coded for the identification of complete sequential teaching patterns. Results showed that instructors utilized verbal task presentations and feedback more than any other rehearsal variables. In only one case was student performance found to account for more than 50% of observed rehearsal time. Approximately 80% of instructors were observed completing sequential teaching patterns during instruction.

Analyzing rehearsals for complete sequential patterns of instruction as one means of measuring instructor effectiveness has been validated in this body of research. The methodology focuses the observer's attention on identifying the frequencies of teacher and student behaviors chronologically during rehearsals. Multiple task presentations are quite idiomatic of instrumental ensemble rehearsals (Cavitt, 1998; Worthy, 2003; 2006; Worthy & Thompson, 2009) and therefore warrant succinct verbal directives from instructors. The efficiency of sequential patterns notwithstanding, they are inherently relegated to a strict chronology of behaviors; otherwise, they are deemed incomplete or incorrect (Arnold, 1995; Price, 1992; Speer, 1994; Yarbrough & Price, 1989).

PART TWO

Modeling

Though the rehearsal frame and sequential pattern of instruction provide excellent windows of observation by which teaching and learning can be analyzed, varying foci have neglected the specific role that modeling serves in the rehearsal process. Rather, focus from the previously reviewed research has primarily been concerned with proportions of teacher talk as compared to student performance. This is primarily attributed to the substantial proportional differences that existed between teacher talk and teacher modeling. That is not to say that modeling in instrumental music rehearsing and teaching has not been well-documented. Over the last three decades, researchers, through various studies, have found instructor modeling to be an effective teaching tool in an instrumental ensemble setting. The purpose of the second section of

the review of literature is to provide evidence of reported inconsistencies that have served as foundational for the focus of instructor modeling in the current study.

Modeling in the instrumental classroom is a musical action set forth by the instructor as an example created for imitation or emulation by students. In its most primitive sense, then, modeling must promote an imitative student response or action. Researchers have refined the definition of modeling in a variety of ways, including visual and aural. In a dissertation by Sang (1982), he defines modeling as, "A group of stimuli which may serve as an example or pattern to be imitated. A model may be a visual aid and/or aural…" (p. 29). Hellman (2000) defines modeling as, "Live instrumental music demonstration provided by instrumental music teachers" (p. 4). For the purpose of his dissertation, Hellman further refines the definition of modeling to be a musical performance on an instrument from the instructor. Dickey (1992) defines modeling as "…alternations of teacher demonstrations and student imitations…" (p. 27), suggesting that instructor modeling as an isolated action is irrelevant to the learning process. Therefore, student performance trials and replications are necessary to legitimize modeling as part of the rehearsal process. Though prior research has done well to evince various modes of modeling behaviors, there has yet to be a generally accepted comprehensive list of them. Younger (1998) divides modeling into three teacher behavior categories: (a) *sing/clap*—conducting gestures are not included in this category; (b) *visual modeling*—gestural instruction in which the instructor physically shows what is expected (i.e. correct fingering, embouchure, posture, etc.); and, (c) *play*—instances where the instructor musically models on an instrument. Cavitt (1998) and Worthy (2003) add correct and incorrect performance demonstrations for the purpose of reinforcing the teaching target. Waymire (2011) defines modeling as an all-inclusive verbal or physical demonstration of any aspect of the piece being rehearsed.

Numerous studies have identified the use of modeling as performing on an instrument (Baker, 1978; Davison, 2010; Delzell, 1989; Dickey, 1988; Hellman, 2000; Sang, 1982; Sang, 1987; Speer, 1994; Taylor, 2004), singing (Worthy, 2003; 2006), or any mixture of verbal and nonverbal strategies (Benson, 1989; Cavitt, 1998; Goolsby, 1996; 1997; Waymire, 2011; Westbrook, 2004; Witt, 1986; Younger, 1998).

Modeling as Instrument Demonstration

Delzell (1989) assessed the effect of musical discrimination training, modeling, and imitation on beginning band students' pretest and posttest scores from Edwin Gordon's Musical Aptitude Profile (MAP) across eighteen weeks of training using an experimental group and a control group. Supplementing the MAP with an author-created Instrumental Performance Achievement Test (IPAT), results suggested that student training increases melodic discrimination more efficiently than without training. This study gives credence to intentional training of beginning instrumentalists' abilities to discriminate between correct and incorrect musical examples. It also charges music educators to be aware of how they use correct and incorrect models. Delzell utilized these two modes of modeling to assist students' abilities to discriminate between them. "The [incorrect model] differs from the [correct] model in only one way; for example, in a tone quality exercise [everything is performed correctly]; only the tone quality differs" (p. 25). The instructor chose only one musical element (e.g. melody, dynamics) to alter during the musical demonstration, but maintained the integrity of all other elements of the musical passage. The purpose for such an exercise is to train students to critically listen, thereby reinforcing the basic knowledge of music elements with discrimination of correct and

incorrect performances. The contingency that Delzell offers to instrumental music educators is the ability to properly manipulate correct and incorrect models. In other words, instrumental music educators are cautioned against incorporating correct and incorrect manipulations of selected musical elements if they are unable to perform them well.

Sang (1982) observed the effectiveness of modeling through different path analyses, assessing which characteristics of instrumental teaching were more effective. Sixteen senior level undergraduate music education majors were observed teaching fourth grade recorder performance classes. The groups were divided into two subgroups—group 1 (n=7) and group 2 (n=9)—due to being videotaped during separate semesters. Each participant was given a battery of tests to assess individual abilities in three main music education areas: modeling, discrimination, and diagnostic. Literature reviewed by the author revealed these to be the most important teaching characteristics for instrumental music education. Once participants completed the tests, they were videotaped five times teaching a fourth grade recorder performance class. Using a method of systematic observation referred to as the Interactive Instructional Effectiveness Cycle (p. 10), a path analysis was conducted for each group to establish level of effectiveness for each teaching characteristic. Results showed that increased teaching effectiveness was most attributed to an instructor's ability to model, followed by a mix of discrimination and diagnostic. The latter two are defined as an instructor's ability to appropriately distinguish aural/visual errors and suggest appropriate corrective action, respectively. Caution was given by the author upon the generalization of such results since participants from the same population had been collegiately educated in a program that stresses hands-on experiences. Further caution should be observed regarding the setting of such a project;

fourth graders performing in a homogenous recorder ensemble would be a far cry from that of a secondary (i.e. middle or high school) heterogeneous performing ensemble.

In a second study, Sang (1987) assessed the correlation between teacher modeling abilities/frequencies and student performance achievement using nineteen beginning instrumental teachers. Instructors were first tested on their performance abilities on both primary and secondary instruments, followed by their students on primary instruments. Using a random sampling technique, results showed a significant difference and direct relationship between teachers that modeled more frequently with higher quality and increased student performance achievement. Of the highest modeling frequencies, forty percent of rehearsal time was spent in teacher talk and twenty-six percent was spent in modeling activities (whether playing, singing, or incorporating movement); the remainder of time was left unidentified.

Dividing 128 middle school band students into two groups, Dickey (1988) compared the effectiveness of verbal instructional strategies in one group to the effectiveness of modeling instructional strategies in the second group. The researcher trained a replicator to perform the same tasks with one group, while the researcher instructed the other. Each researcher taught two middle school instrumental classes, one using verbal strategies and the other using modeling strategies. Using a pretest/posttest, results showed that both instructors' continued use of modeling had a direct effect on their own ability to model. In other words, the more that they modeled, the better they became at modeling. When considering one's ability to discriminate musical problems, "Music discriminations are not effectively taught through verbal description" (p. 97). Though verbal instruction is exhaustively documented in research as being the main mode of instruction (Cavitt, 1998; Goolsby, 1996; 1997; 1999; Pontious, 1982; Sang, 1982; Speer, 1994; Taylor, 2004; Waymire, 2011; Westbrook, 2004; Whitaker, 2011; Worthy, 2003;

2006; Worthy & Thompson, 2011), Dickey's findings give credence to the use of a musical model as being more effective in addressing musical problems than verbal instruction. The strength of this particular study was the instructional division between modeling and verbal instruction to the extent that, "…instrumental music teachers need to use their instruments consistently in their teaching" (Dickey, 1991, p. 141). However, modeling strategies in this study were only deemed appropriate if the instructor demonstrated using an instrument. Singing and clapping were not included as musical models, nor were they counted as verbal instruction.

Findings from Hellman (2000) further the suggestion that instructor modeling increases student performance ability. Participant groups consisted of instructor-student-same primary instrument and instructor-student-different primary instrument. Participants (N = 380) were divided into two groups: instructors (N = 21) and students (N = 359). Contingencies for participation mandated that instructors and students had been involved in the same instrumental program since the beginning of the students' sixth grade year, and that the instructor's primary instrument was either a brass or woodwind; instructional expertise or experience were not delimitations of this study. Assessments used were Intermediate Ear to Hand Test (IETHT) (Dickey & Froseth, 1991) and Test of Melodic Ear to Hand Coordination (TMETHC). Three students who played the instructor's primary instrument since sixth grade and three students who played a different instrument than their instructor since sixth grade were randomly chosen from each student body to take the IETHT. Results showed that students who performed on the same instrument as their instructor scored slightly higher than those that performed on different instruments, suggesting that modeling on a specific instrument may increase student performance achievement on that instrument. Further research is needed to assess the immediate impact of instructor modeling on student performance ability.

Modeling as Mixture of Verbal/Non-verbal Demonstration

Younger (1998) assessed conductor effective rehearsal characteristics from intermediate band and orchestras directors (N = 10) using a one-shot videotaped rehearsal of a piece that was "in progress." Ten music education experts and four non-music experts rated, ranked, and gave comments for excerpts that included effective instructional sequences. Findings indicated all excerpts were effective, but one was determined to be the most exemplary. Reasons for such a rating included faster paced instructional sequence excerpts, less dead time, and less question and answer time. More effective instructors were said to "know their subject and their students" and set "…musically relevant goals…" (p. 158). Another commonality between judges indicated that instructional clarity was enhanced by use of modeling, whether in the form of singing, clapping, tapping, or playing an instrument. The study acted as a one-shot status evaluation of intermediate ensemble rehearsals. Further research is needed to identify the consistency of effective instructional variables across time. This study serves a foundational role in the construction of the current study's questioning and methodology.

In a study designed to assess the durations of student attentiveness during instrumental rehearsals, Witt (1986) observed forty-eight rehearsals divided equally between junior high and high school band and orchestra classes; forty-two instrumental instructors participated. Using an observation form created by Madsen and Madsen (1981), observers watched live rehearsals for fifteen-second intervals and subsequently recorded observations for five seconds. Observers identified various rehearsal elements including getting ready time, teaching episodes, and student performance. Teaching episodes included instructor verbal interactions with students, teacher demonstrations, and instructional directives. Results showed that teaching episodes occupied an

average of 38.9% of total teaching time. However, the process of dividing total teaching time durations into subcategories, including teacher demonstration, was not included in the methodology.

In an action research study, Benson (1998) utilized a three-step teaching process that included teacher task presentation, student response/performance, and teacher feedback. Three private violin instructors, including the researcher, were videotaped teaching a single lesson to children between 10 and 12 years of age. The researcher was the experimenter in this study; the other two instructors taught one lesson each and were used as exemplary models. Once the experimenter viewed all lessons, he compared the exemplary models to his own and he pinpointed two specific teaching behaviors that needed addressing: presentation of musical tasks and specific reinforcement. A follow-up lesson was taught by the researcher to the same students to increase the frequencies of identified behaviors. Musical task presentation was defined as an instructor explanation of a musical element/performance through verbalization or instrument performance. Results showed a positive change in the two identified behaviors and an increase in correct, three-step instructional sequences from 16% duration of the first violin lesson to 32% of the follow-up lesson. However, neither the effectiveness of musical task presentations nor the effectiveness of instructor use of modeling upon student learning was observed. More research is needed to assess the impact that modeling has upon instructional pacing.

Pontious (1982) observed two rehearsals from five expert high school band directors, during which time they were seen preparing music for an upcoming concert festival. Teacher talk and demonstration (verbal and non-verbal modes of modeling) episodes were analyzed using frequencies and percentages. Teacher talk duration between all directors and across both rehearsals ranged from 33.8 percent to 45.9 percent. Verbal demonstration was identified by an

instructor's use of monotone/rhythmic counting or speech and occupied 82.5 percent of total observed demonstrations. Nonverbal demonstration was identified by a director's use of singing, clapping, or playing an instrument and made up 17.1 percent of total observed demonstrations. This number is relatively close to findings from Carpenter (1988) and is much higher than previous findings from Cavitt (1998) and Waymire (2011). Pontious qualifies the importance of instructor nonverbal demonstration within the study because of its impact in positively affecting students' abilities for solving rhythm and articulation problems. It should be noted that no instructors were observed performing on instruments at any time. Rather, nonverbal demonstration was observed primarily through singing.

Three studies by Goolsby (1996; 1997; 1999) remain among the most influential observational research studies in instrumental music education. His 1999 publication is of particular interest to the current study. Goolsby observed twenty band directors divided equally between middle school and high school, expert and novice. Observations took place across two semesters while all directors prepared the same piece from sight-reading to performance. Musical teaching targets were identified through the use of complete sequential teaching patterns (Price & Yarbrough, 1991; Yarbrough & Hendel, 1993). Frequency and duration of teaching sequences, rehearsals, teaching activities, nonteaching activities, total teaching segments, and total performance segments were calculated and compared. Results were consistent with Goolsby's prior research in that experts spent less rehearsal time in verbal instruction (25.8 hours) than novices (45.5 hours), yet yielded more superior performances. Nonverbal instruction (i.e. teacher demonstration and modeling) accounted for 5-6% of total rehearsal time across all observations. This finding is consistent with those from Cavitt (1998) and Worthy (2003; 2006).

Further insight on instructor modeling provided by the author specified that four novices sang rhythms and one "[performed] various instruments for imitation" (p. 184).

Prior research addressed the effects of instructor modeling on student performance achievement and listening abilities (Delzell, 1989; Dickey, 1988; Hellman, 2000; Sang, 1982; 1987), supporting instructional directives regarding musical performance tasks through live models (Speer, 1994; Taylor, 2004), and as a teaching tool within the general context of observed ensemble rehearsals (Benson, 1998; Cavitt, 1998; Goolsby, 1996; 1997; Macleod, 2010; Pontious, 1982; Waymire, 2011; Witt, 1986; Worthy, 2003; 2006; Younger, 1998). Instructor modeling has been reported in various proportions across multiple rehearsals ranging from 4%-9% (Cavitt, 1988; Goolsby, 1999; Nicholson, 2009; Waymire, 2011) to 14%-17% (Carpenter, 1988; Nicholson, 2009; Speer, 1994). Observational research, however, has not observed modeling on a longitudinal scale, a point of interest for future research as suggested by Sang (1982). Few research studies have focused on the behaviors of middle school instructors (Bonds, 2015; Goolsby, 1999; Hewitt, 2001; Macleod, 2010; Nicholson, 2009; Worthy & Thompson, 2009). However, of these studies, expert teaching behaviors have remained congruent with prior research investigating expertise in instrumental instruction (Goolsby, 1996; 1997; 1999; Waymire, 2011; Worthy, 2003; 2006).

As prior research describing the instrumental rehearsal process has reported findings from middle school through collegiate levels, middle school band directors have yet to be compared among others from the same population. Furthermore, expert middle school band directors have yet to be compared to others from the same population. Modeling has been shown to be an important pedagogical technique to the instrumental director. However, the specifics of

instructor modeling behaviors and their relation to other behaviors observed during rehearsals has yet to be explicitly reported.

The rehearsal frame served as the observational methodology for the current study, as it includes all teacher and student interactions during rehearsal segments. When all teacher and student behaviors have been identified, frequencies and durations of instructor modeling will be compared to other instructor behaviors.

The purpose of the present study is to examine and describe the rehearsal characteristics of expert middle school band directors across three rehearsals of their most advanced ensembles. The following questions are central to the present study:

1. What instructional target categories are addressed by expert middle school band directors during the observed rehearsals?

2. What are the frequencies and durations of selected rehearsal frames of expert middle school band directors during rehearsals of their respective bands?

3. What are the frequencies and durations of specified teacher talk episodes and student performance behaviors in selected rehearsal frames?

4. What are the frequencies and durations of instructor modeling episodes of expert middle school band directors during selected rehearsal frames?

5. What are the functions of instructor modeling episodes of expert middle school band directors as they pertain to instructional target categories?

CHAPTER 3

METHOD

The present study looked at rehearsal techniques among expert middle school band instructors across five rehearsals with their respective ensembles. Evidence of expertise, borrowed from Waymire (2011), is "…largely defined by a set of verbal and nonverbal behaviors possessed by directors of bands that consistently perform at high levels" (p. 46). Regarding the current study, three benchmarks were used to identify expert middle school band directors: (a) recommendations from music education professors at seven universities in the South and other leaders within the profession, (b) evidence of consistent high levels of performance from three of the last four years as indicated through state concert assessment ratings, and (c) a minimum of four years employment at the same location.

Analyses of recorded rehearsals included the identification of teacher and student behaviors. Data will be compared among all instructors for the purpose of identifying similar pedagogical behaviors of expert middle school band directors. Frequencies and durations of

instructional target categories (see Table 1) will be identified through video analysis, as will frequencies and durations of observable instructor and student behaviors (see Tables 2 & 3). Instructional target category definitions were adapted from Cavitt (1998) and Waymire (2011); instructor and student behavior terms and definitions were adapted from Cavitt (1998), Taylor (2009), and Waymire (2011).

Table 1

Instructional Target Categories and Definitions

Articulation: The manner in which the beginnings and endings of successive notes are performed. Related targets include note lengths and shapes, releases, accents, slurs, phrasing, and style
Dynamics: Degrees of volume that also include crescendos, decrescendos; comments directed at the balance and blend of an ensemble will also be grouped into this target
Intonation/Tone: The adjustment of the pitch level of a note or the adjustment of intervals related to a predetermined pitch standard or to the sounds within the music ensemble
Multiple Targets: The director gives attention to two or more target categories in a single rehearsal frame
Pitch Accuracy: Performance of correct notes
Rhythmic Accuracy: All aspects of timing as related to meter and tempo, including rhythmic precision among ensemble members and the grouping of musical sounds by means of duration and stress
Technical Facility: Woodwind and brass fingerings, trombone slide technique, percussion sticking technique and patterns, and other aspects of motor skills including hand position, posture, and physical aspects of breathing, embouchure, and oral mechanics
Tempo: The speed at which the pulse of the music is performed. This target includes ritardandos, accelerandos, rushing or slowing of the intended tempo, and transitions in tempi
Unidentified: No discernible target is identified by the instructor, yet the instructor directs the ensemble to repeat a single passage of music without verbalizing any specific directives or feedback

Table 2

Definitions of Teacher Behaviors and Teacher Behavior Categories

Teacher Talk: Combination of all teacher verbalization behaviors, with the exception of off-task, feedback, answering student questions pertaining to music, or general musical instruction; student questions are included in this behavior; counting-off/preparatory counting is not included (e.g., 1-2-Ready-Go) *Note:* Only verbalizations 2 seconds or longer are included in this category; if the teacher verbalizes "Do it again" or "Ready, Go" in a manner that does not disrupt the flow of student performance trials, it is not counted as Teacher Talk
Directives: Explicit instructor verbalizations identifying instructional target categories, student performance tasks, general student tasks (i.e. marking music), beginning and ending rehearsal points, or other verbalizations in which instructions are specifically stated
Information: General verbalized music instruction; does not require students to perform any specific action
Positive Feedback: General or specific positive comments related to immediate student performance
Negative Feedback: General or specific negative comments related to immediate student performance
Questions: Any question posed by the instructor related to music that may or may not require student response
Off-Task: Instructor engages in tasks unrelated to the rehearsal
Modeling: Instructor performance of a musical task that elicits student musical imitation or replication; if an instructor models and student imitation or replication is not elicited, it was not identified as modeling
Positive Model: Instructor models by singing, playing an instrument, clapping, counting, or any other action for the purpose of demonstrating a correct musical task
Negative Model: Instructor models by singing, playing an instrument, clapping, counting, or any other action for the purpose of demonstrating an incorrect musical task
Coach Model: Instructor models by singing, playing an instrument, clapping, counting, or any other action for the purpose for supporting student performance trials

Table 3

Definitions of Student Behaviors

Full Ensemble: Entire ensemble performs
Individual: Individual students perform alone
Sectional or Sectional Combinations: Portions of the entire ensemble are instructed to play as individual sections or combined with other sections (e.g., clarinets play; trumpets, saxophones, and low brass only)
Performance Approximation: A performance event where the musical task has been temporarily altered by the instructor. Examples include, but are not limited to: clapping rhythms, blowing air through the instrument (airplay), fingering silently, slowing down tempo, playing rhythm on a single note. Performance approximations were not identified as specific student groups (i.e. full ensemble); rather they were identified only singularly.
Student Talk: Students are observed talking, answering questions, or exhibiting off-task behaviors

Participants

Five participants were observed rehearsing their respective ensembles for three consecutive rehearsals. The top performing band at each middle school was chosen for observation. To be eligible for participation in the current study, middle school directors: (a) must have been recommended by local/regional music education professors and other leaders within the profession, (b) had evidenced excellent leadership by receiving the highest ratings at concert festival performances from at least three of the last four years, and (c) had taught a minimum of four consecutive years at the current school.

Music education professors at seven Southern universities were contacted through e-mail to recommend expert middle school band directors in their immediate area. “Expert” remained

undefined for the purpose of openly soliciting names of potential participants. Requests for the names of band directors and their respective schools were specified. A total of 21 recommendations were received. The vetting process of identifying concert festival scores was then implemented to narrow down potential participants. Seven potential participants were identified and a recruitment e-mail (see Appendix A) was sent to those instructors. Six agreed to participate and a demographic e-mail was sent (see Appendix B); the seventh never responded. An approval e-mail was then sent to building principals (see Appendix C) to fulfill project requirements set forth by the Institutional Review Board (IRB). Once approval was attained from directors, principals, and IRB, observations were then scheduled.

Four female and one male director were observed for the current study. When rehearsals were recorded, the participants' length of employment ranged from 12-32 years, with an average of 21 years' experience. The participants' length of tenure at their respective schools ranged from 4-22 years, with an average of 12.6 years. Director A was in her twenty-second year of teaching and had been at her school for the past seventeen years. Director B was in her thirty-second year of teaching and had been at her school for the past twelve years. Director C was in his twelfth year of teaching and had been at his school for the past four years. Director D was in her twenty-second year of teaching and had been at her school for the past twenty years. Director E was in her seventeenth year of teaching and had been at her school for the past ten years. Directors A, B, C, and E had earned bachelor's degrees in music education; Director D had a bachelor's degree in clarinet performance with a teaching certificate. Directors B, D, and E had a master's degrees in music education, a master's of arts in education, and a master's in music history, respectively. Director B had additionally earned a rank 1 in secondary education, and Director E was in the process of completing a master of art degree in school counseling. Director

B had previously been nominated for a Grammy Music Teacher Award. Directors' primary (p) and secondary (s) instruments were the following: Director A, p – horn, s – trumpet; Director B, p – trumpet/cornet, s – percussion; Director C, p – trumpet, s – none; Director D, p – clarinet, s – none; Director E, p – oboe, s – none.

Observations

Each director was asked to have three consecutive rehearsals of their top performing instrumental ensemble video recorded. I was present for the first and third rehearsals, with the exception of one director, in which case I was present only for day two. Directors and their principals were all in agreement that the director could facilitate video recording during the second rehearsal. A Canon FS10 digital camcorder with a tripod was provided during the week of scheduled observations for four directors and a Zoom Q4 with a tripod was provided for the fifth director. During the initial visit, field notes were collected to describe rehearsal environments. Prior to recording the first rehearsal, the directors and I established the location of the camcorder. Since I was not present for the second day, a predetermined placement of the video camera was decided upon in all five locations (in the back of each room, facing the instructor). Once the tripod was set, masking tape was placed on the floor to ensure its exact placement for each consecutive recording. All participants were asked to record the entirety of the second rehearsal, which included getting ready time, warm-up, and dismissal. I attended the third and final day to collect a second set of field notes, along with all recording equipment.

Video Analysis

Immediately following the collection of each director's recorded rehearsals, I loaded all files onto a computer for initial analysis. Initial analyses included the identification of various rehearsal activity categories, adapted from Waymire's dissertation (2011): getting ready time, warm-up, any non-instructional time, and repertoire rehearsal. During this time, durations were calculated for each category to be compared among all instructors. Once all categories were identified across all five rehearsals, the identification and analysis of rehearsal frames began. Only repertoire rehearsal was considered for further analysis.

Congruent with prior research, all rehearsal frames that were selected for further analysis included two or more student performance trials (Cavitt, 1998; Waymire, 2011; Worthy, 2003; 2006; Worthy & Thompson, 2009). A rehearsal frame begins either by an overt instructional target set by the instructor or implied by the events observed during the rehearsal. Instructional target categories and definitions from prior research (Cavitt, 1998; Worthy, 2003; 2006; Waymire, 2011) were used and can be found in Table 1. Rehearsal frames ended when the director either: (a) recontextualized the rehearsed segment into the musical selection and proceeded to another section of music or, (b) moved on after the director assessed that immediate student performance expectations could not be achieved. Performance approximations were identified as episodes in which the instructor alters the musical task (e.g., slowing down, removing articulations). Performance approximations assist students in immediacy of skill acquisition of identified instructional target categories. Recontextualization periods were identified as performing the rehearsed musical portion as part of a bigger musical performance. Generally speaking, recontextualization periods occur at the close of rehearsal frames.

Once all rehearsal frames that were to be selected for further analysis were identified from the complete rehearsal, SCRIBE was used to analyze frequency and durations of director and student behaviors. SCRIBE (Duke & Stammen, 2011) is an observational behavior identification software program that allows an observer to watch a video playback and count frequencies and time the durations of specified behaviors using user-designated key assignments (e.g. Teacher Talk = T, Student Performance = P). Since its inception, SCRIBE has been widely used for music ensemble rehearsal frame analysis (Bonds, 2015; Cavitt, 1998; Nicholson, 2009; Taylor, 2004; Waymire, 2011; Westbrook, 2004; Worthy, 2003; 2006; Worthy & Thompson, 2009).

Verbal, Modeling, and Performance Categories

The two main subject groups were the director and student ensemble. Each observable behavior from Table 3 was assigned a SCRIBE button (see Figure 1 below). As each behavior was observed, I identified that behavior with an assigned keystroke, allowing the program to keep a timeline of all recorded behaviors. Each selected rehearsal frame was viewed multiple times to ensure all behaviors were observed and recorded, and that all instructional targets were appropriately identified and properly labeled.

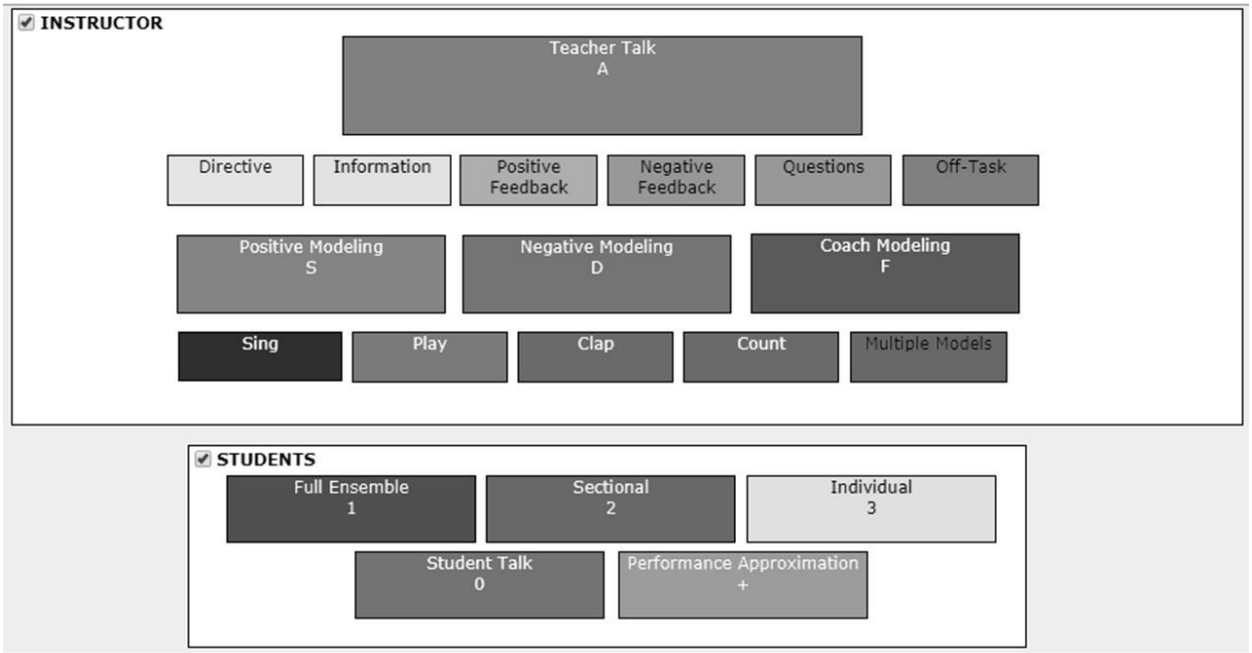

Figure 1: SCRIBE Button Groups Identifying Behavior Categories for Instructor Talking and Modeling and Student Performance

Data Analysis

Once selected rehearsal frames were analyzed, frequencies and durations of instructional target categories and specified behaviors were reported using descriptive statistics tables that include: frequency, duration, percentage, mean, and mean rate per minute. Comparisons of findings were reported among the five participants for the purposes of finding similarities of expert instruction at the middle school level. This information will be discussed in the next chapter.

Central to the current study was the use of director modeling during selected rehearsal frames. All modeling episodes from selected rehearsal frames were categorized as positive modeling, negative modeling, coach modeling and included sing, play instrument, verbal

model/clap, and multiple models. All modeling behaviors were reported in tables including frequencies, durations, and rates per minute. Modeling trends of instructors within and among the various instructional target categories were also reported.

Reliability

Two independent judges that were experienced with rehearsal frame analysis identified and categorized the instructional targets of 20% of recorded rehearsal frames. Instructions and a copy of Table 1 were distributed to both judges electronically. Rehearsal frame transcriptions with timestamps were randomly selected and assigned. Transcriptions with corresponding rehearsal videos were digitally uploaded to Google Drive and shared with the judges. After confirmation that all transcriptions had been analyzed, cross-referenced with their corresponding videos, and instructional targets had been identified and categorized, reliability was calculated at 90% agreement for rehearsal frame target identification.

CHAPTER 4

RESULTS

The present study assessed rehearsal techniques of expert middle school band directors using the rehearsal frame as the unit of analysis. Experts were identified by using three criteria: solicitation of highly recommended middle school band directors' names and schools from music education professors from seven universities in the South, along with music education professionals in the same region; bands of the directors from the requested list who received the highest cumulative ratings at concert festival performances from three of the last four years; band directors who met the first two criteria who had been employed at his/her school for at least four of the last five years. Twenty-five band directors were identified as experts using these criteria. Of those twenty-five, nine met criterion two, and only seven of the nine that met criteria one and two also met criterion three. Of the seven band directors that were invited to participate in the study, six band directors agreed and one did not respond. However, due to scheduling conflicts, five were observed. All participants were observed rehearsing the most advanced instrumental ensemble in their middle schools. Observations took place during the months of October and November of 2016. Observing in the middle of the semester allowed for ensembles to get back

into a comfortable musical routine after returning from summer break. Towards the end of the semester, band directors are more likely to be more concerned with the final musical and logistical preparations of their winter concerts than they are with correcting performance errors. It is also likely that fewer performance errors remain as an ensemble draws closer to a performance date. Therefore, the researcher deemed the middle of the semester as the optimal observational window. Results found in this chapter assist in answering the research questions found in Chapter 1. The questions are below, followed by results.

1. What instructional target categories are addressed by expert middle school band instructors during the observed rehearsals?

2. What are the frequencies and durations of selected rehearsal frames of expert middle school band directors during rehearsals of their respective bands?

3. What are the frequencies and durations of specified teacher talk episodes and student performance behaviors in selected rehearsal frames?

4. What are the frequencies and durations of instructor modeling episodes of expert middle school band directors during selected rehearsal frames?

5. How do expert middle school band directors facilitate student learning during various instructional target categories of selected rehearsal frames?

IDENTIFICATION OF INSTRUCTIONAL TARGET CATEGORIES AND THEIR DISTRIBUTION ACROSS SELECTED REHEARSAL FRAMES

For the purposes of the current study, instructional target categories and their definitions were determined prior to data collection (Table 1 of the previous chapter). After analyzing three consecutive rehearsals from five expert middle school band directors (15 rehearsals), nine of the

eleven original instructional targets were identified in the participants' rehearsals. They include: articulation, dynamics, intonation/tone, multiple targets, pitch accuracy, rhythmic accuracy, technical facility, and tempo. Unidentified as a singular focus of instruction was not addressed by any of the observed participants. The extent to which the targets were rehearsed will be discussed in detail later in this chapter.

Rehearsal frames acted as the window of observation within which instructional targets were identified. The explicit or implicit identification of an instructional target begins a rehearsal frame. All rehearsal frames discussed in this chapter were identified within time dedicated to repertoire rehearsal only. One-hundred-twenty-four rehearsal frames were identified within the combined 785 minutes of rehearsal time. Of the 124 rehearsal frames, 51 included two or more student performance trials. This represents approximately 41% of the total number of rehearsal frames that were identified. Table 4 represents the distribution of all selected rehearsal frames among the various identified instructional target categories. Multiple targets and rhythmic accuracy were observed the most at 18 rehearsal frames and 10 rehearsal frames, respectively. Rehearsal frames addressing these categories represented 56.86% of all selected rehearsal frame occurrences and 58.39% of total selected rehearsal frame time. Pitch accuracy and technical facility were the least frequent rehearsal frame target categories at two and one, respectively. It should be noted, however, that both instructional categories were also identified during multiple target rehearsal frames.

Table 4

Frequencies and Durations of Selected Rehearsal Frames by Instructional Target Categories Reported as Frequency Count, Total Time in Minutes, Mean Duration in Minutes, Percentage Proportion of Total Selected Rehearsal Frames, and Time Proportion of Total Selected Rehearsal Frames in Minutes

	f	time in min.	$\bar{x}$	total combined frame proportion %	total combined frame duration %
Articulation	7	17.5	2.5	13.73	15.84
Dynamics	6	10.45	1.74	11.76	9.46
Intonation/Tone	4	8.82	2.21	7.84	7.98
Multiple Targets	18	38.24	2.13	35.29	34.56
Pitch Accuracy	2	3.78	1.89	3.92	3.42
Rhythmic Accuracy	11	26.33	2.39	21.57	23.83
Technical Facility	1	2.28	2.28	1.96	2.06
Tempo	2	3.27	1.64	3.92	2.96
Unidentified	—	—	—	—	—

Note: (—) indicates that no rehearsal frames were identifies in these target categories.

DESCRIPTIONS OF PARTICIPANTS' USES OF REHEARSAL TIME

Divisions of Rehearsal Time

Complete video recordings were analyzed to identify the various instructional and non-instructional divisions of five expert middle school band director's rehearsals. A total of 786 minutes of rehearsal time was observed, averaging 52.4 minutes per rehearsal. There were three groups of rehearsal time that emerged as common among the five directors: warm-up, repertoire rehearsal, and non-instructional time. For the purposes of the current study, non-instructional time included getting ready time/individual student warm-up at the beginning of class,

announcements, classroom interruptions, closing remarks, and dismissal. A fourth rehearsal category, run-through, was only minimally observed during data collection of one band director. Table 5 below shows the allocation of rehearsal time into the four broad categories of rehearsal activity for each subject.

Table 5

Participants' Use of Total Recorded Class Time Shown in Minutes and Percent of Total Observed Rehearsal Time, Group Mean Amounts Included

	Total Class Time	Warm-Up	Repertoire Rehearsal	Run-Through Performance Time	Non-Instructional Time
A	125.98	36.62 29.07%	60.75 48.22%	3.23 2.56%	25.38 20.15%
B	167.75	41.95 25%	83.42 49.73%	0.00 0.00%	42.38 25.26%
C	219.38	87.6 39.93%	102.48 46.71%	0.00 0.00%	29.3 13.36%
D	126.53	59.75 47.22%	53.5 42.28%	0.00 0.00%	13.28 10.5%
E	145.97	25.6 17.54%	97.0 66.45%	0.00 0.00%	23.37 16.01%
Total	785.61	251.52 32.02%	397.15 50.55%	3.23 00.41%	133.71 17.02%
A-E Mean	157.12	50.30	79.43	—	26.74

Note: (—) indicates the mean was not provided, as observed rehearsals from four of the five band directors did not include this category.

All directors combined class time totaled 785.61 minutes, averaging 157.12 minutes across three consecutive rehearsals per director. Approximately 32% of time was dedicated to warm-up, 50.55% to repertoire rehearsal, and 17.02% to non-instructional time. Only .41% of combined class time was used for run-throughs. On average, directors engaged their ensembles in 50 minutes of warm-up time across three rehearsals, 79 minutes of repertoire rehearsal, and

approximately 27 minutes of non-instructional time. Band Director C rehearsed his ensemble more than the other four directors in three of the four categories. It should be noted that this was due to block scheduling, which lengthens class meeting times. It does not imply a higher rate of time management or teaching effectiveness. Director D dedicated more time to warm-up than repertoire rehearsal across three rehearsals. Non-instructional time remained relatively consistent between Directors A, C, and E. Director D had approximately half the amount of non-instructional time observed, where Director B had nearly twice as much as Director E. This is attributed to her class acting as a homeroom, where video announcements were broadcast and lasted approximately 7 minutes per day prior to the beginning of class. Director A was the only participant to use a portion of rehearsal time for run-through.

Rehearsal Frames

The current study focuses on rehearsal frames identified during the portions of time instructors spent rehearsing repertoire only. Time allocated to non-instructional and run-through portions of rehearsals were not considered. Rehearsal frames identified during warm-up will be discussed during Chapter 5. Table 6 shows that a total of 124 rehearsal frames were identified in the 15 observed rehearsals, with an average of approximately 25 rehearsal frames per rehearsal. Rehearsal frames accounted for 193.18 minutes of total observed rehearsal time, representing approximately 25% of time. Of the 124 total rehearsal frames identified, 73 included a single student performance trial and 51 included two or more student performance trials. There was an average of 14.6 single trial rehearsal frames and an average of 10.2 rehearsal frames with two or more student performance trials across three consecutive rehearsals for the five subjects. This

factors down to an average of approximately 5 single trial rehearsal frame occurrences and approximately 3 multiple trial rehearsal frame occurrences per repertoire rehearsal per director. Single trial rehearsal frames accounted for an average of 58.87% total observed rehearsal frames, where rehearsal frames with two or more student trials represented an average of 41.13%. During repertoire rehearsal time, on average, single trial rehearsal frames were observed approximately once every 5 minutes and multiple trial rehearsal frames were observed approximately once every 8 minutes. Multiple trial rehearsal frames ranged from 38 seconds to 6 minutes, 30 seconds, with an average duration of 2.17 minutes. Time dedicated to selected rehearsal frames averaged 38.64 minutes and represented an average of 24.95% of total rehearsal time per director.

Director A contributed 8 single trial and 5 multiple trial rehearsal frames, totaling 13 rehearsal frames. Observed rehearsal frame duration totaled 21.30 minutes and represented 16.91% of total rehearsal time. Director B contributed 14 single trial and 13 multiple trial rehearsal frames, totaling 27 rehearsal frames. Observed rehearsal frame duration totaled 49.83 minutes and represented 29.70% of total rehearsal time. Director C contributed 13 single trial and 13 multiple trial rehearsal frames, totaling 26 rehearsal frames. Observed rehearsal frame duration totaled 37.37 minutes and represented 17.03% of total rehearsal time. Director D contributed 4 single trial and 8 multiple trial rehearsal frames, totaling 12 rehearsal frames. Observed rehearsal frame duration totaled 29.25 minutes and represented 23.12% of total rehearsal time. Director E contributed 34 single trial and 12 multiple trial rehearsal frames, totaling 46 rehearsal frames. Observed rehearsal frame duration totaled 55.43 minutes and represented 37.97% of total rehearsal time. Director E contributed the most single trial rehearsal frames, singularly accounting for approximately 46% of total single trial frames. Directors B and

C contributed nearly equal single trial frames, accounting for approximately 19% and 18% of total single trial frames, respectively. Directors A and D contributed the least amount of single trial rehearsal frames, accounting for a total of 11% and approximately 6% of total single frames, respectively. Directors B and C contributed equal multiple trial frames. Director E contributed only one less multiple trial frame than Directors B and C. When combined, the three directors accounted for approximately 75% of total multiple trial rehearsal frames. Directors A and D contributed the lowest amount of multiple trial frames, and, when combined, accounted for approximately 25% of total multiple trial frames.

Table 6

Total Rehearsal Frames Observed during Participants' Repertoire Rehearsals, Rehearsal Frame Percentages, Group Means, and Cumulative Proportions Included

	Single Trial Rehearsal Frames	Multiple Trial Rehearsal Frames	Total Rehearsal Frames	Proportion of Total Observed Rehearsal Time
A	8 61.54%	5 38.46%	13	21.30 min 16.91%
B	14 51.85%	13 48.15%	27	49.83 min 29.70%
C	13 50%	13 50%	26	37.37 min 17.03%
D	4 33.33%	8 66.67%	12	29.25 min 23.12%
E	34 73.91%	12 26.08%	46	55.43 min 37.97%
Total	73 58.87%	51 41.13%	124	193.18 min 24.59%
A-E Mean	14.6	10.2	24.8	38.64 min 24.95%

Table 7 shows the total number of rehearsal frames with two or more student performance trials (selected rehearsal frames), the rate of frames per minute, mean duration, combined student performance trials, trials per minute, and trial mean duration. Fifty-one rehearsal frames met the criteria for further analysis within the 15 observed rehearsals. Directors initiated rehearsal frames resulting in two or more student performance trials approximately once every eight minutes on average, with each frame averaging 2.24 minutes. Combined data show that 110.67 minutes were observed in multiple student performance trial rehearsal frames among all participants, representing in approximately 28% of repertoire rehearsal time. Director E had the longest multiple student performance trial rehearsal frame duration percentage at 29.65%. Multiple student performance trial rehearsal frame duration percentages were very similar between Directors B and C, 22.64% and 22.72%, respectively. Directors A and D had the lowest percentage of multiple student performance trial durations at 12.47% and 15.22%, respectively.

Directors B and C had identical rehearsal frame rates, averaging one rehearsal frame every two minutes. They also had the shortest rehearsal frame mean duration, averaging 1.93 minutes per frame. Mean selected rehearsal frame duration was relatively similar among Directors B-E. Director A had the longest average rehearsal frame mean at almost a full minute longer per frame than Directors B and C. Director A had the slowest frame rate, engaging her students in a new rehearsal frame once nearly every three minutes.

Table 7 also shows frequency counts of student performance trials observed within selected rehearsal frames. A total of 279 student performance trials across all selected rehearsal frames were observed, averaging 2.53 trials per minute and lasting an average of 8.22 seconds per trial.

Table 7

Selected Rehearsal Frame Duration and Percent Proportion of Repertoire Rehearsal Time per Director and Frequency of Frames and Trials with Rate Per Minute and Mean Durations, Totals and Means Included (italicized)

	Rehearsal Frame Duration in min	Total Frames	Frames per min	Frame Mean Duration in min	Trials	Trials per min	Trial Mean Duration in sec
A	13.8 12.47%	5	.36	2.76	22	1.62	37.09
B	25.06 22.64%	13	.52	1.93	77	3.07	19.54
C	25.14 22.72%	13	.52	1.93	66	2.62	22.86
D	16.85 15.22%	8	.47	2.11	36	2.14	28.08
E	29.82 26.95%	12	.40	2.49	78	2.62	22.94
Total	110.67 27.87%	51	*.45*	*2.24*	279	2.53	23.76

ANALYSIS OF INDIVIDUAL BAND DIRECTOR DISTRIBUTION OF SELECTED REHEARSAL FRAMES AMONG INSTRUCTIONAL TARGET CATEGORIES

Cross-tabulation in Table 8 shows the distribution and percentages of selected rehearsal frames among the various instructional target categories per participant. Fifty-one rehearsal frames were selected for further analysis: 5 from Director A, 13 each from Directors B and C, 8 from Director D, and 12 from Director E. Director A contributed 9.8% of selected rehearsal frames, with 4 of the 5 addressing rhythmic accuracy. Director B and C contributed 25.49% of selected rehearsal frames each. Director B was found addressing rhythmic accuracy in five rehearsal frames and multiple targets in four, which, when combined, accounted for nearly 70% of total observed repertoire rehearsal. Director B had two rehearsal frames identifying intonation/tone, one rehearsal frame identifying articulation, and one rehearsal frame identifying

dynamics. Director C was observed addressing more instructional categories than any of the other four participants. Six rehearsal frames addressed multiple targets, two frames addressed dynamics, two others addressed articulation, and intonation/tone, pitch accuracy, and, tempo had one frame each. Director D contributed 15.69% of selected rehearsal frames. Articulation was the only target category in which multiple rehearsal frames were found. Intonation/tone, multiple targets, pitch accuracy, rhythmic accuracy, and technical facility all had one rehearsal frame each. Director E contributed 23.53% of total selected rehearsal frames with multiple rehearsal frames in two target categories (dynamics and multiple targets), and single rehearsal frames in three target categories (articulation, rhythmic accuracy, and tempo).

Multiple targets represents the most frequently observed instructional target category with 18 rehearsal frames, accounting for 35% of total selected frames. All five participants were observed rehearsing in multiple targets, with Directors B, C, and D having multiple rehearsal frames in the category. Rhythmic accuracy represents the second most frequently observed instructional category. Eleven rehearsal frames were found identifying rhythmic accuracy as a single instructional target category, which represents approximately 22% of total selected rehearsal frames. This result is only specific to rhythmic accuracy as a singular instructional target within a rehearsal frame. It appeared with other targets in the multiple targets category. Multiple targets and rhythmic accuracy represent a combined total of 29 rehearsal frames and account for nearly 57% of total selected rehearsal frames. Articulation and dynamics were observed in very similar frequencies. Seven rehearsal frames were found identifying articulation, representing approximately 14% of total selected rehearsal frames. Six rehearsal frames were found identifying dynamics, representing approximately 12% of total selected rehearsal frames.

When combined, the two represent a combined total of 13 selected rehearsal frames and account for 25% of total selected rehearsal frames.

Table 8

Cross-Tabulation of Frequency Counts, Percentages, and Totals of Instructional Target Categories by Individual Participants for All Selected Rehearsal Frames

Target	Director A	Director B	Director C	Director D	Director E	**Total**
Articulation	—	1 7.69%	2 15.39%	3 37.50%	1 8.33%	**7** **13.73%**
Dynamics	—	1 7.69%	2 15.39%	—	3 25%	**6** **11.77%**
Intonation/tone	—	2 15.39%	1 7.69%	1 12.50%	—	**4** **7.84%**
Multiple Targets	1 20%	4 30.77%	6 46.15%	1 12.50%	6 50%	**18** **35.29%**
Pitch Accuracy	—	—	1 7.69%	1 12.50%	—	**2** **3.92%**
Rhythmic Accuracy	4 80%	5 38.46%	—	1 12.50%	1 8.33%	**11** **21.57%**
Technical Facility	—	—	—	1 12.50%	—	**1** **1.96%**
Tempo	—	—	1 7.69%	—	1 8.33%	**2** **3.92%**
Unidentified	—	—	—	—	—	**—**
Total	**5** **9.8%**	**13** **25.49%**	**13** **25.49%**	**8** **15.69%**	**12** **23.53%**	**51** **100%**

Note: (—) indicates that the behavior was not observed

ANALYSIS OF TEACHER AND STUDENT BEHAVIORS WITHIN SELECTED REHEARSAL FRAMES

Selected rehearsal frames were analyzed to identify the different teacher and student behaviors observed across three consecutive rehearsals of expert middle school band directors. The following section separates observed teacher behaviors into two separate categories: teacher talk and teacher modeling. Teacher talk behaviors were categorized as: directive, information, positive feedback, negative feedback, question, and off-task. Teacher modeling behaviors were divided into three umbrella categories: positive modeling, negative modeling, and coach modeling (Speer, 1994). If an instructor performed a correct solo musical task to be performed by students, it was identified as positive modeling (Waymire, 2011; Worthy, 2003). If an instructor performed a musical action that was an incorrect interpretation, it was identified as negative modeling (Waymire, 2011; Worthy, 2003). Instructor performance behaviors were only identified as positive or negative modeling if they elicited a student musical performance trial within selected rehearsal frames. Coach modeling behaviors were identified when an instructor performed a musical task during a student performance trial within selected rehearsal frames. If, while an instructor performed a musical task, students were instructed to "airplay" or "move your fingers" without producing sound from their instruments, that behavior was identified as coach modeling. It should further be noted that coach modeling is a form of positive modeling, contingent that it occurs during student performance tasks. All instructor modeling behaviors were further analyzed into one of the following performance categories: sing, play, clap, count, and multiple models. Student performance behaviors were divided into full ensemble, sectional, individual, and student talk.

Table 9 shows the individual and combined time percentages for observed instructor and student behaviors from selected rehearsal frames. Teacher talk was observed in both frequency and duration. Specific teacher talk categories (e.g. directive) were observed and reported in

frequency counts only. Of 110.67 minutes total repertoire rehearsal time, 49.04% of total time was devoted to instructor combined behaviors. Three hundred seventy-nine counts of teacher talk episodes accounted for 41.06 minutes and 37.16% of total observed rehearsal time. On average, verbal instructional behaviors occurred 3.43 times per minute for 6.50 seconds per episode. The six teacher talk categories were directives, information, positive feedback, negative feedback, questions, and off-task. Often times, a director would exhibit multiple categories within a single teacher talk episode. For instance, beginning with a specific directive, the director may immediately add verbal information as a means of supplementing the directive and defining the instructional task. Therefore, the identification of verbal instruction categories would begin with a directive, with verbal information immediately following. Five hundred forty-six instances relating to teacher talk categories were identified. The participants used directives 1.37 times more than verbal information which accounted for 38.28% of total verbal instructional occurrences. Instructional information represented 28.02% of all teacher talk categories. Positive feedback and negative feedback occurrences were nearly equal at 54 and 49 counts, respectively. Instructors used positive feedback only 1.02 times more than negative feedback. Questions were identified whether or not an answer was solicited. A total of 51 questions were posed across fifteen rehearsals, representing 9.34% of total teacher talk categories and averaging one question per selected rehearsal frame. Off-task verbal behaviors were observed the least among all teacher talk categories with 30 occurrences and represent only 5.46% of total tallied categories.

Instructor modeling was measured in both frequency and duration. Specific modeling behaviors were observed and reported in frequency counts only. A total of 181 instructor modeling episodes were found, totaling 13.21 minutes and 11.94% of instructional time. Instructors averaged 1.64 modeling behaviors per minute with each occurrence averaging 4.66

seconds. One hundred counts of positive modeling and nineteen counts of negative modeling were observed, representing 5.24 minutes and .73 minutes of rehearsal time, respectively. Positive modeling behaviors accounted for 4.73% of rehearsal time, where negative modeling only accounted for .60%. Coach modeling behaviors were observed 62 times for a total of 7.24 minutes and accounted for 6.54% of total rehearsal time. One hundred eighty-one subcategories were observed, including: sing, play, clap, count, and multiple models. Participants were observed singing 70 times and playing an instrument 69 times. The three remaining subcategories totaled 42 observed occurrences, indicating that the participants chose to model by singing or playing an instrument approximately 3 times more than clapping, counting, or multiple models combined.

Student performance behaviors accounted for 36.16% of time during selected rehearsal frames. There were 88 identified events of students performing in a full ensemble setting, accounting for approximately 19% of time and equaling a total of 20.55 observed minutes. Each performance averaged a duration of approximately 15 seconds and students would perform as a full ensemble just under once per minute. Students were asked to perform in sections or sectional combinations 155 times. Though the frequency is substantially higher than the full ensemble setting, sectional performance time accrued a total of 14.81 minutes, representing approximately 13% of selected rehearsal frames. Average performance time per episode was approximately 6 seconds and students were found performing in sections or sectional combinations 1.40 times per minute—nearly twice as often as in a full ensemble setting. Students were very rarely observed performing alone. Only 15 counts of individual performance were identified, representing less than 1% of repertoire rehearsal time, and totaling less than one minute. Each performance lasted an average of three seconds and students would be asked to perform alone approximately once

every ten minutes. Student performance approximations were found 19 times, totaling 1.3 minutes, and representing 1.17% of repertoire rehearsal time. Student performance approximation duration average was 4.11 seconds per episode and students were found performing in performance approximations .17 times per minute or approximately once every five minutes. Students were identified engaging in student talk 45 times, totaling approximately 2.5 minutes and representing approximately 2% of repertoire rehearsal time. Student talk episode duration average was approximately 3.5 seconds and occurred once every two minutes.

Table 9

Teacher and Student Behavior Categories Reported in Frequency, Time in Minutes, Mean in Seconds, Rate of Occurrence per Minute, and Total Percentage of Time within Selected Rehearsal Frames, Director and Student Behavior Group Totals Included

Teacher Behaviors	*f*	time in min	mean in sec	rate per min	%
Teacher Talk Totals	**379**	**41.06**	**6.50**	**3.43**	**37.10%**
Directives	209				
Information	153				
Positive Feedback	54				
Negative Feedback	49				
Questions	51				
Off-Task	30				
Teacher Modeling	**181**	**13.21**	**4.66**	**1.64**	**11.94%**
Positive Modeling	100	5.24	3.08	.92	4.73%
Negative Modeling	19	.73	2.31	.17	.60%
Coach Modeling	62	7.24	7.00	.56	6.54%
Sing	70				
Play	69				
Clap	14				
Count	9				
Multiple Models	19				
Teacher Behaviors Totals	**560**	**54.27**	**5.81**	**5.06**	**49.04%**

Student Behaviors	*f*	time in min.	mean in sec.	rate per min.	%
Full Ensemble	88	20.55	14.70	.76	18.60%
Sectional	155	14.81	5.73	1.40	13.38%
Individual	15	.73	2.96	.14	.67%
Performance Approximation	19	1.30	4.11	.17	1.17%
Student Talk	45	2.59	3.45	.41	2.34%

Student Behavior Totals	**318**	**40.02**	**7.55**	**2.87**	**36.16%**

Table 10 shows the percentages of instructor and student behaviors observed within each instructional target category. Teacher talk was found to represent under half of total time dedicated to each instructional target category. The highest percentage of teacher talk, 47.37, was observed during the technical facility category and the least during tempo at 30.61 percent. Instructors engaged in positive modeling during intonation/tone rehearsal frames over twice as much as rehearsal frames related to articulation and rhythmic accuracy and nearly four times as much as multiple targets. Positive modeling was observed the least during instruction addressing dynamics. Negative modeling was the least observed durational behavior of the present study. Participants were observed negative modeling the most during intonation/tone and multiple targets categories. It averaged less than one percent of dedicated time within the six remaining categories that it was observed. Coach modeling accounted for less than one percent of time during multiple targets. However, instructors were observed coach modeling nearly 10% of the time during articulation and intonation/tone. Instructors coach modeled the same percentage of time as students performed in instrumental section combinations during the technical facility target. Instructors engaged in coach modeling more percentage of time than full ensemble performance or sectional performance when addressing rhythmic accuracy.

Students performed as a full ensemble, on average, 19.34 % of the time across all instructional target category rehearsal frames. They were found performing substantially less during pitch accuracy. Students were observed performing in full ensemble settings the most during rehearsal frames targeting technical facility and tempo. Instructors had students perform in sections or sectional combinations approximately six times as much as full ensemble performances during pitch accuracy rehearsal frames, with the next highest percentage of

sectional performance time occurring during intonation/tone, followed by multiple targets. Student sectional performance was observed the least during performance tasks addressing tempo. Student individual performances were rarely observed across all 51 selected rehearsal frames. Students performed individually the most during rehearsal frames targeting dynamics, which accounted for almost 4% of rehearsal time. Student performance approximations were only observed in three instructional categories: articulation, rhythmic accuracy, and multiple targets. Performance approximations were observed the most during rhythmic accuracy and represented 3.15% of rehearsal time. They accounted for less than 2% of rehearsal time in articulation and less than 1% during multiple targets.

Table 10

Percentages of Teacher Talk, Teacher Modeling, and Student Performance Behaviors Observed during Individual Instructional Target Categories

Target	Teacher Talk	Positive Modeling	Negative Modeling	Coach Modeling	Student Performance Full Ensemble	Student Performance Sectional	Student Performance Individual	Student Performance Approximation
Articulation	36.60	5.49	.57	10.29	22.97	14.46	.46	1.83
Dynamics	38.85	2.87	.19	—	23.44	9.28	3.92	—
Intonation/Tone	34.58	12.36	1.59	9.30	14.85	19.27	2.38	—
Mult. Targets	37.15	3.45	1.21	.75	14.72	15.65	—	.004
Pitch Accuracy	44.18	—	—	—	5.29	32.28	—	—
Rhythmic Acc.	36.80	5.96	.001	16.53	21.08	7.86	.11	3.15
Technical Fac.	47.37	—	—	14.91	28.51	14.91	—	—
Tempo	32.72	—	—	—	23.85	7.34	—	—
Unidentified	—	—	—	—	—	—	—	—

Note: (—) indicates that the behavior was not observed

ANALYSIS OF OBSERVED TEACHER TALK BEHAVIORS DURING INDIVIDUAL INSTRUCTIONAL TARGET CATEGORIES

Six teacher talk categories were observed during rehearsal recordings and were identified by frequency count only. Table 11 shows a cross-tabulation of all teacher talk categories as they were observed during selected rehearsal frames and are reported by instructional target category. Each teacher talk category is reported by frequency count, with its rate of occurrence per minute directly below. A total of 549 combined teacher talk categories were observed across 51 selected rehearsal frames. Directives were the most prevalent teacher verbal behavior observed with 209 counts recorded, accounting for 38% of all teacher talk categories. On average, instructors were observed giving instructional directives almost two times per minute. Information was the second most prevalent verbal behavior observed with 155 counts recorded, accounting for approximately 28% of all teacher talk categories. Participants were consistently observed giving an average of two information verbal behaviors per three minutes. When combined, these two categories total 66.48% of all teacher talk categories, with less than 10% being represented in each of the remaining individual categories. Positive feedback was observed in its highest frequency (21) during the multiple targets category. Negative feedback frequencies were higher than positive feedback in three of the nine observed target categories: intonation/tone, rhythmic accuracy, and pitch accuracy. Positive and negative feedback were observed in equal amounts during technical facility with one event each. Off-task verbal behaviors represented the lowest observed category among all verbal behaviors. Only 30 counts were recorded, representing approximately 5% of the 549 behavior counts.

Multiple targets and rhythmic accuracy were the two instructional target categories identified as having the most combined teacher talk categories among the nine observed instructional targets. Articulation and dynamics represent the next two instructional target categories with higher participant verbal behavior frequency counts. Multiple targets had 205

total observed verbal behaviors and rhythmic accuracy had 109, totaling 314 and representing 57.19% of all verbal behaviors. Multiple targets had 79 counts of directives, 60 counts of information, 21 counts of positive feedback, 19 counts of negative feedback, and 19 questions, representing the highest verbal behavior frequency counts among all observed target categories. Participants had 7 counts of off-task verbal behavior, which was less than off-task behaviors found in rhythmic accuracy. Rhythmic accuracy had a total of 50 directives frequency counts, 28 counts of information, 7 counts of positive feedback, 8 counts of negative feedback, 7 questions, and 9 observed off-task verbal behaviors. Articulation had a total of 25 counts of directives, 30 counts of information, 9 counts of positive feedback, 6 counts of negative feedback, 8 questions, and only 3 counts of off-task verbal behaviors. Dynamics had 19 counts of directives, 12 counts of information, 10 counts of positive feedback, 5 counts of negative feedback, 9 questions, and seven counts of off-task verbal behaviors.

Table 11

Cross-Tabulation of Frequency Counts, Rate Per Minute, Total Observed Frequency Counts, and Verbal Behavior Percentages of Teacher Talk Categories within Individual Instructional Target Categories

Target	Directive	Information	Positive Feedback	Negative Feedback	Questions	Off-Task	**Total**
Articulation	25 1.42	30 1.71	9 .51	6 .34	8 .46	3 .17	**81** **14.75%**
Dynamics	19 1.82	12 1.15	10 1.05	5 .48	9 .86	7 .67	**62** **11.29%**
Intonation/Tone	18 2.04	10 1.13	5 .57	6 .68	3 .34	3 .34	**45** **8.20%**
Multiple Targets	79 2.06	60 1.57	21 .55	19 .50	19 .50	7 .18	**205** **37.34%**
Pitch Accuracy	6 1.56	5 1.32	1 .26	3 .79	2 .53	1 .26	**18** **3.28%**

Rhythmic Accuracy	50 1.90	28 1.06	7 .27	8 .30	7 .27	9 .34	**109** **19.85%**
Technical Facility	5 2.19	4 1.75	1 .44	1 .44	1 .44	—	**12** **2.19%**
Tempo	7 2.14	6 1.83	—	2 .61	2 .61	—	**17** **3.10%**
Unidentified	—	—	—	—	—	—	—
Total	**209** **38.07%**	**155** **28.42%**	**54** **9.84%**	**50** **8.93%**	**51** **9.29%**	**30** **5.46%**	**549** **100%**

Note: (—) indicates the teacher category was not observed

ANALYSIS OF STUDENT PERFORMANCE BEHAVIORS DURING SELECTED REHEARSAL FRAMES

Student performance behaviors were measured in both frequency and duration and were divided into three categories: full ensemble, sectional, and individual. Table 12 shows the frequencies and durations of student performance categories observed during selected rehearsal frames and divided among instructional target categories. Students performed in a full ensemble setting 88 times, representing 31.77% of combined student performance behaviors. Full ensemble performance durations totaled 20.55 minutes, represent approximately 55% of combined student performance behavior duration, and averaged 14 seconds per trial. Sectional performance was deemed such if any portion of a full ensemble were instructed to not perform during that rehearsal event. Students were rehearsed in sectional combinations 155 times, representing 55.96% of combined student performance behaviors. Student sectional performance durations totaled 14.81 minutes, represent approximately 40% of combined student performance behavior duration, and averaged 5.73 seconds per trial. Individual performance trials were the least observed student performance category. Students were observed performing individually 15

times, representing 5.42% of combined student performance behaviors. Individual student performance durations totaled less than one minute, represent approximately 2% of combined student performance duration, and averaged approximately 3 seconds per trial. Students were observed performing performance approximations 19 times, representing 5.97% of combined student performance behaviors. Performance approximation durations totaled 1.30 minutes, represent 3.48% of combined student performance duration, and averaged 4.11 seconds per trial.

Multiple targets and rhythmic accuracy had the most student performance events of all target categories. Students were observed performing a total of 110 times across rehearsal frames addressing multiple targets, with 33 full ensemble and 70 sectional occurrences. Students performed as a full ensemble for approximately 5 and a half minutes, with an average of approximately 10 seconds per performance trial. Students performed in sections approximately 6 minutes, with an average of approximately 5 seconds per performance trial. Individual student performance events were not observed during this category. Performance approximations were observed 7 times, totaling .15 minutes, with an average of approximately 1 second per trial. Rhythmic accuracy represents the next instructional target category with the highest frequency of student performance events. Forty-nine student performance trials were observed, with 22 being in full ensemble, 27 in sections, 1 trial with an individual student, and 9 in performance approximations. Full ensemble performance duration equaled approximately 6 minutes, with each performance lasting about 15 seconds per episode. Sectional performance was in stark contrast to its full ensemble counterpart with a total observed duration of approximately 2 minutes and each sectional performance episode averaging 5 seconds. This result also stands as the shortest average sectional performance duration among all instructional target categories. Individual performance trials occurred once for two seconds. Performance approximations were

observed 9 times, totaling .83 minutes, and averaged 5.54 seconds per trial. Articulation represented the instructional target category with the third highest frequency of student full ensemble performance behaviors. Students were found performing in a full ensemble setting 13 times for a total of 4.02 minutes, with an average of approximately 19 seconds per episode. It should be noted that intonation/tone and articulation instructional target categories were found to have the third highest frequencies of student sectional performance events. During both categories, students were observed performing approximately 2 minutes each. However, average sectional performance duration during the articulation target category was 1 second longer than the intonation/tone category. An individual student was observed performing once in a rehearsal frame addressing articulation for 4.6 seconds. Performance approximations during articulation rehearsal frames were found 3 times, totaling .32 minutes, and averaged 6.4 seconds per trial.

Table 12

Frequency, Time in Minutes, Average Performance Duration Per Episode, and Total Percentage of Student Performance Behaviors Observed During Selected Rehearsal Frames

	Full Ensemble			Sectional			Individual			Performance Approximation		
Target	*f*	time in min	mean in sec	*f*	time in min	mean in sec	*f*	time in min	mean in sec	*f*	time in min	mean in sec
Articulation	13	4.02	18.55	18	2.00	6.67	1	.08	4.6	3	.32	6.4
Dynamics	9	2.45	16.34	9	.96	6.42	8	.41	3.1	—	—	—
Intonation/tone	7	1.31	11.24	18	1.70	5.66	5	.21	2.54	—	—	—
Multiple Targets	33	5.6	10.18	70	5.99	5.13	—	—	—	7	.15	1.26
Pitch Accuracy	1	.2	12	6	1.22	12.22	—	—	—	—	—	—
Rhythmic Accuracy	22	5.55	15.14	27	2.07	4.60	1	.03	2	9	.83	5.54
Technical Facility	1	.64	38.5	3	.34	6.77	—	—	—	—	—	—

Tempo	2	.78	23.35	4	.52	7.85	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—
Total	88 31.13 %	20.55 54.96 %	14.01	155 55.96 %	14.81 39.61 %	5.73	15 5.42 %	.73 1.95 %	2.92	19 5.97 %	1.30 3.48 %	4.11

Note: (—) indicates the behavior was not observed

ANALYSIS OF OBSERVED INSTRUCTOR MODELING BEHAVIORS DURING INDIVIDUAL INSTRUCTIONAL TARGET CATEGORIES

Expert middle school band directors were found engaging in various modeling behaviors during selected rehearsal frames. Positive and negative modeling were observed and reported in frequency and duration. Table 13 shows a total of 100 counts of positive modeling by instructors and 19 counts of negative modeling. Positive modeling accounted for 5.24 minutes of total observed rehearsal frame time, where negative modeling represented approximately 44 seconds. Instructors chose to use positive modeling rather than negative modeling approximately 5 times to 1. However, it should be noted that the total average duration per modeling episode between the two categories is relatively similar, with positive modeling episodes lasting an average of 3.05 seconds and negative modeling episodes lasting 2.31 seconds. Participants used positive modeling strategies the most during rehearsal frames addressing multiple targets. Thirty-eight counts of positive modeling were observed for a total of 78.3 seconds, with an average of approximately 2 seconds per performance episode. Participants were observed negative modeling 13 times for a total duration of approximately 28 seconds, with an average of approximately 2 seconds per performance episode. Positive modeling was also viewed in high frequency counts during selected rehearsal frames addressing rhythmic accuracy. Participants were observed using positive modeling techniques 23 times totaling 94.1 seconds, with an average duration of 4 seconds per performance episode. Only one instance of negative modeling

was observed during rhythmic accuracy rehearsal frames, totaling less than a second. Instructors were observed using positive modeling the least during rehearsal frames addressing dynamics. Seven positive modeling performance events were observed during rehearsal frames addressing dynamics totaling 18 seconds, with an average performance duration of approximately 3 seconds. Only 1 event of negative modeling was observed during rehearsal frames addressing dynamics, totaling just over 1 second. Participants were not observed engaging in positive or negative modeling performance behaviors during rehearsal frames addressing pitch accuracy, technical facility, or tempo.

Table 13

Frequency, Total Time, and Mean Duration of Instructor Positive and Negative Modeling Behaviors Observed during Instructional Target Category Rehearsal Frames

	Positive Modeling			Negative Modeling		
Target	*f*	time in sec	mean in sec	*f*	time in sec	mean in sec
Articulation	14	57.6	4.11	2	5.8	2.9
Dynamics	7	18	2.57	1	1.4	1.4
Intonation/Tone	18	65.4	3.63	2	8.2	4.1
Multiple Targets	38	78.3	2.06	13	27.7	2.13
Pitch Accuracy	—	—	—	—	—	—
Rhythmic Accuracy	23	94.1	4.09	1	.8	.8
Technical Facility	—	—	—	—	—	—
Tempo	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—
Total	100	314.2	3.05	19	43.9	2.31

Note. (—) indicates that behaviors were not observed during instructional category.

Coach modeling behaviors were observed in both frequency and duration and were identified when band directors would perform a musical task during student performance. Table 14 shows that participants were observed using coach modeling as part of the rehearsal process in five of the eight observed instructional target categories. A total of 62 coach modeling episodes were observed, for a combined duration of 7.24 minutes with an average of 7 seconds per performance. Coach modeling behaviors represented 6.55% of the 110.49 minutes of total instruction time across 51 selected rehearsal frames.

Rhythmic accuracy had the most coach modeling episodes at 31, representing 50% of the behavior frequency counts and more than twice the frequency count as the next highest target category: articulation. Instructors coach modeled for approximately 4 minutes during rhythmic accuracy instruction with an average of 7.72 seconds per performance episode. Coach modeling accounted for 15.15% of the total rehearsal time dedicated to rhythmic accuracy. Participants were observed coach modeling 13 times during rehearsal frames addressing articulation for approximately 2 minutes, averaging 8.32 seconds per episode. Coach modeling represented 10% of rehearsal time dedicated to articulation. Participants were observed coach modeling during intonation/tone rehearsal frames 10 times for less than one minute, averaging approximately 5 seconds per performance event. Coach modeling represented 9% of total instruction time dedicated to the intonation/tone instructional target category. Participants were observed coach modeling 3 times during technical facility rehearsal frames for less than one minute, averaging 6.7 seconds per performance event. Coach modeling represented approximately 15% of total instruction time dedicated to the technical facility instructional target category. It should further be noted that the technical facility target category represents the lowest observed coach modeling frequency of the study. The multiple targets and technical facility categories represent the lowest

frequencies of observed coach modeling, with 5 and 3, respectively. Participants were observed coach modeling less than one percent of total rehearsal frame time when addressing multiple targets. Participants were not observed coach modeling during rehearsal frames that addressed dynamics, pitch accuracy, or tempo.

Table 14

Frequency, Time in Minutes, Mean in Seconds, and Proportion of Rehearsal Frames for Instructor Coach Modeling Behaviors Observed during Selected Rehearsal Frames

Target	*f*	time in min	mean in sec	% of RF
Articulation	13	1.80	8.32	10.29%
Dynamics	—	—	—	—
Intonation/tone	10	.82	4.94	9.30%
Multiple Targets	5	.29	3.48	.76%
Pitch Accuracy	—	—	—	—
Rhythmic Accuracy	31	3.99	7.72	15.15%
Technical Facility	3	.34	6.7	14.91%
Tempo	—	—	—	—
Unidentified	—	—	—	—
Total	62	7.24	7	6.55%

Note: (—) indicates the behavior was not observed

Instructor modeling subcategories were observed in frequency only. Five modeling categories were chosen prior to the collection of data and include sing, play, clap, count, and multiple models. Table 15 shows a cross-tabulation of specific instructor modeling subcategory behaviors identified across all selected rehearsal frames of expert middle school band directors. Each modeling behavior is reported by frequency, rate per minute, and percentage as observed

during instructional target categories. Behaviors are also reported as combined subcategories observed across 51 selected rehearsal frames with percentages. Instructors modeled a total of 181 times across 51 rehearsal frames. Singing and playing were the most frequently observed modeling subcategories with 70 and 69 counts, respectively. Combined, the two represent approximately 77% of all modeling subcategories. Singing was observed during multiple targets 41 times at a rate of 1.07 instances per minute, the highest frequency by a substantial margin. Playing an instrument was observed during rehearsal frames addressing intonation/tone 28 times at a rate of 3.17 instances per minute. Playing an instrument was also observed 20 times during rehearsal frames addressing articulation at a rate of 1.43 instances per minute. Clapping was observed 12 times during rehearsal frames addressing rhythmic accuracy at a rate of .46 instances per minute, or approximately 1 instance every two minutes. Participants were observed counting during rehearsal frames addressing rhythmic accuracy 9 times at a rate of .34 behaviors per minute, or approximately 1 behavior every 3 minutes. Counting was the least modeled behavior used across all selected rehearsal frames. Multiple models were observed the most during rehearsal frames addressing rhythmic accuracy and totaled 15 observed behaviors at a rate of .57 behaviors per minute.

Multiple targets rehearsal frames included 56 occurrences of instructor modeling behaviors, which represents the highest among all instructional target categories and represents 31% of combined modeling behavior subcategories. Participants were observed singing 41 times, playing an instrument 10 times, and clapped and used multiple models 2 and 3 times, respectively. Rhythmic accuracy rehearsal frames included nearly an equal modeling frequency count at 55. Participants used multiple modeling strategies 15 times and sang 11 times. Rhythmic accuracy is also the only instructional target category in which all modeling subcategories were

observed. Intonation/tone totaled a modeling subcategory frequency count of 30, with sing, play, and multiple models categories representing the behaviors observed. During the articulation target category, participants sang 9 times at a rate of .51 behaviors per minute and played an instrument 20 times at a rate of 1.14 behaviors per minute. During the intonation/tone target category, participants sang and used multiple models 1 time each at rate of .11 behaviors per minute, and played an instrument 28 times at a rate of 3.17 behaviors per minute. Regarding these two instructional target categories, it should be noted that, though rhythmic accuracy frequency counts were nearly twice as much as intonation/tone, instructors were found playing an instrument as a means of demonstration 2.5 times more often (articulation) and 3.5 times more often (intonation/tone) than rhythmic accuracy. Pitch accuracy was the only observed instructional target category in which instructor modeling was absent.

Table 15

Cross-Tabulation of Frequency Counts, Rate Per Minute, Total Observed Frequency Counts, and Instructor Modeling Subcategory Percentages of Instructor Modeling Behaviors within Instructional Target Categories

Target	Sing	Play	Clap	Count	Multiple Models	**Total**
Articulation	9	20	—	—	—	**29**
	.51	1.14	—	—	—	**16.02%**
Dynamics	8	—	—	—	—	**8**
	.77	—	—	—	—	**4.42%**
Intonation/Tone	1	28	—	—	1	**30**
	.11	3.17	—	—	.11	**16.57%**
Multiple Targets	41	10	2	—	3	**56**
	1.07	.26	.05	—	.08	**30.94%**
Pitch Accuracy	—	—	—	—	—	**0**
	—	—	—	—	—	**0.00%**
Rhythmic Accuracy	11	8	12	9	15	**55**
	.42	.30	.46	.34	.57	**30.39%**

Technical Facility	—	3	—	—	—	**3**
	—	1.32	—	—	—	**1.66%**
Tempo	—	—	—	—	—	**0**
	—	—	—	—	—	**0.00%**
Unidentified	—	—	—	—	—	**0**
	—	—	—	—	—	**0.00%**
Total	**70**	**69**	**14**	**9**	**19**	**181**
	38.67%	**38.12%**	**7.73%**	**4.97%**	**10.50%**	**100%**

Note. (—) indicates that behaviors were not observed during instructional category

CHAPTER 5

DISCUSSION

The current study observed five expert middle school band directors rehearsing their most advanced ensemble for three consecutive rehearsals (15 rehearsals). Recordings took place between the months of October and November of 2016. Experts were identified by meeting three criteria: being recommended by music education professionals at seven universities in the South and by music education practitioners, having their ensembles receive a cumulative score of distinguished for three of the past four years at concert festival, and being employed at their school for a minimum of four years. Once recordings were collected, the process of rehearsal analysis began. Rehearsals were divided into four categories: warm-up, repertoire rehearsal, run-through, and non-instructional time. For the purposes of the current study, non-instructional time included getting ready time/individual student warm-up at the beginning of class, announcements, all classroom interruptions, closing remarks, and dismissal. Rehearsal frames

selected for further analysis were identified during time dedicated to repertoire rehearsal. I attended the first and third days of four of the five band director's rehearsals, during which time field notes were taken. Due to scheduling conflicts, the fifth band director was visited on day two and not on day one or three. With this information, I attempted to answer research questions that would assist in conceptualizing the process of how expert middle school band instructors facilitate the rehearsal process.

Research question one asked:

What instructional target categories are addressed by expert middle school band instructors during the observed rehearsals?

PARTICIPANTS' USE OF REPERTOIRE REHEARSAL TIME DURING SELECTED REHEARSAL FRAMES IDENTIFIED BY INSTRUCTIONAL TARGET CATEGORIES

The initiation of rehearsal frames can be quickly identified if an instructor's selected targets are clear and explicit. It is in these moments that the instructor and student(s) become keenly aware of what performance issue is being addressed and subsequently rehearsed. Prior to data collection, instructional target categories were adopted and defined from previous research (Cavitt, 1998; Waymire, 2011; Worthy, & Thompson, 2009). I decided upon ten targets, as adapted primarily from Cavitt (1998) and Waymire (2011). They included: articulation, dynamics, intonation/tone, multiple targets, pitch accuracy, rhythmic accuracy, technical facility, tempo, and unidentified.

Participants in the current study were observed rehearsing eight of the ten instructional target categories: articulation, dynamics, intonation/tone, multiple targets, pitch accuracy, rhythmic accuracy, technical facility, and tempo. Unidentified as a singularly addressed target

was not observed. This is not to say that expert middle school band directors do not engage in this specific targets; they were simply not observed during the recorded rehearsals. Multiple targets, rhythmic accuracy, articulation, and dynamics were addressed more than any other targets. This result aligns with prior results from Cavitt (1998), Waymire (2011), and Worthy (2003). Discrepancies among past research exists in the multiple targets category, where Cavitt found less than the current study. Furthermore, Waymire, and Worthy found more intonation/tone rehearsal frames than the current study. The difference in findings notwithstanding, these four target areas are rehearsed by expert instrumental ensemble directors more frequently than other target categories. Table 16 shows the amount of repertoire rehearsal time each participant spent in minutes addressing each instructional target category. Findings in the current study show that Director A contributed a total of over 13 minutes rehearsing rhythmic accuracy, which is substantially more than any other participant. She spent four minutes more than Director B, who represents the next highest time allotment for rhythmic accuracy with approximately 9 minutes. Director B had a broader distribution of selected rehearsal frames among instructional target categories than Director A. Along with rhythmic accuracy, Director B contributed a total of over 6 minutes of selected rehearsal frames to multiple targets and was observed dedicating just under 6 minutes to intonation/tone, representing the most among participants. Director C spent 41% – a total of more than 10 minutes – of his selected rehearsal frame time rehearsing multiple targets, representing more than twice as much time spent in any of the other nine observed instructional target categories. Director D contributed a total of nearly 6 minutes addressing articulation. This represents more than twice that of any other instructional target category, and had nearly equal selected rehearsal frame durations among intonation/tone, pitch accuracy, rhythmic accuracy, and technical facility. Director E contributed a total of

approximately17 minutes of her selected rehearsal frame time addressing multiple targets, representing approximately 65% of selected rehearsal frame time addressing multiple targets.

Unidentified only appeared once during a multiple target rehearsal frame and was paired with pitch accuracy. This result suggests a very high level of instructional clarity from the participants and aligns with findings from Cavitt (1998). Cavitt, Waymire (2011), and Worthy (2003) identified rehearsal frames that included systematic presentations of instruction followed by student performance repetitions, but lacked instructional target clarity. However, Cavitt was the only one who included middle school band directors as a part of the observed population. During analysis, rehearsal frames from the current study were timestamped and transcribed into Microsoft Word. During many transcriptions, participants were observed identifying instructional target categories explicitly as part of their verbal instruction. Below is an example from Director B:

48:57	"…I'm more focused on [the] intonation…It's really a hard thing to tune and we've worked on that, right you guys?…Can you do it one time with me, the first one? Trumpets are in. The first one at 57."
49:22-49:26	Sectional (trumpets, low reeds, and low brass)
49:27-49:33	Sectional (low reeds and low brass)
49:34	"It's a little bit more stable when the trumpets are in – the first one – but, the second one it just goes completely to the low reeds and low brass. Do it one more time, the first one."
49:58-50:01	Sectional (trumpets, low reeds, and low brass)

50:02	"The second one has to be as stable with fewer players."
50:06-50:11	Sectional (low reeds and low brass)
50:10	"We might tune that more carefully next week…[measure] 51, here's 51. I need to keep going this time. Everybody's in…get ready. Percussion, don't slow down count 4."
50:41-51:06	Full ensemble

From the introduction of the rehearsal frame, the instructor identifies that the target to be rehearsed is intonation/tone. This rehearsal frame ends with the instructor explicitly stating her future objectives as being a direct result of current student achievements. Deeming ensemble tuning too cumbersome and lengthy a task for immediate student achievement, she informs the students that they will address the issue the following week. The above transcription is an exemplary model of the explicit instruction that was observed throughout the study.

Table 16

Time Spent in Instructional Target Categories Per Director Reported in Total Minutes

Target	Director A	Director B	Director C	Director D	Director E	Total
Articulation	—	1.92	4.93	5.85	4.8	17.5
Dynamics	—	1.9	4.38	—	4.17	10.45
Intonation/Tone	—	5.88	.77	2.17	—	8.82
Multiple Targets	.63	6.38	12.43	1.3	17.5	38.24
Pitch Accuracy	—	—	.95	2.83	—	3.78
Rhythmic Accuracy	13.17	8.98	—	2.42	1.77	26.34

Technical Facility	—	—	—	2.28	—	2.28
Tempo	—	—	1.68	—	1.58	3.26
Unidentified	—	—	—	—	—	—
Total	13.8	25.06	25.14	16.85	29.82	110.67

Multiple Targets

Of the ten possible target categories, multiple targets was observed as being the most frequently addressed target in the current study. This result supports prior research that identifies multiple targets as a primary instructional target category among expert instrumental ensemble instructors (Cavitt, 1998; Murray, 2011; Waymire, 2011; Worthy, 2003; 2006). Of the 51 selected rehearsal frames, 14 addressed multiple targets, representing approximately 25% of selected rehearsal frames and 24% of total observed repertoire rehearsal time. Table 17 shows the categorical combinations and frequencies of targets addressed during the multiple targets rehearsal frames, of which no more than 3 targets were rehearsed concurrently. Articulation and rhythmic accuracy were observed more frequently during the multiple targets category. Articulation was observed in 15 of the 18 total multiple target selected rehearsal frames; rhythmic accuracy was observed in 14. Articulation/dynamics and dynamics/intonation combinations were observed being rehearsed three times each, totaling just under 50% of combined target category combinations. Articulation/rhythmic accuracy was observed in two rehearsal frames and six other target category combinations were observed in one rehearsal frame each. Contrary to findings from Worthy (2006), this result is somewhat surprising to my

assumption that rhythmic accuracy would be a component in the majority of multiple targets due to its prevalence as an individually rehearsed target. The result suggests that during the trials that address targets other than rhythmic accuracy, the students were not in need of repetitions focusing on rhythmic passages. Rather, the instructors were more concerned with students' immediate inabilities to perform more musically complex tasks. Rhythmic precision is a very foundational task that must be addressed prior to other issues relating to musical performance. Rhythmic accuracy, as its own instructional target, holds a large majority of selected rehearsal frames in the current study. It is also rehearsed concurrently with four other categories: articulation, dynamics, pitch accuracy, and technical facility. Results from Table 5 in the previous chapter report rhythmic accuracy rehearsal frames, on average, lasting longer than most other instructional target categories. It is interesting to note that, regarding target combinations including rhythmic accuracy, the results in Table 17 show the opposite. With the exception of pitch accuracy/technical facility, target combinations including rhythmic accuracy actually represent the shortest average rehearsal frame durations. This result suggests that it typically took the participants longer to instruct their students when addressing multiple targets that did not include rhythmic accuracy. Musical performance skills that include articulation, dynamics, intonation/tone, and combinations thereof are more difficult for students to master due to the level of proficiency that is required. Due to the performance maturity levels of the middle school ensembles in this study, it stands to reason why rhythmic accuracy rehearsal frames are found in higher frequencies. As ensembles are comprised of many individual students, so there exist many individual performance levels. If a performance task was greater than even some of the student's abilities, the resultant rhythmic accuracy of the section/sectional combination/full ensemble would be found wanting. Therefore, the instructor would then be tasked to increase rhythmic

performance achievement along with the previously identified target. The observed ensembles' proficiency levels also suggest that the more difficult the task, the longer it will take for students to accommodate their performance behaviors to their instructors' desired outcomes.

It should be noted that the instructional target 'unidentified' was seen once throughout the entire study, and is reported in Table 17 as being combined with pitch accuracy. The participants in the current study were observed consistently naming the target categories to their students as they were rehearsing them. This observation can be found when looking at the frequencies of the unidentified instructional target category as compared to all the other observed target categories. The majority of selected rehearsal frames included teacher verbalizations that named the target. If the target was not explicitly identified, it was very clear to the observer through instruction and performance events what target the instructor was rehearsing.

Table 17

Multiple Targets Target Combinations Reported in Frequency, Total Time in Minutes, and Mean Time in Minutes from Selected Rehearsal Frames

Instructional Target Combination	*f*	total time in min	mean time in min
Articulation Dynamics	3	6.30	2.10
Dynamics Intonation/Tone	3	6.15	2.05
Articulation Rhythmic Accuracy	2	2.60	1.3
Rhythmic Accuracy Dynamics	1	1.45	1.45
Dynamics Technical Facility	1	2.80	2.80
Rhythmic Accuracy Pitch Accuracy	1	1.83	1.83

Unidentified Pitch Accuracy	1	3.07	3.07
Pitch Accuracy Technical Facility	1	1.62	1.62
Rhythmic Accuracy Technical Facility	1	1.20	1.2
Pitch Accuracy Technical Facility Rhythmic Accuracy	1	1.30	1.3
Articulation Dynamics Technical Facility	1	6.50	6.50
Articulation Dynamics Rhythmic Accuracy	1	1.33	1.33
Articulation Pitch Accuracy Rhythmic Accuracy	1	2.10	2.10
Total	18	38.25	1.59

Rhythmic Accuracy

As shown in Table 4 of the previous chapter, 11 selected rehearsal frames were identified in which rhythmic accuracy was the instructional target category. This accounts for 22% of selected rehearsal frames and total observed repertoire rehearsal time. Rhythmic accuracy was observed as the second most addressed instructional target category in the current study. This result is similar to findings from past research which described the instrumental rehearsal process when facilitated by expert instructors (Carpenter, 1988; Cavitt, 1998; Goolsby, 1997; 1999; Pontious, 1982; Waymire, 2011; Worthy, 2003; Worthy, & Thompson, 2009). For the current study, the definition of rhythmic accuracy (Table 1, p. 30) was “all aspects of timing as related to

meter and tempo, including rhythmic precision among ensemble members and to the grouping of musical sounds by means of duration and stress." Below are two rehearsal frame transcriptions in which rhythmic accuracy is being rehearsed. Notice the sense of urgency that is being relayed from instructor to ensemble concerning rhythmic precision.

Director B, Repertoire Rehearsal Frame #7, Rehearsal 2.

25:19	"There's a rhythm that's being played wrong in the percussion. Measure 7, mallets and triangle, that rhythm is (instructor model, clap/count x2)…Play that for me mallets and triangle."
25:32-25:34	Sectional (keyboard mallets and triangle)
25:36-25:37	Sectional (keyboard mallets and triangle)
25:38	"What is happening is when you play it with the full band, you're playing 1, 2. (Instructor positive model, clap/count x2). Play it again."
25:47-25:49	Sectional (keyboard mallets and triangle)
25:52	"…Let me hear woodwinds and percussion together…Listen to what [the woodwinds] are playing first. Maybe pat your part on your leg…"
26:06-26:08	Sectional (woodwinds)
26:09	"See, what [the percussion] are doing just compliments what [the woodwinds] are [doing]. Listen again."

26:14-26:17 Sectional (woodwinds)

26:18 "Now, with the percussion. With the triangle and mallets this time."

26:23-26:25 Sectional (woodwinds, triangle, and mallets)

26:26 "And it's going to happen again at measure 9, the same thing…I need a nod that you got that."

It is clear through the above interactions that Director B was tasking the mallet and triangle performers to perform their rhythms correctly. She went further than just modeling the rhythm and asking for a call/response, rote interaction. She identified that the clarinets had a section that rhythmically complimented the percussion part, and then asked the clarinets to perform the line so that the percussion could focus their listening skills beyond their own part. She then acknowledged the possible issue elsewhere in the music where the same rhythmic relationship was shared between the two sections.

Director D, Repertoire Rehearsal Frame #8, Rehearsal 3

32:27 "At the end, if you need to write in your counts, do it, but you've got…1+2+, 3 is the rest, and…+4. (instructor model, sing/count). Let's try that."

33:04-33:07 Full ensemble (instructor model, sing/count)

33:09	"You've got to count in your mind, 1+2+ off +4. That's what I would do."
33:19-33:22	Full ensemble (instructor model, sing/count)
33:23	"Better, do you understand?...Go back and do that last chunk again. 57 to the end...look at this this weekend."
33:53-34:53	Full ensemble (instructor model, play)

During this particular rehearsal segment, Director D stressed to the entire ensemble that a unison rhythm was being performed incorrectly. To remedy, she counted out loud, had the ensemble do the same, counted again, and then asked them to perform a second time. She also gave them an opportunity to write whatever they needed to make sure the rhythmic behavior would be resolved.

As mentioned above, rhythmic accuracy is foundational to the musical performance success of an ensemble. Only Directors A and B spent more than one rehearsal frame rehearsing rhythmic accuracy only. Director C did not address rhythmic accuracy as an individual target category, and Directors D and E spent only one rehearsal frame each addressing the individual target. Rhythmic accuracy is vital to the scaffolding process in music performance education. As rhythm serves as the horizontal vehicle with which music can be performed, it has been found to be one of the most rehearsed target categories. Worthy (2003) observed an expert band director rehearsing rhythmic accuracy with advanced high school and collegiate ensembles approximately 20% of the time, second highest only to multiple targets (2). In the current study, participants' ensembles, though under the instruction of expert pedagogues, are still middle schoolers and are young, aspiring musicians. Based upon observations made during data

collection, their ability to perform rhythms accurately many times needed recalibrating. The two preceding statements may also explain the reasoning that rhythmic accuracy rehearsal frames averaged longer durations per frame than most other target categories during the current study.

Articulation and Dynamics

Articulation and dynamics were found to be the third and fourth most addressed instructional target categories in the current study. These findings are congruent with past research which described the instrumental rehearsal process when facilitated by expert instructors (Bergee, 2005; Carpenter, 1988; Cavitt, 1998; Goolsby, 1997; 1999; Waymire 2011; and Worthy, 2003). Articulation and dynamics represent instructional target categories in which student rhythmic proficiency is requisite of student performance achievement. In the current study, rhythmic accuracy was observed during multiple target rehearsal frames, including those in which articulation or dynamics was addressed. However, during such times, student performance proficiencies were greater than the difficulty of rhythmic passages. As reported in Table 8 of the previous chapter, articulation accounted for 13.73% of selected frames and dynamics accounted for 11.77% of selected frames. Table 4 in the previous chapter shows that selected rehearsal frames that address articulation averaged nearly a full minute more per frame than dynamics. Conversely, rehearsal frames addressing dynamics averaged the shortest duration per frame. Teacher talk percentages during rehearsal frames addressing articulation were nearly equal to the rhythmic category. Teacher talk percentages during rehearsal frames addressing dynamics were higher than the rhythmic category. Instructors were found modeling more in articulation than dynamics, which will be discussed later in this chapter. Articulation was found

to be most prominent with Director D, as she directed most of her comments to the woodwinds. The transcription below begins with the director overtly identifying articulation as the target, followed immediately by nearly 60 seconds of verbal information and modeling. Her initial instructional vigor represents an attempt to prevent student performance error during the selected rehearsal frame.

Director D, Repertoire Rehearsal Frame #4, Rehearsal 3

19:53	"The first thing I want to do: alto sax…oboe, and flutes at 41. Now flutes, 41 is the same thing that you have at 37 right? You're doing a great job at with the notes and the rhythms. It's the articulation [that] bothers me. On beat three, flutes, somebody keeps slurring; but, it should be tongued. (instructor model, play)…do you hear that? Tongue, tongue, slur, tongue, tongue, tongue…from the alto sax, flute, and oboe."
20:50-20:53	Sectional (flute, oboe, alto sax) (instructor model, play)
20:53	"Good job. Again…you only slur one note in that measure."
21:02-21:05	Sectional (flute, oboe, alto sax) (instructor model, sing)
21:06	"Make sure you tongue the third beat….and, if you want to take it a step further, it's not only tongued…" **Q:** "but, what do you see over the note?" **student answer:** "staccato" "Staccato, so it's a little separated…it's a little bit short."
21:22	"Everybody, [measure] 36."

21:33-22:24 Full ensemble

Director C was observed rehearsing dynamics more than any other participant. In the transcription below, he compares ensemble balance/blend to a decorated cake. He divides the ensemble into stratified groups that represent the cake's various components which includes melody (candles), interactive harmonic lines (icing), and structural harmonic lines (cake).

Director C, Repertoire Rehearsal Frame #8, Rehearsal 2

56:12 "Stop, do it again. Here's why: because we've got trills, which is just like icing on the cake; trumpets like the candles. Cake, can I hear it?"

56:43-56:51 Sectional (low brass and low reeds)

56:51 "Again, same thing. More."

56:56-57:04 Sectional (low brass and low reeds)

57:04 "Again, more tuba. Sounds like I have two, when it should sound like I actually have five. More trombone. Take over."

57:13-57:21 Sectional (low brass and low reeds)

57:20 "Everybody, 158. Everybody in. Take over. Own this."

57:34-57:50 Full ensemble

58:03-58:16 Off-task

58:23-58:31 Full ensemble

58:32 (indiscernible instruction)

58:38-59:13 Full ensemble

In both examples, the participants are explicitly clear as to their expectations of student performance outcomes. Director D modeled during each student sectional trial, musically assisting her students to properly perform a staccato articulation. She then compounds the student performance task by turning student attention to a slur, without sacrificing attention to the staccatoed note. Director C persistently instructed students to correctly perform the dynamic role of "cake" within the metaphor. In each iteration, he specifically identified performance issues that needed to be resolved to achieve the appropriate role in the ensemble's balance. It is interesting to note that Director D used substantially more verbal instruction and modeling than Director C. This result suggests that the articulation category may require more modeling and teacher talk during the stages of student learning than dynamics. Reciprocally, the dynamics category may require more student performance trials with less verbalizations during the stages of student learning than articulation.

Research question two asked:

What are the frequencies and durations of selected rehearsal frames of expert middle school band instructors during rehearsal of their respective bands?

As reported in Table 7 of the previous chapter, Director A was observed rehearsing her ensemble in 5 multiple student performance trial rehearsal frames, totaling 13.8 minutes.

Director B was observed rehearsing her ensemble in 13 multiple student performance trial rehearsal frames, totaling 25.06 minutes. Director C was observed rehearing his ensemble in 13 multiple student performance trial rehearsal frames, totaling 25.14 minutes. Director D was observed rehearsing her ensemble in 8 multiple student performance trial rehearsal frames, totaling 16.85 minutes. Director E was observed rehearsing her ensemble in 12 multiple student performance trial rehearsal frames, totaling 29.82 minutes. Though the participants represent a highly similar subject pool, the contexts of their respective observation windows shed an enormous amount of light into the relatively large discrepancy within the data set.

CONTEXTS OF PARTICIPANTS' OBSERVATION WINDOWS

Director A

Director A was preparing her ensemble to perform with her school's high school band for an upcoming football game. Her ensemble was an eighth grade concert band of 24 students that included full winds and percussion. Her repertoire was neither musically complex nor highly challenging, but rather stand music and the school's fight song. It was clear that the focus during her observation window was to prepare her students to perform rhythmically accurately, as 95% of selected rehearsal frame time was dedicated to rhythmic accuracy. Her contribution to rhythmic accuracy also represents approximately 56% of the total observed time in that target category among all participants. She was less concerned with intonation and characteristic tone production during repertoire rehearsal due to her ensemble's performance timeframe. It should also be added that her average rehearsal frame pacing was the slowest among all participants

(Table 7 of the previous chapter). She averaged almost a full minute more per rehearsal frame than Directors B and C. This result could have been drastically different had Director A's observation window been closer to a performance that included concert literature.

Director B

Director B was preparing for a public concert scheduled for the week following her observation window. Her ensemble was composed of 41 eighth grade students and represented a full concert band, including percussion. Her students were already very familiar with the musical selections and the varying degrees of difficulty specific to each selection. Table 8 in chapter 4 shows Director B engaging her students in five of the nine observed instructional target categories, with more time being dedicated to rehearsing rhythmic accuracy, multiple targets, and intonation/tone. Director B also spent more time addressing and rehearsing her ensemble's intonation/tone than any other participant. Her rehearsal preparation was very thorough, as indicated by her instructional clarity. She was observed routinely choosing more difficult passages to rehearse, rather than starting musical selections from the beginning. During analysis, it was clear that a portion of her rehearsal frames resulted from her level of preparation and student performance expectations; others were initiated due to student performance error. Her average rehearsal frame duration, along with Director C, was the lowest among all participants, indicating a faster pace of instruction. She averaged just under two minutes per frame. This result suggests that she was very aware of her ensemble's performance capabilities, and also suggests a high level of preparation. She facilitated her instruction with clarity, promoting student performance achievement. Though she had intentions of running through entire musical

selections during her observation window, she was unable to do so due to student performance errors that would arise.

Director C

Director C was approximately halfway through the semester and was observed rehearsing a variety of music that included an armed forces medley for an upcoming Veteran's Affairs community performance, and also selections for the final Christmas concert scheduled at the beginning of December. Due to block scheduling, his ensemble met every other school day – three days one week, two the next. His ensemble was also larger than any other participant's ensemble size. It was comprised of 57 seventh and eighth grade woodwind and brass players. The first two full recorded rehearsals and approximately 50% of the third were without the percussion section, as they met during a separate class period with a percussion instructor. He was observed 49% of repertoire rehearsal time addressing multiple targets. When addressing multiple targets, Director C primarily addressed articulation and rhythmic accuracy, though not always within the same rehearsal frame.

Time spent addressing articulation and dynamics should be noted. Director C spent the most time addressing dynamics as a single target more than any other participant. Reasons for this result are inconclusive; however, during data analysis, it was obvious that his students were at the beginning stages of implementing dynamic contrast. Much of his instruction addressing dynamics specified balance/blend, a component of its working definition. Director C spent 37% of his total selected rehearsal frame time addressing articulation and dynamics, which is higher than any other participant. This could be attributed to the upcoming V.A. concert, as it was to be

held in the weeks following data collection. His ensemble was very familiar with the armed forces medley, which allowed him work on more than rhythm and pitch. He was very specific with march-style articulations, regardless of instrument section, and persisted during rehearsal frames until student behavior change was achieved. His verbal instruction was also highly specific regarding students listening across the ensemble and in sections, setting scenarios for them to hear and vertically orient their roles within the ensemble.

Director D

Director D was observed in the midpoint of her school's semester. Her ensemble was composed of 32 eighth grade brass and woodwinds. To assist with class scheduling, the percussion met during a separate period. On the first day of her observation window, she passed out new repertoire to be sight-read that would continue to be rehearsed throughout subsequent observations and ultimately be performed in a culminating performance at the end of the semester. Taking into consideration that her students were sight-reading, it is interesting to note that time spent in articulation represented approximately 35% of all repertoire rehearsal time. Based on combined results from the current study, time spent in rhythmic accuracy would most likely have been higher than most other target categories. However, the musical selection chosen for sight-reading was not as rhythmically challenging to her students as it was in other areas, such as articulation and intonation/tone. A large portion of her warm-up time across all three observed rehearsals was dedicated to rhythm reading that incorporated varying degrees of melodic difficulty. As the level of rhythmic difficulty during warm-up surpassed that of the musical selection, it stands to reason as to why Director D spent equal or more time in other

target areas. It is interesting to note the duration of time spent in areas other than articulation. As can be seen in the Table 8 from the previous chapter, aside from articulation, her rehearsal pacing is almost identical in the four remaining target categories. This result suggests that her ability to use clear and concise instruction expedited students' abilities to achieve correct performance behaviors.

Director E

Director E was observed towards the end of her semester, as her ensemble was working on musical selections for their upcoming Christmas concert. Her school operated on a seven-period schedule and to resolve class scheduling issues within the school, she had all eighth grade woodwinds in the period prior to the one in which she was observed, followed immediately by the eighth grade brass and percussion sections. Once the data was analyzed, Director E was found addressing multiple targets categories 65% of her rehearsal frame time. This result is attributed to both her level of expertise as a pedagogue and the smaller size of her ensemble. Due to her ensemble size being only 13, there was a smaller chance of overburdening her students with instructional target categories than if she was observed rehearsing a full ensemble. Furthermore, her instruction was far more individualized because of the lower number of students. Though her pacing was quick during rehearsal frames that only required a single trial (Table 6 of the previous chapter), her pacing during selected rehearsal frames was approximately 30 seconds longer per frame. The facilitation of instruction becomes a more demanding task upon the addition of instructional targets within the same rehearsal frame. She was also observed rehearsing her ensemble in multiple targets 50% of her total time dedicated to selected rehearsal

frames. Assessing the quality as a band director and comparing her level of expertise among the other participants was not a part of the current study. However, she was observed being more tenacious about student performance achievement expectations than other participants.

Summary of Time Spent in Instructional Target Categories by Participants

Director A was observed rehearsing rhythmic accuracy more than the other participants. She was only observed addressing two instructional target categories. This could be the result of a lack of complex repertoire and upcoming athletic event performance. Director B was observed rehearsing intonation/tone more than the other participants. Her time in selected rehearsal frames was spent primarily in rhythmic accuracy, intonation/tone, and multiple targets. Her ensemble was one week away from a mid-semester concert that included concert literature. Director C was observed rehearsing multiple targets more than any other category. This result is attributed to how well rhythmic accuracy and articulation pair with other targets (Table 17). Furthermore, his level of preparation and clarity of instruction permitted him to simultaneously address two or more targets without the required performance tasks becoming too difficult for students to manage. Director D was observed rehearsing articulation as a single target more than any other participant. Though her ensemble began learning a new piece, which included a rehearsal of sight-reading, her ensemble had little rhythmic difficulty. Rather, the piece was more challenging regarding articulation. Director E was found addressing multiple targets more than any other participant. This result could be due to the small size of her ensemble. As there were only 13 students, she was easily able to identify when students would become overburdened with

performance tasks. Her time in selected rehearsal frames was spent primarily addressing multiple targets and articulation.

Research question three asked:

What are the frequencies and durations of specified teacher talk episodes and student performance behaviors in selected rehearsal frames?

ANALYSIS OF TEACHER TALK AND STUDENT PERFORMANCE BEHAVIORS

Frequencies and Durations of Observed Teacher Talk

Teacher talk was observed in frequency counts and duration. Three hundred, seventy-nine episodes of teacher talk were observed across 51 selected rehearsal frames, totaling 41.06 minutes and representing 37.16% of total repertoire rehearsal time. This result supports past research that expert instrumental ensemble instructors tend to talk less than 50% during rehearsals (Colprit, 2000; Goolsby, 1996; 1999; Murray, 2011; Pontious, 1982; Taylor, 2005; Waymire, 2011; Worthy, 2003). Participants were consistently specific and brief regarding the desired student achievement outcomes, averaging 3.43 verbal behaviors per minute with an average duration of 6.50 seconds per behavior. Participants were consistently observed maintaining a welcoming and affable rehearsal environment, as primarily found through verbal communication. However, as comfortable as rehearsal settings may have been, all directors conveyed much resolve about student performance outcomes being optimal.

As reported in Table 10 of the previous chapter, percentages of teacher talk duration during selected rehearsal frames ranged from 32%-47%. Teacher talk was observed in its lowest percentage during rehearsal frames addressing tempo, and was observed in its highest percentage during rehearsal frames addressing technical facility. Teacher talk episodes were observed in longer durations during rehearsal frames addressing instructional target categories that did not lend themselves to short, one-word instruction or modeling to expedite student musical achievement. For instance, verbal instruction addressing tempo or rhythmic accuracy instructional targets were often times "faster" or "you're slowing us down". Pitch accuracy could often be addressed with a positive or negative model to convey to students the pitch issue. To contrast, during the only rehearsal frame that identified technical facility as a single target, Director D used a clarinet to show fingering techniques to her clarinets, but relied on her verbal instruction to explain the intricacies of the passage. Had Director D only modeled, her students might have had a lesser chance of understanding the concept of rolling over a keyhole than if she had not been verbally specific.

Teacher Talk Categories

Six teacher talk categories were selected and defined prior to the collection of data. They were: directives, information, positive feedback, negative feedback, questions, and off-task. All teacher talk categories were observed in frequency count only. A total of 549 combined teacher talk categories were observed across 51 selected rehearsal frames. Directives and information verbal behaviors were observed in the largest quantities among all verbal categories. Two hundred and nine counts were directives, representing the highest category frequency count

among the six observed categories and accounting for 38% of all teacher talk categories. One hundred, fifty-six counts were information and accounted for 28% of all teacher talk categories. Combined, the two total 365 counts of participant verbal behavior, representing approximately 67% of total teacher talk categories. This result indicates that the participants were observed the most instructing their ensembles using performance or behavioral directives and supplementing their directives with information. Positive feedback and negative feedback were viewed in very similar amounts, with 54 counts of positive feedback and 50 counts of negative feedback. The two combined represent approximately 19% of total observed verbal categories. Participants used positive feedback more during instruction addressing articulation, dynamics, and multiple targets. Negative feedback was used more during instruction addressing intonation/tone, pitch accuracy, rhythmic accuracy, tempo, and multiple targets. Positive and negative feedback were observed in equal amounts during technical facility. Positive feedback was observed the most during multiple targets. Nineteen counts of negative feedback was observed during multiple targets, substantially more than the next highest frequency count of 6, observed during instruction addressing articulation and intonation/tone. Though negative feedback was not observed in a higher total frequency, it was observed in higher frequencies in more target categories. Prior research has identified negative feedback as more prevalent than positive feedback when observing expert band directors (Cavitt, 1998; Hewitt, 2007; Waymire, 2011). I would speculate that results across more observation windows of the current study's participants would find instances of negative feedback more frequently than positive. However, the results of the current study remain inconclusive as to participant preference of one type of feedback used.

Participants were observed engaging their students in questioning strategies quite often. Questions were observed 51 times, averaging one question per rehearsal frame and accounting

for 9% of total repertoire rehearsal. Participants would ask questions with the intention that their students would provide answers. If students remained silent, participants, specifically Director E, verbally elicited student responses. This created an atmosphere that promoted higher-level thinking. The below transcription serves as an example.

Director E, Repertoire Rehearsal Frame #8, Rehearsal 2

23:28	"This time, I want you to try something different…try and make your sound blend into somebody else's sound…so I want a [student A/student B] mix or a [student C/student D] sound instead of a [student] sound and a [student] sound."
23:50-23:54	Sectional (winds only)
23:55	**Q:** "So, how do you that? How do you make your sound blend with someone else's?" **student answer:** "Listen to them" "Play about at the same volume" "That's one way. The other thing that you said [student] was…listen to them and try to match your sound to their sound. So, pick somebody in the room…it doesn't even have to be the same instrument as you. I want you to try to listen to that person while you play and make your sound mix into theirs."
24:24-24:30	Sectional (winds only)
24:31	"[That] totally changed your sound."
24:32-34:38	Off-task
24:43-24:48	Sectional (winds only)

24:48	"Go back to concert F and do the exact same thing."
24:54-24:57	Sectional (winds only)
24:58	"Not as good, right? Try again…melt those sounds…"
25:03-25:12	Sectional (winds only)
25:13	"If you make your sound mix with someone else's, you should not stick out…a trumpet player is sticking out."
25:24-25:29	Sectional (winds only)
25:30	"Now, go to high concert B^b and do that."
25:37-25:48	Sectional (winds only)
25:50	**Q:** "How does it change your sound when you listen and try to match their tone?" **student answer:** "What you do is, you don't want to hear yourself because you're trying to hear them; so, you're not playing as loud, which makes our tone sound better." "Absolutely. That needs to be your approach more when you play this song. We need to listen to someone else, listen to another person, listen to a partner. So, pick someone in your part, and listen for them."

Off-task verbal behaviors were observed the least among the six verbal categories with a total of 30 behaviors, accounting for only 5% of total observed teacher talk categories. This result suggests that the participants were highly prepared and focused during instruction. During data analysis, participants were found having fun with the ensembles. Though their off-task

verbal behaviors would most certainly promote student off-task behavior, no participant let off-task episodes go beyond their control. Many times, they laughed and joked with their students, who were happy to oblige. It is in these moments that participants were observed giving their students miniature musical and mental breaks, though they may only last but a few seconds. The rapport that participants had with their students was excellent. Video recordings show clear signs of rehearsals in which students are always aware of their instructor's expectations, even when they deviate from them.

Frequencies and Durations of Student Performance Behaviors

In the current study, students were observed performing a total of 40.02 minutes during selected rehearsal frames, representing 33.82% of selected rehearsal frame time. This result is similar to findings from past research that report student performance amounts during expert instruction as being less than 50% of the observed time (Cavitt, 1998; Colprit, 2000; Goolsby, 1999; Murray, 2011; Waymire, 2011; Whitaker, 2011; Witt, 1986; Worthy, 2003). Students were observed performing in four categories: full ensemble, sectional combinations, individual performance, and performance approximations. For purposes of the current study, full ensemble represented the full body of students that were present during data collection. As previously mentioned, Director C only had winds and percussion during 50% of the final observation, with the first two complete observations being without percussion. Director D did not have a percussion section present during any rehearsal recording. Director E did not have her woodwind section, but brass and percussion only. Sections/sectional combinations represented any particular instrument section or combination of sections that represented a smaller group than the

full body of students. An individual performance was observed when a student performed individually. A performance approximation was observed when an instructor asked students to perform an alteration of the music. Throughout the study, "airplay" was the most common directive that signified the initiation of a performance approximation. Full ensemble and sectional combinations represented the large majority of student performance behaviors. As Table 12 in the previous chapter shows, students were observed performing in a full ensemble setting 84 times, totaling 20.58 minutes, and averaging approximately 15 seconds per performance episode. Students were observed performing in instrument sections or sectional combinations 155 times, totaling 14.81 minutes, and averaging approximately 6 seconds per performance episode. Individual student performance was the least observed behavior of the current study. Individual students were observed performing 15 times, totaling less than 1 minute, and averaging approximately 3 seconds per performance episode. Performance approximations were observed 19 times, totaling 1.30 minutes, and averaging approximately 3.5 seconds per episode.

Results show that students were observed performing in sections or sectional combinations more often, but were observed performing in a full ensemble setting for nearly 10 seconds more per episode duration. This result is primarily attributed to the different stages of a rehearsal frame. Once an instructor verbally identifies an instructional target category that needs refinement, the rehearsal frame begins. According to the data, participants in the current study would then choose to ask students to perform in sections or sectional combinations rather than full ensemble approximately two times to one. It is in this stage that the majority of student learning in an instrumental ensemble can be found. During sectional performance episodes, performance trials are found in much shorter durations because the process of identifying and

changing student behavior is at the forefront. An indicator in many rehearsal frames that the frame is about to end is when the instructor finishes rehearsing a section of the ensemble and asks for the full ensemble to perform. This recontextualization puts the rehearsed portion back into its original musical context for one last performance trial. The instructor will then assess if more instruction is needed to increase student performance achievement or if it is satisfactory. This final trial requires a full ensemble performance, thus increasing the average length of full ensemble performance trials above those of sections or sectional combination performance trials.

Students were observed performing in a full ensemble setting during multiple targets more than all other target categories. They performed in a full ensemble setting 33 times for a total of approximately 5½ minutes, with performance episodes averaging approximately 10 seconds each. Students performed in sections or sectional combinations during multiple targets substantially more than the other target categories. They were observed performing in sections or sectional combinations 70 times for a total of approximately 6 minutes, with performance episodes averaging 5 seconds each. Students were not observed performing individually during this category. Students were observed 7 times engaging in performance approximations for a total of 9 seconds, averaging 1.26 seconds per episode. The rhythmic target category had the next highest frequencies of observed student behaviors. Students were observed performing in a full ensemble setting 23 times for a total of 5.55 minutes, with performance episodes averaging approximately 15 seconds each. Students were observed performing in sections or section combinations 27 times for a total of 2 minutes, with performance episodes averaging approximately 5 seconds each. During rhythmic accuracy, one instance was observed of a student performing individually for 2 seconds. Students were observed engaging in performance approximations 9 times for a total of 50 seconds, averaging 5.54 seconds per episode.

When combined, multiple targets and rhythmic accuracy account for approximately 63% of total full ensemble performance trial occurrences and approximately 54% of total full ensemble performance trial duration. They also combine for approximately 63% of total sectional performance trial occurrences and approximately 54% of total sectional performance trial duration. 55% of all student performance episodes were observed during these two categories. Student performance durations during these two categories account for 54% of total observed student performance time. These results suggest that the participants were able to appropriately facilitate student performance achievement while addressing two target categories at once. They also indicate the importance of rhythmic accuracy as a primary instructional target category in middle school band rehearsals.

The articulation instructional target category had the third highest amount of observed student full ensemble performance, in both frequency and duration. Students performed in a full ensemble setting 13 times for a total of 4.02 minutes, with performance episodes averaging 18.55 seconds each. As a comparison, students were observed performing in a full ensemble setting 9 times less in articulation than in rhythmic accuracy. However, average duration of a single full ensemble performance trial during articulation is 3 seconds longer than rhythmic accuracy. This result suggests that the level of performance proficiency required of students when addressing articulation is higher than that of rhythmic accuracy. Performance proficiency requirements must also be higher during full ensemble performance settings during the following instructional targets, as reported by data in Table 12 of the previous chapter: dynamics, technical facility, tempo, and multiple targets.

Students were observed performing in sections or sectional combinations 70 times during multiple targets, representing the highest observed frequency of that behavior. However, average

student performance episode duration is second shortest among all observed target categories; average sectional performance trial duration was shortest during rhythmic accuracy. Students were observed performing in sections or sectional combinations the longest during pitch accuracy. There were 6 counts of student sectional performance for a total of approximately 1 minute, with average performance episodes lasting 12 seconds each. This result is attributed to the instructional approaches by the participants. In most performance trials, participants asked the students to sustain a particular note or chord until asked to stop. Student performance duration is therefore extended; a technique that is very common when addressing pitch accuracy. Average student sectional performance duration was 4 seconds during rhythmic accuracy and approximately 5 seconds during multiple targets, representing the two shortest average trial durations among all observed targets. This result may suggest that the other seven observed target categories were more difficult for students to increase performance achievement. It also may suggest that the participants delivered exemplary instruction during rhythmic accuracy and multiple targets, which accelerated student performance achievement.

Research question four asked:

What are the frequencies and durations of instructor modeling episodes of expert middle school band directors in selected rehearsal frames?

ANALYSIS OF TEACHER MODELING DURING SELECTED REHEARSAL FRAMES AND INSTRUCTIONAL TARGET CATEGORIES

Instructor musical performance behaviors were identified as modeling if they elicited a student performance during that rehearsal segment. Teacher modeling behaviors were divided into three categories prior to the collection of data and were observed in both frequency count

and duration. Instructor modeling behaviors were: positive modeling, negative modeling, and coach modeling. Positive modeling was observed when an instructor performed a musical action for the purpose of conveying a correct musical performance to students. Negative modeling was observed when an instructor performed a musical action for the purpose of conveying an incorrect musical performance to students. Coach modeling was observed when an instructor performed a musical action concurrently with student performance.

Positive and Negative Modeling

In the current study, positive modeling was observed in much higher frequencies and durations than negative modeling, which supports prior research (Cavitt, 1998; Taylor, 2004; Waymire, 2011; Worthy, 2003). Results from Table 13 show that, across 51 selected rehearsal frames, participants used positive modeling 100 times for a total of 5.24 minutes, averaging 3 seconds per modeling episode. They used negative modeling 19 times for a total of 44 seconds, averaging approximately 2 seconds per performance episode. This result shows that participants in the current study would exhibit a positive model 5 times for every 1 negative model. An interesting result from the current study is that every instructional category in which participants used positive modeling, negative modeling was also present. This is not to say that every participant used both types of model in every instructional category. Rather, when looking at the combined data, positive modeling and negative modeling all pertain to the same instructional targets. Reciprocally, if positive modeling was not observed, neither was negative modeling. Multiple targets and rhythmic accuracy had the most positive modeling occurrences at 38 and 23, respectively. It should be noted, however, that positive modeling occurrences range from 7-38,

with 20 being the mean. This finding indicates that positive modeling frequency during dynamics is far less than the average, and positive modeling frequency during multiple targets is far greater than the average. Negative modeling occurrences range from 1-13, with 3.8 being the mean. Four of the five instructional target categories show a relatively normal relationship to the negative modeling mean; multiple targets is the only target with an observed frequency substantially larger than the mean. During rehearsal frames addressing specific instructional targets, negative modeling was always found being used substantially less than positive modeling.

Coach Modeling

Coach modeling has been defined as, "Teacher modeling in the form of playing or singing…simultaneously with student performance," (Speer, 1994, p. 19). For the current study, coach modeling was observed when an instructor performed a musical action during student performance episodes and performance approximations. Participants were observed coach modeling 62 times for a total of 7.24 minutes, with average performance episodes lasting 7 seconds each. Participants were observed coach modeling 19.36% of total student performance time, nearly once for every five student performance trials. Coach modeling accounted for 6.55% of instructor behaviors across 51 selected rehearsal frames. Participants were observed coach modeling in the highest frequencies and longest durations when addressing rhythmic accuracy. There were 31 occurrences of coach modeling for a total of approximately 4 minutes, with average performance episodes lasting approximately 8 seconds. Participants were observed coach modeling 15% of time dedicated to rehearsal frames that addressed rhythmic accuracy. Coach modeling was also observed during rehearsal frames addressing articulation,

intonation/tone, technical facility, and multiple targets. Participants were primarily observed coach modeling during student sectional or section combination performances. Participants were also observed coach modeling during 16 of the 19 observed performance approximations.

Combined Modeling Behaviors Observed in Frequency and Duration Across All Selected Rehearsal Frames

Participants were observed exhibiting modeling behaviors 181 times for a total of 14.06 minutes, with average performance episodes lasting approximately 5 seconds each. Combined data from Table 8 from the previous chapter show that participants spent 11.94% of repertoire rehearsal time using modeling strategies to supplement instruction. Table 18 shows a cross-tabulation of total amounts of participant modeling in frequency and minutes per instructional target category. Results show that participants modeled the longest when addressing rhythmic accuracy, performing musical actions 55 times for 5.57 minutes. Total amount of selected rehearsal frame duration dedicated to rhythmic accuracy equal 26.33 minutes. Therefore, combined instructor modeling behaviors account for 21.15% of the time spent addressing the instructional target category. Participants modeled 56 times for 2.06 minutes when addressing multiple targets. Total amount of selected rehearsal frame duration dedicated to multiple targets equal 38.25 minutes. Therefore, combined instructor modeling behaviors account for 5.40% of time spent addressing the instructional target category. Participants modeled substantially longer during rhythmic accuracy than multiple targets, an opposite result of other findings from the current study. Multiple targets and rhythmic accuracy have been consistently reported throughout the results of the current study as being the two primary instructional target areas, with multiple targets constantly representing the target with higher frequencies and longer durations. However,

the results of combined instructor modeling behavior frequencies and durations shows rhythmic accuracy as primary and multiple targets as secondary. Participants were consistently observed choosing to incorporate modeling behaviors without hesitation during rehearsal frames addressing rhythmic accuracy. They were able to effectively facilitate instruction by strategically choosing a target passage, and then using modeling behaviors, specifically coach modeling, to supplement verbal instruction. Multiple targets required far less coach modeling than rhythmic accuracy due to the addition of a concurrent second or even third target. Participants were observed consistently relying on concise verbal instruction as the primary means of refining student performance behaviors, and resorting to positive modeling when needed.

Articulation had the third highest combined instructor modeling frequency total. Participants were observed exhibiting positive modeling behaviors 14 times, accounting for approximately 45% of instructor modeling behaviors during that target category. It should be noted that participants were found engaging in positive, negative, and coach modeling behaviors in four instructional target categories: articulation, intonation/tone, rhythmic accuracy, and multiple targets. Of the targets in which modeling was observed, only two were without one or more modeling behaviors. Four target categories were observed that did not include any modeling behaviors, of which unidentified was without selected rehearsal frames.

Table 18

Combined Instructor Modeling Behaviors during Instructional Target Categories with Totals Reported in Frequency Counts, Time in Minutes Per Modeling Behavior, and Total Time in Minutes of Combined Modeling Behaviors

Target	Positive Modeling	Negative Modeling	Coach Modeling	**Total**
Articulation	14	2	13	**29**
	.96	.10	1.8	**2.86**

Dynamics	7 .3	1 .23	—	**8** **.53**
Intonation/Tone	18 1.09	2 .14	10 .82	**30** **2.05**
Multiple Targets	38 1.31	13 .45	5 .29	**56** **2.05**
Pitch Accuracy	—	—	—	**—**
Rhythmic Accuracy	23 1.57	1 .01	31 3.99	**55** **5.57**
Technical Facility	—	—	3 .34	**3** **.34**
Tempo	—	—	—	**—**
Unidentified	—	—	—	**—**
Total	**102** **5.23**	**19** **.73**	**62** **7.24**	**181** **13.20**

Note: (—) indicates that the behavior was not observed

Analysis of Specific Instructor Modeling Subcategories

Five modeling subcategory behaviors were selected prior to the collection of data and were observed in frequency only. They include: sing, play, clap, count, and multiple models. Participants were observed exhibiting a modeling behavior 181 times across 51 selected rehearsal frames. Singing was the most observed modeling subcategory with 70 occurrences. Participants were observed playing an instrument 69 times. The two behaviors combined represent 77% of modeling subcategories. Clapping, counting, and multiple models were observed 14, 9, and 19 times, respectively. The three combined represent the remaining 23% of modeling subcategories. An interesting result is the high frequency that participants were observed playing instruments when compared to singing. As in the current study, Waymire (2011) found singing to be the primary behavior choice for instructor modeling during

instrumental ensemble rehearsals. However, the findings in the current study show that participants chose to model on an instrument in almost equal frequencies as they were observed singing. Director A was observed performing on a mellophone and bass drum. Director B was observed performing on an electronic keyboard and concert toms. Director C was observed performing on a trumpet. Director D was observed performing on a clarinet. Director E did not contribute any frequency counts to playing on an instrument. This result suggests the notion that expert middle school band directors may view instrument performance competence or proficiency for modeling purposes a vital option during instruction. Though the quality of the musical models was not a part of this study, observations clearly showed participants modeling at a level equal to or higher than the desired student performance outcome.

Rhythmic accuracy represents the only instructional target category in which all modeling subcategories were observed. Instructors sang 11 times, played an instrument 8 times, clapped 12 times, counted 9 times, and were observed using multiple modeling behaviors 15 times. Combined modeling subcategories observed (55) during rhythmic accuracy represent approximately 30% of total modeling subcategories. This is a striking result. In only two other target categories were participants observed exhibiting three modeling subcategories: intonation/tone and multiple targets. Rhythmic accuracy as a singular target category can very easily be addressed by clapping rhythmic segments. During multiple model performance episodes, participants were observed singing and counting more than any other modeling combination. This result suggests that the participants were aware that young students may perceive rhythm independent of melody, and vice versa. When participants would use multiple models, they were conveying to their students that both domains of musical performance assist with enhancing musical understanding.

Participants were observed singing 41 times when addressing multiple targets. This result is 30 behavior counts greater than rhythmic accuracy, during which instructor singing was observed 11 times. Video recordings showed participants singing as demonstration during this category to supplement verbal instruction. See the below rehearsal frame transcription that addresses articulation and dynamics.

Director E, Rehearsal Frame #1, Rehearsal 1

14:48	"Trumpets, let me hear your C. Trumpets, C."
14:51-14:53	Sectional (trumpets) (student error)
14:53	"C. Play the C. *student*: "Oh, I thought you said sing." "No, C. I'm sorry."
14:59-15:02	Sectional (trumpets)
15:01	"I love the fact that you were about to sing, but…we've got to place that C."
15:09-15:11	Sectional (trumpets)
15:12	"Now, play (instructor model, sing) and I want to hear you crescendo through each note. The E is softest."
15:20-15:23	Sectional (trumpets)

15:24	"But don't do a (instructor negative model, sing), ok. (instructor positive model, sing)"
15:34-15:47	Classroom interruption
15:47	"Here we go, trumpets, one more time. Hang on everybody, I'll get you back in in just a second."
15:53-15:57	Sectional (trumpets)
15:58	"Should the C stop growing once you get to it? No. So, continue to grow once you get to C. Now go back to this (instructor positive model, sing), because here's what I hear (instructor negative model, sing). I don't think you don't need those breaths."
16:19-16:33	Sectional (trumpets)
16:33	"Wasn't that better? Yes, it makes a lot more sense that way. And, then you're not overplaying. Everyone, picks up to [measure]…23."
17:01-17:28	Full ensemble

It is clear that Director E utilized singing as a means of constantly updating her trumpet section as to their current performance achievement and the performance outcome she has set for them. Participants throughout the study seamlessly utilized singing as audible manifestations of formative assessments of student performance progress.

Participants were observed playing instruments as a means of supplementing instruction in highest quantities during intonation/tone and articulation. These results are attributed to the

verbal instruction issues that are idiosyncratic of the target categories. The concept of intonation cannot be reasonably addressed with verbalizations alone. The numerous technical issues that could potentially exist between multiple performers require direct instruction upon formative musical performance assessments. Intonation/tone modeling strategies represented the highest proportion of positive modeling behaviors observed during instructional target categories, accounting for 12.36% of frame time. Video data show that participants were highly calculated when choosing to model during intonation/tone rehearsal frames. See the transcription below.

Band Director B, Repertoire Rehearsal #13, Rehearsal 3

48:57	"…I'm more focused on [the] intonation…It's really a hard thing to tune and we've worked on that, right you guys?…Can you do it one time with me, the first one? Trumpets are in. The first one at 57."
49:22-49:26	Sectional (trumpets, low reeds, and low brass) (instructor model, play)
49:27-49:33	Sectional (low reeds and low brass) (instructor model, play)
49:34	"It's a little bit more stable when the trumpets are in – the first one – but, the second one it just goes completely to the low reeds and low brass. Do it one more time, the first one."
49:58-50:01	Sectional (trumpets, low reeds, and low brass) (instructor model, play)
50:02	"The second one has to be as stable with fewer players."

50:06-50:11	Sectional (low reeds and low brass) (instructor model, play)
50:10	"We might tune that more carefully next week…[measure] 51, here's 51. I need to keep going this time. Everybody's in…get ready…"
50:41-51:06	Full ensemble

During this rehearsal segment, the trumpets and low brass performed two sustained chords composed of open fifths that functioned as modulatory pivot chords. In the context of the piece, they are also the only sections performing. Director B was highly intentional both with her verbalizations regarding student intonation/tone performance and her electronic keyboard modeling. She provided the pure pitches as students performed the pivot chords. She was also very specific with her information, explaining how students need to focus their listening skills during this small, but highly important section. Using the electronic model as her source of musical information, Director B was able to specifically identify the instability of intonation that was observed in the low brass section. She then implied to the low brass that they were using the trumpets as a tuning crutch, rather than using them as a tuning guide. To resolve, she attempted to use the electronic model to redirect the low brass's listening focus to the model rather than the trumpets. Though the issue was not fixed during that segment, she was able to convey intonation issues to the low brass that would be addressed in the week following data collection.

Participants were also observed playing an instrument in high frequencies as a means of supplementing verbal instruction during rehearsal frames addressing articulation. Articulation was the target category in which coach modeling represented the second highest proportion among all observed target categories, accounting for 10.29% of frame time. Many times,

participants would convey student performance issues and expectations by providing a positive modeling, followed by a negative model.

Director C, Repertoire Rehearsal Frame #1, Rehearsal 1

38:08	"I do want to hear the melody more. Just work on Level 1 right now: notes, rhythms, and tone."
38:30-38:50	Sectional (flutes, oboes, clarinets, alto sax, trumpets, and Fr. horns)
38:53	"Listen, when we get to 109, instead of putting that big break in there and breathing after every note, let's try this…follow along. (instructor positive model, play x2) (instructor negative model, play)…I did tell you to do that, but I want the gap way less. If you have that part right there, air play with me."
39:44-39:49	Sectional (airplay – flutes, oboes, clarinets, alto sax, trumpets, and Fr. horns) (instructor model, play)
39:49	"Play it."
39:55-40:01	Sectional (flutes, oboes, clarinets, alto sax, trumpets, and Fr. horns)
40:05	"The only definite break is where the eighth rest is. Low brass, we're going to start back on 101 after this. Same people."
40:23-40:32	Sectional (flutes, oboes, clarinets, alto sax, trumpets, and Fr. horns) (instructor model, play)
40:34	"101, everybody in."

40:48-41:11 Full ensemble

Director C uses the opportunity to accelerate student achievement by performing the selected passage on his trumpet. It is vital to interpret the role of modeling as a viable verbal instruction supplement. The modeling is not the instruction; it represents the desired student performance outcome of the instruction. The extent to which positive, negative, and coach modeling had on immediate student performance achievement was far greater than if Director C tried to convey the desired student performance outcome using only verbal behaviors.

Research question five asked:

How do middle school band instructors facilitate student learning during various instructional target categories of selected rehearsal frames?

INSTRUCTOR FACILITATION OF REHEARSALS

Proportions of Observed Behaviors During Instruction

Instructional effectiveness might differ slightly from director to director and ensemble to ensemble. I suggested that the size of the ensembles, points in time during the semester, and timetable relating to upcoming performances have an effect on student performance and teacher instruction. When quantifying instruction, proportions of teacher and student behaviors can give very accurate representations of teacher-student interactions. Table 10 of the previous chapter reports percentages of all durational behaviors observed by target category. Durations of teacher talk and instructor modeling behaviors should be directly compared to student performance

durations. Reasoning for this is attributed to the mutual exclusivity of all behaviors from each other, with the exception of coach modeling. Table 10 has no accommodation for the distribution of coach modeling among full ensemble or student sectional or sectional combination performances. According to the data reported, proportions of positive modeling and coach modeling observed during selected rehearsal frames addressing rhythmic accuracy are greater than those that address multiple targets. It is interesting to note, however, that proportions of teacher talk and student performance behaviors observed during rehearsal frames addressing multiple targets are greater than those addressing rhythmic accuracy. Teacher talk during multiple targets is less than rhythmic accuracy by less than .5%. Furthermore, during rhythmic accuracy, positive modeling and coach modeling are greater than multiple targets by approximately 3% and a substantial 15%, respectively. Full ensemble student performances during multiple targets are approximately 3% less than those observed during rhythmic accuracy. Student performance in sections or sectional combinations represent nearly 16% during multiple targets rehearsal frames, where they represent almost 8% during rhythmic accuracy. This specific result shows that student learning was facilitated more during sectional performances than full ensemble, a result that will be discussed in detail below. These results show that instruction during rhythmic accuracy was more teacher centric than in multiple targets. Reciprocally, instruction during multiple targets was more student centric than rhythmic accuracy rehearsal frames. Teacher talk was observed in its highest proportion during technical facility, as was full ensemble performance. However, there were no instances of positive or negative modeling during that category. Coach modeling proportions during technical facility were observed identically to sectional performance behaviors, indicating that the discrete interactions between instructor and ensemble existed between teacher talk and full ensemble performance.

Articulation and dynamics showed relatively similar proportions, with the exception of coach modeling. Coach modeling was observed in 10% of rehearsal frame time during articulation and was absent during rehearsal frames addressing dynamics. Articulation had a higher proportion of student sectional performance, where dynamics had the highest proportion of individual student performance. Though the results between the articulation and dynamics categories appear similar, it is in modeling percentages that differences can be found. Due to its prevalence in articulation compared to dynamics, articulation rehearsal frames relied more on the interactions between instructor modeling and student performance behaviors. Dynamics relied more on the interactions between teacher talk and student performance behaviors.

Student Sectional Performance Trials

Past research has accurately identified the various components and events during an instrumental ensemble rehearsal. Results from the current study show that the majority of student-teacher interactions that yielded positive student behavior change (or numerous repetitions striving to achieve the behavior change) occurred during sectional performance trials. Research findings from Waymire (2011) and Cavitt (1998) contrast this conclusion. Waymire's findings report student sectional performance trials as occurring less than half of the time as full ensemble. Full ensemble and sectional performance events in Cavitt's study are not as discrepant as Waymire's findings, but her participants' students were found performing in a full ensemble setting more often than sectional. Findings from the current study, however, align with findings from Pontious (1982), who acknowledged that the sectional rehearsals were used, "…to clarify and correct details of performance" (p. 156). Findings from the current study show that, though

the average durations of student sectional performance trials were much shorter than full ensemble performance trials, the frequencies of sectional trials were substantially higher. Participants were observed being more instructionally rigorous during sectional performance settings than full ensemble, individual, or performance approximations. The most productive potions of the rehearsals were observed during student sectional performance trials. Participants were more specific in their directives and information. Also, modeling episodes seemed to be more effective in accelerating student performance achievement during sectional performance trials. This is due to the specificity of the model-to-student interaction as the participants were addressing a very specific, and, quite often, smaller group of students.

Explicit Versus Implicit Instruction

Past research utilizing the rehearsal frame as the unit of instructional analysis has identified selected rehearsal frames by instructional target categories and by the number of subsequent student performance trials (Bonds, 2015; Cavitt, 1998; Nicholson, 2009; Taylor, 2004; Waymire, 2011; Westbrook, 2004; Worthy, 2003; 2006; Worthy & Thompson, 2009). However, past research has not identified the extent to which participants explicitly or implicitly identified instructional targets during instruction. In the current study, explicit instruction was determined based upon a verbal directive or information that specifically identified an instructional target category or element of an instructional target category, (i.e. articulation, staccato). Implicit instruction was determined based upon two criteria: (a) the absence of explicit verbalizations, and (b) an implied instructional target category by use of modeling, metaphor, or verbal allusions, (i.e. “appear out of the fog”, “you all are wanting to slow down”). A third

category represents a mixture of explicit and implicit instruction within the same selected rehearsal frame.

Table 19 reports that participants were explicit in their instruction during 31 selected rehearsal frames, representing approximately 61% of all selected rehearsal frames. This result suggests that the majority of instruction observed during selected rehearsal frames was explicit in nature. Furthermore, 20 of the 31 explicit instruction rehearsal frames were initiated with a directive or information verbalization. Simply put, during these 20 rehearsal frames, participants immediately identified the target to be rehearsed before any other event took place. During the remaining 11 explicit instruction rehearsal frames, participants identified the instructional target to be rehearsed only after requesting specific passages to be performed by students. Rehearsal recordings showed that the directors heard performance errors, but needed one or two student performance trials to specifically identify the performance issue.

Fifteen implicit instruction rehearsal frames were identified, representing approximately 29% of all selected rehearsal frames. During these rehearsal frames, instructional practices were far more varied than its explicit instruction counterpart. Participants used modeling, metaphors, questioning, and information as their primary means of facilitating instruction. Specifically addressing the use of modeling, participants incorporated modeling strategies during the onset of instruction in 8 of the 15 implicit rehearsal frames. This means that 53% of implicit instruction rehearsal frames began with a mixture of modeling and non-target specific verbalizations (e.g., "everybody play it"). Regarding the current study, instruction will inherently be implicit during instances where modeling is used as a means of conveying performance expectations, as it cannot, by definition, include verbalizations. The vague instructional nature of modeling

notwithstanding, if it is preceded or followed by verbal information, it can have a highly effective influence on accelerating student performance achievement.

Table 19 also reports selected rehearsal frames in which a mixture of explicit and implicit instruction was used. A total of 5 selected rehearsal frames included a mixture of the two types of instruction, representing approximately 10% of all selected rehearsal frames. All 5 of the mixture rehearsal frames addressed multiple targets: 2 addressed two targets and 3 addressed three targets.

Table 19

Frequencies and Total Percentages of Rehearsal Frames Categorized by Explicit and Implicit Instruction

Explicit RF	Implicit RF	Mixture of Explicit and Implicit RF	**Total RF**
31 60.79%	15 29.41%	5 9.80%	**51** **100%**

The analysis of explicit and implicit instruction represent new perspectives from which to identify instructional practices through the lens of rehearsal frames. Their level of effectiveness should ultimately be determined by student performance achievement as determined by the director. Results indicate that the participants in the current study preferred to use explicit instruction to facilitate their rehearsals. Furthermore, it should be noted that participants incorporated modeling strategies in 11 of the 20 rehearsal frames that began with explicit instruction. This further supports the use of modeling as a valuable instructional strategy as it can musically enhance explicit verbalizations.

Instructor Modeling Behaviors

Participants in the current study were observed modeling 181 times during selected rehearsal frames. Of the 181 modeling episodes, singing and playing were identified 70 and 69 times, respectively. When combined, these two frequencies represent approximately 77% of all instructor modeling events. It should be noted that participants cumulatively chose to perform on an instrument nearly as often as they chose to sing. This is an unprecedented finding, and conflicts with an assumption made by Macleod (2010), who suggested that band directors would choose singing over instrument performance to supplement verbal instruction. Rather, the results are clear that they were nearly as comfortable to perform on an instrument as they were to sing. Their modeling strategies were based upon student performance achievement (or lack thereof) and they performed on instruments when they deemed such a model necessary. This result supports David Elliott's assertion that, "To understand and assess the quality of my musicianship as exhibited in my music making, my evaluators…must possess some degree of competency in [performing music] themselves" (Elliott, 1995, p. 57). The participants did not always perform a model on their primary instrument; it is the frequency of which they used an instrument as a means of musically conveying their immediate goals for students that is important.

Incorporation of Instructional Questions and Student Talk

In the current study, many instructional and musical performance behaviors between teacher and student are measured in duration. However, instructor questions are reported in frequency only. Participants asked questions 51, with 14 identifying instructional targets that were directed towards student performance outcomes. Student talk was reported in frequency and duration. Student talk was identified when students answered questions or were observed

exhibiting off-task behavior. Forty-five counts of student talk were observed, totaling 2.59 minutes, averaging 3.45 seconds per episode. Student talk accounted for 2.34% of total observed repertoire rehearsal time. Students were observed answering questions approximately 30 seconds of 2.59 minutes.

Within the contexts of selected rehearsal frames, instructor questions seemed to slow the pacing considerably. However, all participants were observed asking questions and demonstrated demeanors that qualified the purpose for the questions. The questions were very direct and participants were viewed being intentional about receiving student answers. See some of the below questions. The questions are initiated by the instructors and are subsequently answered by students.

Excerpt from Director A

> "Let's listen to the question, see if you all can think of an answer, but I'm going to let [French horns and alto saxophones] answer it. In this song, [the French horns and saxophones] are having to play on the 'and' beats, which can be challenging."
>
> **Q:** "What is something you can do as an individual person to help you play correctly on the 'and' beats?"
>
> **student:** "Listen to the bass drum" "Tap your foot"
>
> "Yes, those are the two important things."

Excerpt from Director B

> **Q:** "Do you hear that the eight notes are slowing down?" (instructor model, sing/count)

Q: "Why am I having you burp or air play this?"

student answer: "So we can try to stay in time."

Excerpt from Director C

Q: "Do we agree that's easy?"

student A: "Yes."

"Get it right. Ok? I don't have time, we've got to fix that later."

Excerpt from Director D

"Make sure you tongue the third beat….and, if you want to take it a step further, it's not only tongued…"

Q: "but, what do you see over the note?"

student answer: "staccato"

"Staccato, so it's a little separated…it's a little bit short."

Excerpt from Director E

Q: "Do you hear any rests on the bar line?"

student: "I did."

"You don't have that…Especially the two tubas. You guys alternate when you're going to breathe."

The facilitation of student learning through the error detection and error correction processes have been of primary importance throughout the current study. Performance approximations were rarely observed as they represented a combined 1.17% of total repertoire rehearsal time. Pedagogically, ignoring their roles within their rehearsal frames would be negligent. During all but one of the selected rehearsal frames in which performance approximations were observed, a form of instructor modeling was observed. All participants initiated student performance approximations by using the directive, "airplay." During 16 of the 19 performance approximation episodes, the following was clearly observed: students were on-task, focused on avoiding potential performance errors, and aligning their part—rhythmically, melodically, or harmonically—to an instructor model. It was also clear that they were following the ensemble's collective pulse, though they were not intentionally producing sound through their instruments. Observations throughout the study revealed that student performance accuracies which were not preceded with airplay events were less than those that included airplay events. The remaining three performance approximations can be found in the transcription below.

Band Director B, Repertoire Rehearsal Frame #1, Rehearsal 1

26:13	"Airplay…brass go ahead and [buzz only on mouthpieces]."
26:34-26:42	Performance approximation
26:44	"I didn't hear any burping from the low brass…try again."

26:49-27:00	Performance approximation
27:02	"Do you hear that the eight notes are slowing down?" (instructor model, sing/count)
27:19	**Q:** "Why am I having you burp or air play this?" **student answer:** "So we can try to stay in time."
27:40	"Burp, tizzle, or airplay [at measure] 51."
27:45-27:57	Performance approximation
27:57	"Play it."
28:06-28:17	Full ensemble

It should be noted that there was no sound, save air moving through instruments, keys and valves being pressed and released, and toes tapping. The students were able to audibly align their own parts vertically within the ensemble during the approximations. The final full ensemble student performance trial ended the frame because of time spent mentally and physically rehearsing the specified section.

IMPLICATIONS FOR CURRENT INSTRUMENTAL ENSEMBLE INSTRUCTIONAL PRACTICES

Prior research describing instrumental ensemble rehearsals has focused on high school or college level ensembles. The current study expands the compendium of literature by focusing on the rehearsal characteristics of expert middle school band directors observed during selected rehearsal frames. Its contribution notwithstanding, observational analysis shows that participants in the current study facilitated rehearsals very similar to those found in a high school band program. Collected data show that the most frequently observed rehearsal frame target categories were multiple targets, rhythmic accuracy, articulation, and dynamics. These results correspond with prior research describing expert instrumental ensemble rehearsing at the high school level (Waymire, 2011), collegiate level (Worthy, 2006), and a mixture of middle school and high school levels (Cavitt, 1998). Teacher talk was observed as the most prevalent instructor behavior, as similarly reported in prior research describing instrumental ensemble rehearsing at the middle school and high school levels (Cavitt, 1998; Goolsby, 1996; 1997; 1999; Pontious, 1982; Sang, 1982; Speer, 1994; Taylor, 2009; Waymire, 2011; Westbrook, 2004; Whitaker, 2011; Worthy, 2003; Worthy & Thompson, 2011), and collegiate level (Worthy, 2006).

Contrary to prior research describing the instrumental ensemble rehearsal process (Cavitt, 1998; Goolsby, 1999; Nicholson, 2009; Waymire, 2011; Worthy, 2003), instructor modeling was observed in higher percentages throughout the current study. In fact, instructor modeling percentages were just shy of equaling private piano instruction levels reported by Speer (1994). Their inclusion of music making as a means of instruction may have been attributed to the level of performance confidence, supporting the recommendation from Delzell (1989) that musical models should be performed well. Four of the five participants anecdotally acknowledged their continued involvement in pursuing a form of performance agenda. Participants showed no sign of performance anxiety or hesitation when choosing to sing or use an instrument to musically

demonstrate a passage or task. It was highly apparent that students were also conditioned to their instructors providing musical models. When participants would introduce a musical task via model, they attended directly to the musical task.

The resultant higher modeling percentages from the current study are also due to the inclusion of the coach modeling behavior. Prior research describing the instrumental ensemble rehearsal has only observed modeling as a discrete musical action provided by the instructor, separate from that of student performance. The current study found participants coach modeling during 22% of student performance trial events and totaling 19% of student performance trial duration. This result suggests that the participants viewed coach modeling as an instructional tool. However, their personal beliefs, motivations, or philosophies about modeling or coach modeling were not a part of the current study. Further research assessing the coach modeling strategies employed in band rehearsals may be warranted.

The current study observed combined student performance behaviors in lower percentages than instructor behaviors, as has been similarly reported in prior research (Cavitt, 1998; Waymire, 2011). Throughout the current study, the facilitation of instruction has been teacher-centric. Four of the five participants' rehearsal paces were very fast paced. On average, they were observed engaging in teacher talk three times per minute with a duration of approximately 6 seconds. Through the lens of the rehearsal frame, an instructor must give an instruction, whether explicit or implied, for that frame to begin. The facilitation of instruction is then kept by the instructor, doling out musical tasks to increase student performance achievement. Student performance achievement, then, is solely based upon the clarity and attainability of the instructional task. Throughout the current study, participants were rigorous and quite often relentless in having students achieve the expected performance outcome. The

resulting student performance behaviors were often very brief; only an average of 7 seconds per episode and approximately 2.5 times per minute. This result should be interpreted with caution as it only represents student performance behaviors within selected rehearsal frames. It does not accurately represent the total percentage of student performance duration during the entirety of repertoire rehearsal.

Current and future instrumental music educators should consider the amount of time they spend in teacher talk as compared to the amount of time they spend modeling. Results from the current study have shown that modeling is an extremely effective instructional technique by which student performance achievement goals can be accelerated. Furthermore, the quality of the musical model should be equal to or better than current student performance. Otherwise, positive modeling may not be as effectively received by the students if the model is less than their own performance. Macleod (2010) presents the notion that band directors may hesitate playing an instrument as a means of supplementing verbal instruction because of the instrumental heterogeneity of the ensemble. For instance, a tuba player will have less musical connection with a clarinet model rather than a low brass model. Results from the current study, however, do not support this claim as participants were observed modeling on their respective primary instruments, even if it involved cross-section demonstration. Nevertheless, results are very clear that the participants chose singing above playing an instrument. In either case, results from the current study suggest that expert instrumental music educators intentionally include modeling as a means of supplementing verbal instruction. Furthermore, specific to the amounts of teacher talk and instructor modeling behaviors were the instructional target categories within which the behaviors were observed. Larger quantities of teacher talk should not be viewed as negative if the instructional target category requires more of the behavior; the incorporation of larger

quantities of modeling should also be approached accordingly. Results also suggest that instrumental music educators should strive to remain aware of the amount of targets they introduce during rehearsal segments. Participants in the current study were only observed four times rehearsing multiple targets that included three concurrent target categories, which represent similar results to Worthy (2003). Educators are urged to consider performance task attainability only to the extent that students can attain performance achievement. Participants remained aware of their students' performance abilities and the level of focus their students exhibited when presented with tasks above their current performance abilities. Results also suggest that music educators in every tier of student age groupings be concise and specific in their instruction. Only one participant was observed rehearsing an unidentified target during a multiple target category. Unidentified rehearsal frames were not observed throughout the study, implying that the participants were highly specific in their verbal behaviors. Furthermore, as directives represented the highest frequency count of all teacher talk behaviors, it can be deduced that unidentified as a single instructional target category was not observed because of the highly specific instruction.

Coach modeling has not been represented in prior instrumental ensemble research. The addition of this behavior category proved to increase the results pertaining to instructor modeling. However, music educators should take caution with this result as the extent to which this behavior impacted student learning was not assessed in the current study. Only the presence of the behavior was observed. Future researchers should consider the inclusion of student attitudes and performance achievement as a symbiont to coach modeling. This perspective may indeed shed light on the effectiveness of coach modeling on student performance achievement. Speer (1994) defined coaching as a verbal or performance behavior that occurred during student performance episodes. Participants were observed many times verbally coaching students during

performances. However, much of it was indiscernible due to the placement of the camcorder in the rehearsal space.

CONSIDERATIONS FOR FUTURE RESEARCH

The participants of this study were experts in their field, confirming the process by which future participants can be selected. However, methodological considerations did not prescribe observation windows to be contingent upon a given phase of repertoire preparation. Future research should identify the same approximate observation windows as they relate to performances, rather than particular points during a semester. Calibrating data collection in this fashion may reveal more homogenous results. Furthermore, the participant pool in the current study was relatively small. Future research that included a larger subject pool would provide a more accurate description of expert middle school band rehearsing.

The current study was constructed to specifically identify and analyze portions of repertoire rehearsal time that involved multiple student performance trials. During these rehearsal frames, performance approximation episodes were scarcely found. However, the frequencies and durations of such episodes do not accurately represent their presence throughout the durations of repertoire rehearsals. The extent to which performance approximations may indeed accelerate student learning could be found if single trial rehearsal frames were analyzed. There may be more performance approximations in younger instrumental rehearsals than those of more advanced ensembles. Performance approximations may also be more present in earlier or later periods of the performance preparation process.

Student behaviors were observed as performance and student talk and reported in frequency and duration. The quality of student performance was not identified directly, but rather by the instructional facilitation as observed through the rehearsal frame. Therefore, student performance achievement was identified as "good" or "satisfactory" only because the instructor deemed it as such. Future research considerations could include the perceived assessments of student performance achievement from both student and teacher.

Rehearsal frames during the current study were only reported if they were observed during repertoire rehearsal time allotments. However, during the process of identifying rehearsal frames, 15 rehearsal frames among 4 of the 5 participants were identified with multiple student performance trials during the time allotted to warm-up. Warm-up times in past research have not been analyzed, possibly due to the lack of instructional depth, display of student performance proficiency, or the singular nature of task presentations characteristic of warm-up. Nevertheless, Directors A, C, D, and E were observed rehearsing instructional target categories during their warm-up segments. Descriptive comparison studies using rehearsal frames as the unit of observation may further inform the instrumental ensemble profession as to the differences of instructional facilitation between warm-ups and repertoire time allotments. Research that includes groups of middle and high school band directors may also yield results in which differences of instructional facilitation during warm-up times emerge between the two groups.

Instructor modeling behaviors may prove to differ drastically among instrumental ensemble directors due to instructor personality. Future research would do well to include personality profiles that address the perceived director personalities from the perspectives of both director and ensemble. Performer-educator identity disparities are needed to inform the undergraduate music education curricula. As some preservice music educators may not see

themselves as performers, research into the identity/personality profiles of expert music educators—instrumental, orchestral, or choral—and how they see themselves would prove to be highly beneficial for the profession.

Another facet of instructional analysis in the current study was the identification of instructor modeling episodes as they occurred concurrently with student performance, termed coach modeling (Speer, 1994). Caution should be taken when considering the instructional effectiveness of this form of modeling as there were no accommodations made for assessing student attitudes towards those events. Speer identified this form of modeling existing within the contexts of studio piano lessons, environments in which the student-teacher interactions are far more individualized, specific, and localized. Coach modeling during a large ensemble setting may yield different levels of influence on student performance achievement. It remains unclear as to whether or not: (a) students used the coach model as a means to correct their own performance behaviors in real time; (b) exposure to coach modeling during rehearsals across several days or even weeks assists in either defining or refining their performance achievements; and, (c) they heard the model at all. Nevertheless, participants in the current study coach modeled 50% of all modeling events, suggesting that, at least to the participants, coach modeling is a valid instructional strategy. Future research would do well to assess student attitudes and achievement during episodes of coach modeling. Comparisons of the different amounts of coach modeling between middle school and high school large ensemble settings is also warranted. Regarding research of an experimental nature, the construction of studies by Dickey (1991) and Hellman (2000) could serve as examples for analyzing the influence of coach modeling as a single variable under controlled conditions.

The current study observed expert middle school band directors rehearsing their top performing ensembles across three consecutive rehearsals. Results of this study common to the current body of research pertaining to expert middle school band rehearsing include (all of which were identified within multiple student trial rehearsal frames): multiple targets, rhythmic accuracy, articulation, and dynamics were the most observed teaching targets; approximately 12% of instructional time dedicated to instructor modeling; less than 50% of time dedicated to teacher talk; and less than 40% of time dedicated to student performance episodes. Additionally, participants were found coach modeling as a means of supplementing verbal instruction approximately 7% of the time during multiple student trial rehearsal frames. Furthermore, definitive results from the current study support the strength and efficiency of the rehearsal frame method of observation as a means of identifying peak interactions between teacher and student during an instrumental ensemble rehearsal.

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LIST OF APPENDICES

APPENDIX A

BAND INSTRUCTOR RECRUITMENT E-MAIL

Greetings _____,

I am a doctoral student currently pursuing a dissertation project on rehearsal techniques of expert middle school band instructors. I inquired of local/regional university music education professors the names of band directors in the area who were considered experts and your name was given. I would be honored if you would be willing to participate in a non-invasive, observational study that would include a total of 5 consecutive classroom observations of your top performing ensemble. I will be present for the first and last rehearsal. For the first visit, I will bring a digital flash drive, camcorder, and tripod to be used throughout the week, during which time you or someone else must video record each rehearsal. Each rehearsal will need to be uploaded to the jump drive and the camera battery recharged before the end of each day. I will return on the last visit to collect the camcorder and tripod. During both visits, I would like to sit in and simply observe and take notes.

All information and recordings collected shall remain anonymous and confidential, in accordance with Institutional Review Board policies. Names will not be identified at any point during the project or after its completion. Recordings will only be used for the current project and will be retained until the project's completion, at which point they will be deleted.

If you agree to participate, please respond to this e-mail. I will then send a second e-mail with a short questionnaire to gather demographic information. I will also send an e-mail to your building principal for administrative approval. Also, if you have any questions about the study, I will be more than happy to answer them. So, please don't hesitate to contact me at any time.

Thank you for your consideration and I hope that you agree to participate. Thank you for your excellence in teaching and for contributing so much to your students and our profession.

Sincerely,

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APPENDIX B

MIDDLE SCHOOL BAND DIRECTOR FOLLOW-UP E-MAIL

1. How long have you been teaching?_____
2. How long have you been employed at your current school?
3. What degrees do you hold?
4. Is there a specific scheduled performance for which you are currently preparing?

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5. What pieces and their grade level are you currently preparing?
6. What is your primary instrument?_____
7. Do you have a secondary instrument?_____

APPENDIX C

PERMISSION FOR OBSERVATION E-MAIL FROM BUILDING PRINCIPALS/ADMINISTRATORS

Greetings _____,

I am an instructor of music at Bethel University in McKenzie, TN and am currently finishing a dissertation through the University of Mississippi on rehearsal techniques of expert middle school band directors. The band director at your middle school, _____, has been recommended by local university music faculty and other leaders in the profession as an expert pedagogue. I have already contacted him/her in regards to participation with the project and he/she has expressed interest. To procure Institutional Review Board approval for continuation with this project, I am in need of your administrative approval.

The project is observational and will require 3 consecutive recorded rehearsal days. I will need to be physically present for the first and last rehearsal. It is completely non-invasive and nothing will be required of the students outside of their normal band rehearsal participation.

If you are in need of more details, please don't hesitate to ask. I thank you for your consideration in this matter and look forward to hearing from you soon.

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VITA

David J. (D.J.) Culp, Jr. was born in Kalamazoo, Michigan, but quickly moved to Whiting, Indiana. He started beginning band as a percussionist in 5th grade, and the following year moved to Trigg County, Kentucky, where he would eventually graduate high school. He attended Murray State University from 2001-2007, where he completed his Bachelor of Music Education under the tutelage of percussionist Dr. John Hill, and music educators Dr. Bradley Almquist, and Mr. John Fannin. D.J. moved to Roanoke, Virginia where he toured with a band as their drummer for 6 months and returned to Murray. He became the band director and music teacher at South Marshall Middle School in Benton, Kentucky for three years, as well as serving as an assistant high school band director at Marshall County High School. He returned to Murray State University and earned his Master of Music Education, studying primarily under Dr. Bradley Almquist. Upon graduation in the spring of 2013, he began to pursue his Ph.D. in Music Education at the University of Mississippi studying under Dr. Alan Spurgeon and Dr. Michael Worthy. Once D.J. finished his coursework, completed all comprehensive exams, and successfully defended his prospectus, he accepted the position of Instructor of Music and Percussion at Bethel University in McKenzie, Tennessee in the fall of 2016. He is currently employed at Bethel where he serves as the Program Coordinator for Music Education, Director of Percussion Studies, and Director of the Bethel University Jazz Band.