

An Action Research Study of Effective and Efficient
Rehearsals in a Grade 8 Band Setting

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RUNNING HEAD: Effective and Efficient Rehearsals

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Abstract

The purpose of this action research study was to examine strategies that lead to effective and efficient band rehearsals at the junior high level. Participants in the study were 28 grade 8 band students, 11 males and 17 females, as well as one music teacher researcher. Of 35 grade 8 band students, 28 or 80% chose to participate in the study. The school is located in a relatively high social-economic suburban junior high school.

The research questions addressed were:

1. What proportion of instructional time do I spend on: teaching musical concepts and skills; conducting active music making; classroom management; waiting or wasting time?
2. How can I change my rehearsal practice to spend more time engaging students in active musical learning, and less time on non-musical tasks, thus improving the effectiveness and efficiency of my middle years band rehearsals?
3. How do students perceive and respond to their band rehearsals?

During a 10-week block, from January to March, 2006, specific teaching innovations, drawn from the research and pedagogical literatures, were implemented with an aim to improve the effectiveness and efficiency of the band class. Music classes were video taped and later analyzed using rehearsal frames. Students responded to the instructional innovations by completing exit slips daily and attitudinal surveys at the beginning and completion of the research project. The teacher tracked her perceptions through daily journal entries and reflecting on the classes videotaped. Qualitative data were unitized and then sorted by thematic codes while quantitative data were analyzed

using descriptive statistics. Pre- and Post-survey mean scores were calculated and compared using T-tests.

The following conclusions were drawn: 1) The majority of class time was spent in active music making followed by “waiting” and “instruction” time; 2) The innovations introduced were effective and improved the efficiency of the band classes; 3) Students strongly agreed that they were involved during band rehearsals conducted throughout the project; and 4) The overwhelming majority of students responded positively to all survey items related to band rehearsals.

CHAPTER 1

Introduction and Overview

My thesis deals with the area of effective and efficient band rehearsals at the junior high school level. This section focuses on why I chose this topic and how this study will be of use to both me and other educators. The area of focus, research interest, and research questions are discussed. Also, the purpose and importance of the study are examined in this section. As music educators, engrossed in the day-to-day business of music rehearsal and teaching, we sometimes lose sight of the higher musical ideal. I believe that all educators want to lead their students to the highest level of education possible but sometimes we lack the resources needed to take the next step in our own professional advancement that would allow us to teach our students in the most effective and efficient manner.

Area of Focus

I truly believe that a good educator's mandate is not just to teach the curriculum well, but also to develop and instill a passion for learning in the students they are teaching. Since I am focused on the junior high band level at the present time in my teaching career, I wanted to find the most effective and efficient ways to help foster musicianship and a love of music in my band students. Music rehearsals are more to me than just preparing for the upcoming performance. Product-oriented activities are a necessity in music education, but they should not overshadow a quality music education. Students need to develop positive attitudes towards music and grow in their musicianship by learning the necessary skills and knowledge needed to be competent instrumentalists.

Is it possible to have effective and efficient band rehearsals in junior high band classes? I know that the answer is yes but I sought concrete guidelines to create success in every class. In my mind efficiency is related to the amount of time playing versus the amount of time wasted on behavioural issues. I believe that educators need to give directions and musical instructions in a timely manner, which will allow for more music to be played during class. The time spent in actively making music should directly correlate to students' perceptions concerning rehearsals.

Throughout my experience at various urban and rural schools, with students ranging in ages from 5 to 18, I recognized that there are no "hard and fast" rules when teaching music to children. But I wondered if there are common techniques that raise the chances of having regular efficient and effective band rehearsals. I believe those students enrolled in music want to learn to perform better and that my job as an effective educator is to have a myriad of tools and resources that can help focus students' musical learning so that regular progress is achieved.

Band rehearsals are unique and challenging learning environments. Depending on the age of the players, conductor, level of musicianship, and/or musical literature being performed, a band rehearsal can range from being a sublime experience on one end of the continuum to being a painful, drawn out, pointless activity on the other end. I teach junior high band (Grades 7-9) where players are typically in the first three years of their instrumental life.

How can more playing occur while still learning important musical concepts? How can I develop good musicians not just good mimickers?

Junior high learners represent a mixture of hormonal changes, love tragedies and successes, shortened attention spans, eagerness to learn, high levels of energy, and a myriad of other emotions and situations. Junior high is a rite of passage that sometimes is relatively painless or sometimes a roller coaster of problems. All junior high teachers find themselves in this chaos; some feed on it, and some wither and fade. I wanted to provide some concrete tools to aid conductors of all ages but especially those who teach the adolescent musician. How can educators harness young musicians' energies into the creation of beauty, not chaos?

I want to grow as an educator. I have successful music classes and a successful music program, but I want more. Is it possible for non-auditioned students to create beautiful music? Absolutely. Is it possible for beginning players to perform as an ensemble? Absolutely. Is it possible to develop good interpersonal relationships between students and the teacher while talking less and playing more? I wasn't sure, but I thought so. Is it possible to have effective discipline while still being inclusive in enrolment opportunities, where all students are accepted into the band program? I thought the answer would be yes, but that more creativity might be needed. I conducted my research, to learn and to grow as an educator. I wanted my students to benefit from this research through a better understanding of their role in rehearsals and my/our vision of what good rehearsals should be. My hope was to synthesize the majority of rehearsal ideas and create a comprehensive and concise, not necessarily mutually exclusive, guide to effective and efficient band rehearsals.

“Music has the power to lift us out of the ordinary, to elevate our experience beyond the everyday and the commonplace” (Swanwick, 1999, p.3). I wanted to lift my

band rehearsals out of the ordinary and elevate both my musical experience and my students' experiences.

“To watch an effective music teacher at work (rather than a “trainer” or “instructor”) is to observe this strong sense of musical intention linked to educational purposes: skills are used for musical ends, factual knowledge informs musical understanding” (Swanwick, 1999, p.45). I did some critical self-evaluation to determine my effectiveness as a musical educator and to see if my perception might be askew in some band rehearsals.

“Expression, cannot be experienced if we attend only and always to pitch intervals or rhythm values...Music is a kind of “virtual reality”, often more vivid than “ordinary” reality. A teacher who is teaching musically understands this and in rehearsal and performance will model and look for expressive shaping in the students' singing and playing. We shall also be looking at each performance holistically, rather than be satisfied with the often necessary but insufficient fragmentation that may occur during rehearsal” (Swanwick, 1999, p. 49). I sought to see how often my rehearsals were fragmented as opposed to holistic.

“Each student brings a realm of musical understanding into our educational institutions” (Swanwick, 1999, p. 53). Do my students feel valued and utilized in the music classroom? Do I draw on their experiences and invite them to contribute as often as I should? Are they developing as musicians or as rote learners? These were questions I asked myself at the beginning of this study.

“Curiosity is not aroused by...treating a performing group as if it were a kind of machine. There should be some scope for choice, for decision-making, for personal

exploration” (Swanwick, 1999, p.54). Is there enough choice for my students during rehearsal for them to develop further as active musicians? This study helped me to begin to answer that question.

I had and still have questions about my rehearsal practice. I perceived a gap between my current practice and my ideal vision concerning effective and efficient rehearsals. That gap was the impetus behind this action research study.

Research Interest

My research is directly linked to my own junior high students. Through examination of my grade 8 band’s rehearsal practises, this project looked at our existing classes and then used new methods to see if and how changes affected the rehearsal’s flow. I choose to use my grade eight band because over the years I have noticed that it is usually the most difficult year for students to accomplish real musical growth. When students start band instruction in grade seven they are in the excitement phase of learning something new. In grade seven the learning curve is great and both the students and the parents cheer any musical improvement. When students are in grade nine they have two years of technical knowledge and have many skills, which help them to be independent musicians. In grade nine many students take on the role of being responsible for their own learning and seem to understand the direct correlation between effort expended and musical quality achieved. This could be a result of the introduction of the credit system, which is a requirement for graduation. Grade eight students, on the other hand, have passed through the “thrilling honeymoon” phase with their instruments and don’t always see immediate musical growth. The learning plateau in grade eight discourages some

students. I thought that if new methods worked with a grade eight band then those rehearsal suggestions could produce results in any setting.

By using grade eight band students as participants, this action research study strived to produce more effective and efficient band rehearsals. I believe this study benefited my specific teaching situation and could be beneficial to other junior high educators. Although there are many articles on rehearsal strategies and techniques, I found that the adolescent learner is often treated in a manner comparative to other age groups. I believe that adolescent learners offer unique challenges that need to be addressed. For instance, Worthy (2003) examined the differences with the same expert conductor rehearsing a high school honour band and a college band. He noted there was a difference with the pacing of the rehearsal and the amount of directions given to the musicians at one time. The high school band received their instructions in short snippets with the majority of the rehearsal being active music making. The college band's directions were more lengthy and in-depth. If there is such a marked difference between high school and college rehearsal pacing, the difference should be much greater at a junior high level. This fact is rarely addressed in any of the literature concerning rehearsal techniques.

Purpose of the Study

The purpose of this study was to examine strategies that lead to effective and efficient band rehearsals at the junior high level. I conducted an action research study with my grade 8 band students and implemented some of the key strategies uncovered in the related literature concerning band rehearsals. I hoped to engage my students in a deeper and more musical way and that I would grow as a music educator, as well as a

more efficient and effective conductor. I have synthesized these ideas and arrived at one working rehearsal model for junior high band instructors.

Research Questions

In this action research project, my research questions were:

1. What proportion of instructional time do I spend on: teaching musical concepts and skills; conducting active music making; classroom management; waiting or wasting time?
2. How can I change my rehearsal practice to spend more time engaging students in active musical learning, and less time on non-musical tasks, thus improving the effectiveness and efficiency of my middle years band rehearsals?
3. How do students perceive and respond to their band rehearsals?

To answer these questions I first gathered quantitative data concerning the amount of class time spent: instructing, actively making music, managing the class, and waiting or wasting time. I thought that depending on the musical concept being learned or explored, the “active” music making time would vary. I wondered what previous research said concerning the optimum percentage of time spent in active music making. I reviewed the literature, related research, and designed new ways to improve my rehearsal practice. I implemented these new practices and tracked the effectiveness of them. Finally, I gathered data from students to discover what their perceptions were regarding active music making time during class.

In band rehearsals the individual plays a major role in contributing to the whole. Throughout my years as an educator I often wondered how students perceive their rehearsal surroundings. I also wondered how students who are actively engaged in off-

task behaviour justify disrupting everyone else's learning. Adolescence is traditionally a time of being self-absorbed. Middle-year educators strive to help students become aware of their surroundings. I believe that a quality education provides students with the ability to contribute to their surroundings and communities in a meaningful way. The answers to these research questions represent my first step on a continuous journey of enrichment.

Parameters of the Study

This action research study took place over ten weeks. To enable the study to be completed in a reasonable amount of time, I used my one grade eight band instead of using all three levels of bands in my junior high school. The literature review was limited to materials directly related to instrumental middle school rehearsal techniques and other key articles deemed critical to the study.

Importance of the Study

The information gleaned from this study is of personal value because it has helped me to change and improve my present teaching practices in an informed manner. The study benefited my students since the goal of the study was to improve my teaching, conducting, and our overall rehearsals. Other educators and conductors will find the literature review helpful since it examines the pertinent findings in the area concerning effective and efficient band rehearsals. The findings provide other middle years band educators with practical rehearsal methods to use in similar band teaching settings.

Definition of Terms

Effective rehearsals develop well-rounded musicians. Instrumentalists should be able to play not only their instrument but also reasonably discuss common musical terms and ideas. Good musicians can be creative and have the skills necessary to create their

own musical ideas and share their compositions with others. Duke (1999) says that “implicit in the use of the word “effective” to describe teaching is the notion that the effect of interest is a positive change in some aspect(s) of students behavior-what students know or are able to do” (p.16-17). Shayne Cofer (1998) states that a conductor’s effectiveness is directly related to the “students’ ability to recognize and respond to the (conducting) gestures while playing their instruments” (p.371).

Efficient rehearsals are run in a timely manner. There is a balance between speaking and music making; this goes for both teacher and student. Part of being in a musical group involves developing relationships with and between other musicians. Students need to feel safe to express their own opinions but also need to respect the group enough to balance when they speak out in a full rehearsal. This evolves out of the sense of community created by efficient rehearsals. Issues related to discipline are dealt with quickly with most of the students still focused on the musical task while the student who is having difficulty in class is corrected. West and Rostvall (2003) state that an efficient method of instrumental instruction should also involve “musical elements such as whole phrases and melodies, pulse and rhythm, chords and harmony, and it should treat music expressively” (p.24).

Rehearsal frames “are segments of rehearsal that focus on the achievement of specific and immediate goals ... with the implicit or explicit identification of one or more aspects of the performance for improvement” (Worthy, 2003, p.11-12).

Excitement is when students are highly engaged and happy with their work. They are highly productive and their engrossment is noticeable.

Interest is demonstrated when students work purposively and productively. They produce good work and seem to gain satisfaction from their participation.

Apathy is evident when students seem to just go through the motions. They give token responses with a minimum amount of effort expended. This results in producing poor quality of work.

Resistance occurs when students are working against the activity. This can be seen through outright defiance or no work being produced.

CHAPTER 2

Literature Review

This chapter examines the literature surrounding effective and efficient rehearsal techniques. The first section looks at specific conductors and their personal ideals regarding good conducting. The second section includes some pedagogical ideas drawn from general conducting and music education books that are related to obtaining high-level musicianship. Finally, related research studies are discussed and examined for relevancy in effective and efficient rehearsals.

Guidelines for Effective and Efficient Rehearsals

Hindemith (as cited in Nelson, 1994) states that music “remains meaningless noise unless it touches a receiving mind” (Aesthetic experience section, ¶5). In my twelve years of teaching I have been striving to open students’ minds to music, not noise. As an educator I am constantly searching for resources or ideas that will help my students become better musicians. “Technical mastery is a means, not an end. The end is aesthetic recreation; for this end to be attained, craftsmanship must be transformed into artistry by the performer’s sensitivity and imagination” (as cited in Nelson, 1994, Aesthetic experience section, ¶6). Nelson (1994) talks about how there should be music classes versus band rehearsals, one focuses on performance alone while the other is concerned with beauty and response to beauty through aesthetics in the band room.

Brunner (1996) and Townsend (2003) agree with the broader idea of student involvement when they discuss band as an “active experience” for the players and students having “ownership ... of results”. In his article “More than the Notes”, Wilcox (1996) discusses how we need to “get away from simple ideas about rehearsing for

performance alone” (§11). “In essence, we want directors and students to learn much more than the notes. We want them to learn music in all of its facets” (§12).

To be able to develop good musicians it seems necessary to have effective and efficient rehearsals. The use of the term rehearsal denotes active music making classes, not just rote playing. Townsend (2003), LaCombe (2003), Bauer (2001), Munson (1998), and Brunner (1996) discuss the importance of a conductor being organized. Williams (2002), Anderson (1999), Wis (1998), Brunner (1996), Barrow (1994), and Ulrich (1993) agree that planning is a key element to having effective rehearsals. Barrow (1994) states, “when conductors program rehearsals, their ensembles work harder, have a more positive attitude, and give better performances” (p.26). Wis (1998) discusses how conductors should plan for both the short and long term. Bauer (2001) encourages the use of the board to write down the exact rehearsal order. This is in direct contrast to LaCombe (2003) who states “predictability is boring” (p.23). Munson (1998) advocates “flexible” rehearsals, while Brunner (1996) promotes being unpredictable. It is possible that these two seemingly divergent ideals can be combined. Rehearsal order can be posted with everyone involved knowing that changes will happen depending on the class and the learning environment. In addition to pre-planning rehearsals, Munson (1998) believes that to have good rehearsals a conductor must do post-rehearsal evaluations, not only evaluating the students but also more importantly evaluating oneself.

According to Williams (2002), Munson (1998), Brunner (1996) and Ulrich (1993), score preparation is a key factor when planning successful music making experiences. Ulrich discusses how many conductors view themselves as good musicians who are able to sight-read simple low-level band literature. Ulrich states that no matter

what the level of literature, 90% of score preparation should happen before the first rehearsal. Ulrich believes “the aural image of a composition that the conductor establishes from the score is the single most important aspect of his or her ability to rehearse an ensemble with a clear sense of direction and purpose” (1993, p.35). Williams (2002) advocates using a whole-part-whole approach in both score analysis and in rehearsals. Wis (1998) and Brunner (1996) agree with using this synthesis-analysis-synthesis approach to planning and implementing rehearsals.

A conductor’s body shape or size has no bearing on his/her effectiveness, although confidence and posture are important (Van Weelden, 2002). LaCombe (2003), Williams (2002), and Brunner (1996) agree that conductors must be trained musicians to be effective leaders. Healthy vocal technique, eye contact, vocal variation, and energy all contribute to being an effective conductor (Brigham, Renfro & Brigham, 1994; Brunner, 1996; LaCombe, 2003; Van Weelden, 2002). Conductors must run positive rehearsals (Bauer, 2001; Brunner, 1996) and be proactive in their approach to the music and to situations that arise (Anderson, 1999; Bauer, 2001).

Rehearsal pacing should be planned with transitions having the least amount of “downtime” (Townsend, 2003; Williams, 2002). No definition for “downtime” was provided but can be inferred to mean time not spent on producing music. Having some downtime is not necessarily in opposition to teaching music aesthetically. I believe educators should be able to incorporate quality music, instruction, and student growth time into each class. This belief led me to this action research study.

Other authors discussed specific techniques that might be used in rehearsal situations. Bauer (2001) and Brigham and his colleagues (1994) discussed fair and

consistent discipline expectations. One dealt with having specific and clear objectives while the other talked about discipline contracts. LaCombe (2003) suggested using proximity and body language to help guide musicians to perform the desired activity, such as walking or standing closer to a player who might be off-task. Wolbers (2002) and Zerull (1992) suggested using singing and/or imagery for tone and tuning development, while Wis (1998) promotes gesture-based activities to achieve this purpose. Hoffman (1996) suggests a variety of methods to help advance different aspects of band techniques: improv warm-ups, students' composition assignments, and a variety of drill games. Similarly, Hickey (1997) strongly suggests using student composition and improvisation as ways to have musicians explore their musical thinking.

Byo (1990) advocates the importance of teaching your instrumental students to listen. He suggests that use of non-verbal communication and conducting gestures are key elements which help beginning performers develop listening skills. Byo takes six common musical elements (rhythm, style, quality of sound, blend and balance, phrasing, and intonation) and provides practical and useful listening strategies. Fonder (1998) and Ulrich (1993) also emphasize active listening to promote growth as musicians. Ulrich encourages students to ask, "Am I really listening, or just rehearsing?" (p.35). Similarly Wolbers (2002) says, "Students must be taught to hear the music they are producing, not just to simply see it" (p.37). These articles offer ideas that help in the instructional aspects of efficient rehearsals.

Related Books, Videos, and Websites

Most of the ideas discussed so far are echoed in a clear, concise article by Menghini (2003), who is Director of Bands at VanderCook College of Music. It is a

guide, for beginning or advanced conductors, which cuts to the heart of efficient school band rehearsal strategies. Another book, which addresses basic concerns of novice band instructors, is Lehr's (1998) *Getting Started with Elementary-Level Band*. This handbook is endorsed by the Music Educators National Conference (MENC) and is one of a series of books for new teachers. Walker (1989) provides a more comprehensive look at the different aspects of being an effective music educator in *Teaching Music: Managing the Successful Music Program*. Walker suggests that a teacher's preparation, confidence, eye contact, sense of humour, ability to admit mistakes, use of motivation and praise, discipline and consistency all contribute to a teacher's ability to be an effective leader.

Williamson (1998) compiled a book titled *Rehearsing the Band* in which leading wind conductors give their personal insights regarding warm-ups, technique, rehearsal preparation, literature choices, interpretation, and any other gems of wisdom gleaned from years of professional experience. Conductors included are: Battisti, Corporon, Croft, Hunsberger, Junkin, Kirchoff, McMurray, Reynolds, Smith, Whitwell, and Williamson, with a foreword written by Fennell. Prerehearsal preparation, individual vision for the interpretation of the music, and continual self-evaluation and professional development are common themes in most of the conductor's shared musings.

In *Teaching for Musical Understanding*, Wiggins (2001) promotes musical learning through the use of musical problems. She suggests that people learn in relation to their mental schemas and for individual processing to occur students must make sense of the musical effect in relation to the world they know. This means that teachers need to help students ask the correct questions in order to challenge and expand their existing schemas.

Rachleff (1992), in his video from the Master Teacher Seminar Series, advocates the importance of music analysis, through score preparation, as a vital step to having quality band rehearsals. For each piece of music being taught, the conductor must know the score intimately. For Rachleff this means that the conductor should not need to look down at the music. The musical score should be internalised. Rachleff maintains that music is a cycle of communication, conductor to musician and back again continuously. For this communication cycle to be at its optimal level the conductor must have a clear idea of what he/she wants to communicate.

During the video presentation Rachleff (1992) gives step-by-step directions on how to analyze each musical composition. He promotes a macro-micro-macro approach that is similar to Williams (2002), Wis (1998) and Brunner (1996). Rachleff stresses the importance in developing a daily routine for score analysis and he also believes that taking notes and making charts will help individual conductors “own” the music. The end of the video includes suggested reading resource material and some quality band literature titles. Rachleff concludes by stating that through analysis the conductor becomes the composer. This videotape gives concrete and useful insights into score analysis. I incorporated some of Rachleff’s techniques when preparing for this study’s musical selections.

Lisk (1991) is inspiring in his videotape, which introduces alternative rehearsal techniques. The videotape is set in a master class format with The Virginia Commonwealth University Wind Ensemble being used to model the ideas presented. In all of Lisk’s warm-up ideas he uses a circle of fourths instead of the more common circle of fifths. Lisk (1991) also stresses the importance of not using traditional musical

notation during this process, similar to West and Rostvall (2003), which will allow the student musicians the opportunity to use and develop greater listening skills.

Lisk provides key ideas concerning: (a) internal counting, (b) silence, (c) scales, (d) dynamics, and (e) combinations. His ideas and exercises are provided in a clear and concise manner, which are practical and applicable to all levels of bands. Lisk also has written student exercise books that can accompany this new process when introduced into rehearsals. I incorporated these ideas to help facilitate effective and efficient rehearsal warm-ups.

Related Research Studies

Creative Expression

“Mutual Learning and Democratic Action in Instrumental Music Education” was an ethnographic investigation done by Allsup (2003) into the idea of democracy as community-in-the-making. His research questions were:

How might schools open spaces for students to explore and invent new music?

Can we rethink instrumental music programs to include more opportunities for creativity, self-expression, and cultural relevance?

How might music educators renegotiate the dichotomy between the music we teach in school and the music our students enjoy in homes and hallways? (¶2)

One of his motivating factors for attempting this project was the idea that non-democratic education is actually oppressive. Allsup paraphrased Noddings by stating that the education trend in North America towards uniform standards is not only undemocratic, but is at its roots unethical.

All participants in this study were from a small rural community in upstate New York. After an initial information meeting to all potential participants, any grade 9-12 student with intermediate-advanced level experience on a musical instrument, nine band students, aged 14-17, were invited to participate in the study. From October, 2001 to January, 2002, participants met 11 times after school each week for approximately 2.5 hours.

Students were asked to create music of any genre using their band instrument, any available percussion equipment, or an instrument from home. Each participant was expected to share in the design of the study and to have a voice in all stages of composition. Allsup asked for input from participants to help establish rules and protocols for the study. Participants also contributed with the analysis of data.

Data collection was done through philosophical inquiry, collaborative inquiry, and participant observation (research field notes, personal reflections and audio tape recordings of actual sessions). Analysis resulted through dialogue or storytelling via conversations, interviews, e-mails and instant messages. Emergent trends, themes and “insights triggered in others” were used to find the “authentic – lived life” experience of the participants.

Allsup concluded that his results were strictly an interpretation of each group’s lived experience. He advocates the use of mutual learning and democratic action towards the reconceptualization of instrumental music education. Allsup notes that during the study, students’ learning was based with their peers, less through the traditional transmission of skills, and more through the process of discovery. This procedure led to free exploration of “cool ideas” and new friendships. Allsup proposes a new relationship

of pedagogy not based on hierarchy and oppression but one, which uses new methods to liberate rather than oppress. This new method is based on freedom, democracy, community, caring, and even friendship. Allsup ultimately states that in this new setting students will explore a world that “is theirs”, “they understand” and a world that “defines who they are” (final paragraph).

Allsup addresses a key point concerning how some conductors ignore the aspect of students as active learners, and the role of socialization in learning. Perhaps this comes from a difference in viewing rehearsals as true educational experiences or simply as practice time for performances. The implication that everything in instrumental music education must change can be challenged. One of the aims of this thesis is to try and marry the ideas of true student active involvement with effective rehearsing.

Broomhead (2001) studied whether or not a significant relationship exists between individual expressive achievement and choral ensemble achievement, technical achievement and musical background. “Participation in an expressive ensemble may be inappropriately presumed to produce expressive independence in individual ensemble members (¶1). In his study, eleven of the “most advanced” large choirs from high schools in Utah County and Salt Lake County, Utah were used for the first phase of research. Each school choir rehearsed a small piece of music for a minimum of 35 minutes per week for four weeks. No maximum time limit was given and the musical elements rehearsed were at the discretion of the conductor. After the four weeks of rehearsal the choirs were adjudicated for expressive performances. Ten days after the first recording a second recording was made and each choir was adjudicated on their technical performance.

Phase 2 of the study took 20 students who were randomly selected from each of the top three “expressive” choirs and the bottom three “expressive” choirs. One school was dropped from the study due to poor attendance on the testing days, leaving 82 individual ensemble members who participated in phase 2. Each individual chorister was recorded singing the “rehearsed” piece, the common piece that had been rehearsed during the preceding four weeks, and an “unrehearsed” piece, “America the Beautiful”. The same judges used in Phase 1 then adjudicated the singer, five weeks after the initial choir adjudications took place. Each singer received an expressive and a technical measure for both the rehearsed and the unrehearsed portion of their individual test.

An Expressive Performance Achievement Measure (EPAM) and a Technical Performance Achievement Measure (TPAM) were developed as comprehensive measures for both individual and group performances. These forms were pilot-tested to increase their internal consistency and generalizability. Broomhead also used a musical background questionnaire. Cronbach’s alphas were calculated and the GENOVA program was used to test the EPAM and the TPAM for their reliability. The measures were found to be internally consistent and generalizable for both ensemble and individual performances.

The results of the study found no significant relationship between ensemble expressive achievement and individual expressive achievement. Broomhead states that “time in an ensemble was related to individual expressiveness, but the level of that ensemble’s expressiveness was not” (Discussion section, ¶2). Correlations showed technical and expressive performance to be strongly related though not necessarily

identical. The musical background data did suggest that previous musical experience significantly enhances individual expressive performances.

Broomhead (2001) has many ideas for future research. One poses to what extent an “increase in expressive problem-solving opportunities would positively affect expressive learning” (Future research section, ¶1). Another research study might investigate different instructional models and how they affect expressive performance (ex. constructivism). Further studies might examine the expressive and technical aspects of performance, how they differ from each other and if there are any real merits in these differentiations. Finally the use of reliable expressive performance measures could be used to track individual student progress, or data between multiple studies.

Broomhead’s findings are both encouraging and disappointing. The idea that the large ensemble can be expressive but that it doesn’t transfer to individual playing is a surprising and disconcerting idea, although it is one many conductors may relate with their personal teaching experience. It is encouraging to find that the more time spent in an ensemble setting, the greater the individual’s expressive instrumental playing. This means that time in music class is important. Time spent on the development of technical skills seems critical and is a factor, unlike musical background, that music educators have control over. I am interested in the development of effective expressive performance measures that could help educators guide their students to a clearer understanding concerning their individual musical growth.

The *International Journal of Music Education* published “A Study of Interaction and Learning in Instrumental Teaching” done by West and Rostvall (2003). The teaching of musical instruments has a long tradition in Sweden and West and Rostvall wanted to

look at whether the common norms and values surrounding Swedish instrumental lessons were effective or just habitual. There were four teachers and 21 students (ages 9-35) who participated in the study during eleven non-compulsory brass instrument and guitar lessons. The researchers videotaped, transcribed, and analyzed regular music lessons. The study was divided into three levels. The first level was descriptive which took teachers' and students' spoken language, music, and other gestures and divided them into communication units. The second level was analyzed in relation to five educational functions of speech and music. These were "testing/inquiring, instructional, analytical, accompanying, and expressive function" (p.19). The third level of the study looked at the social encounters through which the action of the participants affected the social order by using speech, music and gesture.

The results of the study showed that the majority of lesson time was spent on the decoding of musical notation with teachers treating the printed music as a complete representation of the music. West and Rostvall found that the melodies in the method books used were often devoid of real musical depth. Teachers weren't well prepared and made mistakes when modeling the music. Teachers were more verbally active than the students and used mostly short utterances that dealt with specific directives. Teachers held the majority of control over where the lesson would progress with "little or no interest in students' perspectives" (p.22). West and Rostvall conclude "students were left isolated on many aspects of their musical learning, especially concerning motor skills and expressive aspects of musical performance" (p.22). They believe that the strong traditional focus on symbol recognition restrains students from developing genuine musical skills. West and Rostvall propose "playing music by ear and improvising music

are more efficient than playing from the score” (p. 24). They suggest richer melodic examples be used in lessons with teachers repeating a melody or passage several times which would allow the student to remember the feel and sound of the music, which in turn, would help with efficient at-home practise.

Studio-based teaching is different from school band rehearsals but some of West and Rostvall’s points can carry over into the public school system. Quality music is needed at all levels of music education. If we are teaching our students to be quality musicians they should be able to tell the difference between music that feeds the soul and simple noise. The idea of separating mechanical motor difficulties from the beginning player’s ability to produce music is important. With junior high band students, visual music reading skills are often far behind their aural perception. To help address this issue Lisk’s (1991) idea of the “Circle of 4ths” was used in rehearsal warm-ups using letter-name notation instead of traditional music notation.

Allsup (2003), Broomhead (2001), and West and Rostvall (2002) study different aspects of educational practice that can help tap into a student’s inherent creativity or expressiveness. Improvisation, composition and time spent making music all contribute to developing a student’s inner musician. This action project endeavoured to incorporate a “process of discovery”, suggested by Allsup (2003), some improv during warm-ups, recommended by West and Rostvall (2003), and definitely included time spent in music class, as discussed by Broomhead (2001).

Feedback and Error Correction

“A Descriptive Analysis of Error Correction in Instrumental Music Rehearsals”, a research study completed by Cavitt (2003), looks at 20 instrumental music rehearsals

taught by 10 different teachers. The conductors were studied during four consecutive rehearsals and Cavitt acquired a total of 332 rehearsal frames of data.

Cavitt's research questions were:

1. What are the rates, durations, and proportions of time devoted to teacher behaviours and student performance activities in rehearsal frames that address the correction of performance errors and include two or more performance trials?
 2. Do teacher behaviours and student performance activities that include two or more performance trials differ according to the type of error that is addressed?
- (¶7).

Cavitt's participants in this study were five middle school teachers and five high school teachers, three women and seven men. Years of teaching experience ranged from nine to thirty-three years. All conductors had received superior ratings at band contests consistently and their ensembles had won first place in a large statewide concert band competition. The bands ranged in size from 41 to 80 band members in each ensemble. Their school populations qualified as large schools with the middle schools having more than 250 seventh and eighth graders in each school, and the high schools having more than 700 students in their grades 9 – 12 general population.

Participants were videotaped in their common school rehearsal rooms with the video camera at the back of the room in an unobtrusive spot. Rehearsals were taped 1-2 weeks prior to the spring state festival and only festival rehearsal time was included in the data for this study. Cavitt used the SCRIBE (Simple Computer Recording Interface for Behavioural Evaluation) to input teacher and student behaviour for each rehearsal frame. SCRIBE calculated the “event frequencies, rates, total durations, mean episode

durations, proportions of time, and standard deviations for each behaviour category” (Method section, ¶6). Behaviour categories were: teacher talk, teacher modeling, full ensemble plays, section plays, individual plays, performance approximation, student talk and marking music. Cavitt then reviewed each rehearsal frame again and recoded the content of teacher verbalizations and modeling. These observation categories were: “Directive, Information, Questions, Positive Feedback, Negative Feedback, Positive Modeling, Negative Modeling, and Off-task Talking” (Method section, ¶6). These events were calculated for their occurrence in rates per minute. Cavitt noted the timing of the teacher’s identification of performance errors, whether immediately following the error, subsequent to performance or prior to performance. Cavitt also identified the specific type of target error addressed during each rehearsal frame (e.g., articulation, dynamics, etc.) and noted whether or not there were single or multiple target errors concentrated on during that time period.

Cavitt’s results and discussion section were a myriad of numbers. The most striking was that “teachers used twice as much negative feedback (1.22 comments per minute) as positive feedback (.59 per minute) when attempting to correct errors” (Results and discussion section, ¶4). It was noted that this feedback was not sarcastic or demeaning but focused on specific information regarding the performance. Intonation/tone targets were the most frequently addressed error corrections. Also noted was that “the pace of instruction or level of interaction between teacher and student performance varied with the error correction task” (Results and discussion section, ¶7).

Cavitt discussed how his findings differed from Goolsby and Menchaca’s research, which is cited in his article. Cavitt stated that the timing of pre-festival

performance might account for the differences. It is important to note that later in the concluding paragraph Cavitt blatantly ignores this and makes a sweeping statement that “the results of the current study indicate that error correction may consume almost half (49%) of all rehearsal time in band rehearsals” (Conclusion section, ¶3).

Cavitt’s methods for analyzing the data were informative for this study. It was useful to see the breakdown of rehearsal time in a clear quantitative chart. Prior to this study, I thought Cavitt’s data would pertain only to pre-festival classes and highly competitive conductors. It seemed questionable to advocate that all music educators teach their instrumental classes with 49% of the time being spent in error correction. Unlike Cavitt’s study this action research study did not use “error correction” as an evaluation category. Instruction is the term used. I prefer to think of my rehearsal corrections as “teachable moments” where learning can occur, either by giving specific teacher guidance or by a student’s own discovery process either independently or with their peers. Cavitt’s approach seems at odds with Allsup’s (2003) ideal of “mutual learning and democratic action”.

Duke (1999) reviewed 25 years of published experimental and descriptive research (1972-1997) in “Measures of Instructional Effectiveness in Music Research”. His primary sources were: *The Journal of Research in Music Education*, the *Bulletin of the Council for Research in Music Education*, and the *Journal of Music Therapy*. This systematic study looked at articles that “included measurements of instructional variables that are typically under the control of the teacher, including not only aspects of teacher behavior per se, but also the apportionment of time and the instructional activities employed during lessons, classes, or rehearsals ... common to all of the articles is a

specific measure of instructional variables that are under the control of a teacher during the process of instruction” (1999, p.3).

Duke classified the articles into five different categories.

1. Descriptive Analyses: Allocation of Time-Activities (15 articles)
2. Descriptive Analyses: Teacher Verbalizations, Gestures, and Activities (18 articles)
3. Experimental Analyses: Effects of Multiple Components of Teaching on Students Behavior (7 articles)
4. Experimental and Descriptive Analyses: Variable Affecting Evaluations by Observers (24 articles)
5. Experimental Attempts to Improve Teaching (27 articles) (p.3-4).

Following these classifications was a brief overview of the categories and the key ideas expressed in the highlighted articles. The end of Duke’s article provides a chart of each study and gives a brief breakdown of each study including: citation, purpose, participants, independent variables, evaluator(s), dependent measure(s) and unit(s) of analysis.

Duke synthesized the key conclusions expressed in the articles. In one-on-one music settings expert teachers give more feedback than less skilled teachers. Experts also provide more specific positive feedback. He also noted that in music performance classes, negative feedback most often exceeds positive feedback. The negative feedback is usually directed toward performance skills and not towards the social behaviour of the student. Three studies found that students perform for only half of their total time spent in music instruction. While another three studies found that “overall proportion of student performance time is not positively related to teaching effectiveness” (p.7). These

conclusions seemed startling. Duke noted that studies have found that “expert teachers’ intervals of verbalizations and modeling are briefer than are those of less expert teachers and novices” (p.7). He also stated “higher levels of teacher activity (i.e., more rapid alternation between teacher and student behavior) are related to higher quality student performance” (p.7). Duke based those summation points on studies from Goolsby (1997), Siebenaler (1997), Speer (1994), and Yarbrough and Price (1989). Later in the article Duke summarized that “student attentiveness is roughly proportional to the amount of time that students actually perform in class or rehearsal (Price, 1983; Spradling, 1985)” (p.8).

Duke included a section sharing his reflections on the research he studied. He was surprised by the scarcity of studies that investigated what teachers do and how their teaching affects what students accomplish. Duke advocated for more empirical evidence regarding this educational relationship and maintained that some common educational wisdom is false. Duke cites how “prevailing wisdom” suggests that high levels of positive feedback are directly related to positive learning outcomes, student attentiveness, and positive student attitudes. “The results of the published research in music education do not support this position. In fact, the research reviewed in this report indicates that high proportions of positive teacher feedback are neither necessary nor common” (p.16). Duke supports the idea that although music educators use both positive and negative feedback the negative feedback is usually employed towards students’ academic behaviour and not towards students’ social behaviour.

Duke finished with a look at some of the common terms used in music education research. He made a case concerning the confusion surrounding some of the common

terms used (i.e. “the teacher” and “the rehearsal”) and advocates the development of a new term that would have the same meaning in all research studies, which would then allow for easier and more accurate comparisons being made between related research topics. “Rehearsal frames” is the idea that Duke introduced and he explained how “the startpoint of each rehearsal frame is defined by the teacher’s implicit or explicit identification of a proximal performance goal” (1999, p.20). This observation tool would help researchers and teachers view the complexity of a typical lesson through a common lens of analysis.

This synthesis of research findings is a wonderful resource to help guide teachers find applicable articles in the five areas discussed. The findings concerning positive and negative feedback is fascinating and led me to delve deeper into the research surrounding teacher feedback and its effect on student behaviour and learning. Duke’s “rehearsal frame” strategy will be used to analyze data in this proposed action research project.

“Teachers’ Verbal Corrections and Observers’ Perceptions of Teaching and Learning” by Duke and Henniger (2002) looked at teachers’ use of positive and negative feedback in the music classroom and how it affects students’ performance as perceived by outside observers. Previous research found expert teachers’ give higher rates of verbal feedback due to the fast pace of their instruction. Expert teachers “generally give feedback following fewer than 30% of all student performance trials” (p.76). “This rapid alternation between teacher activity and student activity creates frequent opportunities for students to respond and receive feedback about their performance” (p. 76). The purpose of Duke and Henniger’s present study was to “determine whether third-party observers’ perceptions of teaching and learning are

affected by different forms of verbal correction when viewed in the context of successful lessons” (p.78).

The subjects were 51 undergraduate music students enrolled in teacher preparation programs in the Ohio State University, Columbus, and The University of Texas in Austin. The subjects were tested in groups during their regularly scheduled classes in music education curricula. The undergraduate students viewed previously videotaped fifth-grade recorder lessons. Lessons were recorded in a typical elementary classroom with a stationary video camera on a tripod in full view. The same teacher taught each student to play a one-line accompaniment for the theme to *Sesame Street*. Throughout the lesson the teacher explained and demonstrated each part of the musical task, performing with the student until the student was able to perform independently. The lesson culminated with a duet performance, with the student on the single-line accompaniment and the teacher playing the melody.

Lessons were divided into two different types, directive and negative feedback. “In the Directive Lesson, the teacher made corrections in the student’s performances primarily by stating specific directives, which were defined as commands” (p.79). An example of this would be “Try again, and this time play a little softer.” “In the Negative Feedback Lesson, the teacher corrected the student’s performance errors by identifying what was wrong with the student’s performance” (p.79). In this type of lesson the teacher might say, “You played too loudly, try it again”. “The teacher made no conscious attempt to change her personal demeanor between the two experimental conditions and there were no obvious differences in the teacher’s emotional tone when delivering negative feedback statements and when delivering directives” (p. 79).

Subjects were shown both lessons in a single class, with the Negative Feedback Lesson being shown first. After watching each lesson the undergraduates were asked to complete a four point Likert scale response sheet (strongly agree, agree, disagree, strongly disagree). The ten statements were:

The student seemed to enjoy learning to play the recorder.

The student seemed to find it difficult to play the recorder.

I believe that this student would choose to continue learning to play the recorder.

This lesson seemed like a negative experience for the student.

The student seemed bored learning to play the recorder.

The student seemed confident about playing the song learned.

The teacher was helpful.

The student seemed frustrated during the lesson.

The teacher was encouraging and positive.

This lesson exemplified effective teaching. (p.80-81)

Subjects were also asked to describe any differences they had observed between the two lessons with their responses later analyzed and categorized according to content.

The results in this study were analyzed using a repeated measure ANOVA with no significant differences being found between the two universities. For the statements that were worded in a negative manner (e.g., The student seemed frustrated during class.), there were no significant differences found between observers reactions of the Directive Lesson or the Negative Feedback Lesson. Few of the observers could identify any teacher feedback as being different between the two types of lessons. The Negative

Feedback Lessons received a slightly higher rating for “The teacher was encouraging and positive”.

Duke and Henniger concluded from this and previous studies they have done, that there are no noticeable shifts in student’s attitudes or achievements when there are high rates of positive feedback. They proposed that the negative feedback that is given in relation to a student’s performance does not adversely affect the student’s attitude or performance.

Reading this study should make many music educators feel more at ease with giving negative feedback during error correction in band rehearsal. I sometimes wonder if I am too negative with my students but feel that if a mistake is made it should be corrected. (Sometimes students evaluate and correct themselves but the error correction does take place – just in a different manner.) This study highlights the idea that conductors often are caught between what they do and what they think the research says. I wonder how many other “conventional wisdom” ideals are in complete contrast to reputable research. It is important to note however that the negative feedback studied addressed students’ musical performances and not students’ social behaviour issues. It is important to be gentle and sensitive when working with adolescent students so that there is no negative impact on their self-image.

Francisco’s (1994) dissertation “Conductor Communication in the Ensemble Rehearsal: The Relative Effects of Verbal Communication, Visual Communication, and Modeling on Performance Improvement of High School Bands” clearly states its purpose in its title. Twenty-five conductors and bands at fifteen summer music camps were audiotaped and videotaped during rehearsal. Francisco used “expert judges” to review

the tapes and categorize them based on conductor communication. Pre- and post-communications were then investigated to find out whether performances improved, didn't improve, or were inaudible.

Francisco used a series of multiple regression analyses to examine the data obtained. He concluded that the type and purpose of communication had a significant effect upon ensemble improvement. The combination of verbal, modeling, and visual communication was significantly more likely to improve ensemble performance than visual communication or verbal/visual communication. Francisco found that combinations of two types of communication were not necessarily more likely to improve ensemble performance than the use of one type of communication. Sang (1998) reviewed Francisco's dissertation and while he commended the literature review and the topic chosen he was wary about some of the operational definitions used in the research study (e.g., Modeling is not only verbal and aural, but also sometimes visual). Sang and Francisco both agree that further research is needed in the area concerning conductor communication.

Conductor communication is a huge area in music rehearsal research and a vital one. The implications for this study will be to use the types of communication and the combinations of communications during rehearsals. Based on this research it would seem logical to try various combinations of verbal, modelling, and visual communication if the aim is to improve the performance of the band.

Worthy (2003) examined a "Rehearsal Frame Analysis of an Expert Wind Conductor in High School vs. College Band Rehearsals". His purpose was to "determine the kinds of errors that were corrected in the rehearsals of an expert wind conductor and

to determine how the conductor used verbalizations, modeling, and student performance trials to bring about positive change in the performances of a high school honor band and an intercollegiate honor band” (p. 12). The expert wind conductor had 22 years of professional experience and regularly conducted high school and intercollegiate honor bands. *Southern Harmony* by Donald Grantham, not referenced by Worthy, was programmed for both the high school and college concerts. Both ensembles were videotaped for the entire preparation of the piece from the initial reading to the final rehearsal. Worthy used rehearsal frames to help with data analysis.

The results of the study showed that the conductor talked for approximately half of the total rehearsal time (48%). During the high school rehearsals conductor talk was short and concise while during the college rehearsal conductor verbalizations were slightly longer. The majority of high school directions (25%) addressed rhythm concerns followed by multiple targets (24%), tempo (12%), dynamics (12%), and articulation (10%) concerns. In the college rehearsals 46% of directions addressed multiple targets followed by rhythm (14%), dynamics (13%), tempo (9%), and articulation (8%). Worthy concludes that high school rehearsals focus on one issue at a time in a slightly faster paced rehearsal than the college rehearsals. College rehearsals had more complex rehearsal frames and often dealt with two or three issues at the same time. “While the college rehearsals were also highly effective and efficient, they were conducted at a slightly more relaxed pace” (p.18).

It is important to note that Worthy viewed both the high school and college rehearsals as being effective and efficient even though the rehearsal patterns were different. The difference between high school and college seem clearly presented but I

wonder if the same data would transfer to junior high band rehearsals. The use of multiple targets during junior high band rehearsals often contributes to student confusion, but I do think that as students advance this technique should be introduced gradually into their rehearsal patterns. It is interesting to note that 48% of the evaluated rehearsal frames consisted of conductor talk. Also important to note is that these verbalizations averaged 8 seconds with a rate of approximately 4 per minute. The video data gathered in this action research study was analysed according to conductor instruction time during each band class. Teacher journal entries and reflections on the video data gave some insight into the types of feedback and communication used during class.

Modelling/Self-Evaluation

Hewitt's (2001), "The Effects of Modeling, Self-Evaluation, and Self-Listening on Junior High Instrumentalists' Music Performance and Practice Attitude" study delved into which external factors change a student's performance. His purpose was clearly stated in the study's title. Participants in the study were 82 woodwind, brass, and percussion students: 36 in seventh grade, 31 in eighth grade, and 15 in ninth grade. Students were from a junior high school in a southwestern state with a stratified random sample being used to assign students to one of eight treatment groups. The eight treatment groups were:

- (A) Model x Self-Listening x Self-Evaluation (n=11)
- (B) Model x Self-Listening x No Self-Evaluation (n=11)
- (C) Model x No Self-Listening x Self-Evaluation (n=10)
- (D) Model x No Self-Listening x No Self-Evaluation (n=10)
- (E) No Model x Self-Listening x Self-Evaluation (n=10)

(F) No Model x Self-Listening x No Self-Evaluation (n=10)

(G) No Model x No Self-Listening x Self-Evaluation (n=10)

(H) No Model x No Self-Listening x No Self-Evaluation (n=10)

(Methods section, ¶1)

Hewitt selected a Performance Etude for each instrumental section that met specific musical criteria examined and determined by three junior high music teachers. Hewitt used university music majors to perform and record the musical excerpts, which were then given to the junior high students for their modeling examples. Specific criteria were followed when taping the audio model examples.

The study was implemented during a nine-week period. During the first week all students were trained in the use of the Woodwind Brass Solo Evaluation Form (WBSEF) taken from Saunders and Holahan (1997). Students were introduced to the Performance Etudes that were to be used during the study. They participated in three daily performances led by their teacher and the researcher, each lasting approximately three minutes with only limited instruction being provided. Specific instructions were given regarding the correct tempos, and reminders regarding the key and meter signatures. All copies of the music were then collected.

During the second week of the study a performance pre-test was administered. Each student individually entered a practice room, with the researcher, and was then recorded performing the Performance Etude in its entirety. After this recording session students were allowed to keep the music and were instructed to practice it throughout the remaining research period. Students were encouraged to prepare the piece to the best of their ability even though no grade would be given for their final performance.

Treatment took place between Weeks 3-7, according to the previously stated subgroups. Students in the model treatment groups were given an audiotape that contained the “ideal” performance of the etude performed by the university majors. Students in the Self-Listening treatment groups recorded and received a new audiotape of their own performance of the etude each week. Students in the No Model or/and No Self-Listening treatment groups were also given an audiotape containing a professional wind ensemble performance, which had no direct relationship to the Performance Etude. All students were asked to listen to their tape daily whenever they practiced the Performance Etude at home. Both oral and written form instructions were provided to the students concerning the in-class treatment sessions. Hewitt provided these instructions to help them follow his research methods.

Week 8 was used to assess the students’ individual music performances in a similar manner that was used during week 1. The Practice Attitude Questionnaires (PAQ) that had been completed weekly by each student doing the Self-Evaluation treatment were used to analyse any changes in practice attitudes. Students not in the Self-Evaluation treatment group only completed PAQ’s during week 1 and week 8 of the study.

Hewitt used a general linear model (GLM) repeated-measures analysis with multiple dependent variables to determine relationships among two modeling conditions, two Self-Listening conditions, two Self-Evaluation conditions, and to test administration scores of seven WBSEF performance sub-areas (tone, intonation, technique/articulation, melodic accuracy, rhythmic accuracy, tempo, interpretation) and overall performance.

Results revealed that the Model/Self-Evaluation group improved more than the No Model/Self-Evaluation group for tone, melodic accuracy, rhythmic accuracy, interpretation, and overall performance. No differences in scores were discovered between the Model/No Self-Evaluation and No Model/No Self-Evaluation group for any performance sub-areas. Students in the Model condition showed a greater increase in performance scores than did students in the No Model group indicating that music performance scores increased greater when students listened to a model recording. In regards to practice attitude scores Hewitt found no statistically significant effects between any of the treatment groups with each group seeming to have a “strong” attitude toward their particular practice strategy.

Hewitt concluded students who listened to a related aural model increased their performance scores in the sub-areas of tone, technique/articulation, rhythmic accuracy, tempo, interpretation, and overall performance. However the sub-areas of intonation and melodic accuracy did not seem to benefit from the use of an aural model. Although self-evaluation is believed to be a key element in student improvement, students involved in self-evaluation without the use of a model often made inaccurate assumptions regarding their own playing ability. While Hewitt concluded self-evaluation should be included in junior high music curriculum if independent learning is desired, he qualified this by stating that an ideal representation of the music must be provided to the students.

Hewitt addresses some key questions that band educators have concerning students’ independent learning and practice methods. It is interesting to note that Hewitt found that junior high musicians often evaluate themselves inaccurately, but still recommends it as an instructional strategy. It is especially interesting to note that

accurate student evaluations only occur if the ideal aural recording is provided. How often do we provide models in our classrooms? Is this a realistic expectation for each musical composition being studied? Focused listening of accurate recordings coupled with self-evaluation tools would appear to hold promise for improving music performances.

“Self-Evaluation Tendencies of Junior High Instrumentalists” represented Hewitt’s (2002) follow-up research study with junior high instrumentalists. The purpose of the study was threefold: “(a) to determine the nature of junior high school instrumental music students’ self-evaluation tendencies over time, (b) to examine whether the process of self-evaluation, with or without the use of a model, has an effect on self-evaluation accuracy, and (c) to determine if a relationship exists between self-evaluation accuracy and music performance achievement” (¶1).

There were 41 junior high student participants in the study: 28 woodwind, 10 brass, and 3 percussion students. Students were distributed throughout three different grades: 18 grade 7 students, 15 grade 8 students and 8 grade 9 students. At the beginning of the school year each student was auditioned individually and then placed into one of three ensembles according to their performance achievement and the need for balanced instrumentation in each ensemble. There were 14 students in the low-ability ensemble, 11 in the middle-ability ensemble, and 16 students in the high-ability ensemble. A pretest-posttest repeated measures design was used.

A stratified (by grade level) random sample was used to assign students to one of two treatment groups. One treatment group was provided with an aural model for the students to emulate while the second treatment group had no aural model. University

music majors, one for each different instrument used in the study, were recruited to perform and record the musical excerpt. The musical excerpt was examined independently by three junior high school music teachers to determine if it met the specific musical criteria desired for Hewitt's study.

The study was administered over a 6-week period. The first week the students were trained in the use of the Solo Evaluation area of the Woodwind Brass Solos Evaluation Form (S-WBSEF) developed by Saunders and Holahan (1997). Students also received the music for the study and they played through it in large ensemble settings with the researcher and teacher conducting. During week 2 students recorded an individual performance of the music being studied and then completed a self-reflection using the S-WBSEF form. For the next three weeks students were asked to practice the music at home and to bring it to school each day. Each week the students entered a practice room independently, performed the music and completed the S-WBSEF form. Prior to their performance each week, students who were assigned to the model treatment group listened to the audiotape recording of the music. During week 6 students followed the same practice room routine with the addition of having their performance recorded.

Data were analyzed using the Standard Version of SPSS Base 10.0 software. Hewitt found student self-evaluation scores increased over time regardless of model-group conditions. He also found self-evaluation accuracy did not improve over time even with the use of a model and that self-evaluation intonation accuracy may actually decrease over time. Hewitt speculated that perhaps the S-WBSEF form is too specialized for junior high students and that a less generalized self-evaluation form might be more helpful. He proposed that a form, which only focused on a single performance sub-area

instead of multiple areas, might help students with accurate self-reflections. The study seemed to conclude junior high students are unable to do accurate self-evaluations but Hewitt still posited self-evaluation as a necessary and important tool for self-directed learning. A vital skill all musicians must develop. Hewitt called for further research into this “cloudy” yet important area of music education.

This second study of Hewitt is vitally important since it showed the ideas music educators value do not necessarily transfer smoothly into practice. All musicians know self-evaluation is needed for independent growth. It is vital for junior high music teachers to recognize the difficulties our students have with accurate self-evaluation and to teach this technique carefully. Even with the use of an “ideal” music example students still found it problematic to translate that musical picture onto their own instrument.

Morrison, Montemayor and Wiltshire (2004) completed a study titled “The Effect of a Recorded Model on Band Students’ Performance Self-Evaluations, Achievement, and Attitude”. Their null hypotheses were “(1) ensembles would demonstrate no difference in performance achievement between selections studied with or without a recorded model; (2) students’ evaluations of their individual performance versus their ensemble’s performance would be no different between the two conditions; (3) students’ free-response self-evaluations would reveal no difference in attention to musical elements and to group (versus individual) performance issues between the two conditions; and (4) students would demonstrate no difference in attitude toward the model and no-model selections” (Method Section, ¶4).

Participants in this study included three middle/junior high school bands and two high school bands from urban, suburban, and rural districts in the Pacific Northwest who

had well-established comprehensive instrumental music programs. The five directors selected two compositions they were planning to prepare for an upcoming performance. Each school recorded pre-treatment performances of both selections within a week of the bands' first rehearsal. Each school then received a professional or collegiate recording of one of each of the school's two selections. One of the researchers met with each director to explain how the listening model was to be incorporated into the band's regular rehearsal. Directors were asked to spend equal rehearsal time on each of the two selections. Once a week directors played the aural recording in its entirety while on another day each week the director would select a part of the recording to listen to which would correspond with that day's rehearsal goals.

Students completed a one-page self-evaluation progress report for each piece once a week. The first three questions required short answers while questions four and five used a Likert-type scale. Five experienced instrumental music teachers evaluated each band's musical recording using a 5-point Likert scale similar to the one used by the students.

The researchers used a multivariate analysis of variance (ANOVA) to analyze the data collected. They observed no differences in ensemble achievement between model and no-model conditions for either grade level for any of the performance criteria. Contrary to this observation, students' self-evaluations suggested specific effects occurred when using a recorded model. High school students showed no preferential difference between model and no-model pieces while middle school/junior high students showed significantly more enthusiasm toward the model pieces.

In their discussion section Morrison, Montemayor and Wiltshire were leery of suggesting firm findings. Instead, they gave multiple possible explanations for data collected with no true conclusions being drawn. They thought the use of an aural model could be beneficial depending on how the director incorporated the recording into the rehearsal routine. They suggested that junior high students get greater excitement from the use of an aural recording due to the novelty of the experience. I think that any musical experience that helps students grow into a deeper relationship with the pieces they are learning is a valuable. For this action research project, the incorporation of listening models into rehearsals was considered and used in two rehearsals. The exit slips used in this action research focussed on students' perception on each day's class. Instructions regarding how to do accurate self-reflections were ongoing throughout the project.

Teacher Effectiveness

“‘Prepared yet Flexible’: Insights from Daily Logs of Music Teachers” written by Pembroke and Fredrickson (2000) was a study which reviewed daily journal entries of experienced teachers to “document factors promoting job satisfaction or disappointment in K-12 music education environments” (p.147). Thirty-four full-time music teachers (elementary general – 13, secondary choral – 11, secondary instrumental music – 10) who average nearly 13 year of teaching experience were the participants in this study.

Each teacher kept a daily journal for a period of seven weeks, which included a “daily prediction score regarding how the day would go, a comment about the best and worst aspect of their day, and a score at the end of the day reflecting how successful they thought the day had been” (p.150). Comments were sorted into five different categories

“(a) the advantages and responsibilities of having a job as a music teacher, (b) the presence or absence of music learning, (c) positive or negative social interactions with students, (d) the presence or absence of personal teaching competencies, and (e) things other than those previously mentioned and not related to teaching” (p. 150). Pembrook and Fredrickson used a univariate analysis of variance to help analyze the data. They asserted: “Positive student music making was most often reported as the best part of the day while poor student behavior was the worst. Elementary teachers reported significantly higher evaluation scores than choral teachers” (p.149).

It is interesting that instrumental teachers weren't mentioned independently during the conclusion portion of this research study. I have taught elementary, choral, and instrumental music and I would like to have seen the exact break down of each areas teaching reflections. It is telling that teachers invariably look to positive music making experiences as the highlights of the day. Pembrook and Fredrickson noted that wrong notes or musical mistakes didn't necessarily have an adverse affect on the teacher's day since most teachers view mistakes as new learning opportunities to be explored with their students. This study represents another look at the perception of teaching and its importance in determining the tone of the music class. It would be interesting to know how often teachers' predictions of daily expectations aligned with their end of day reflections. Do we really get the outcomes we project?

Van Weelden (2002) studied the “Relationships Between Perceptions of Conducting Effectiveness and Ensemble Performance”. One hundred and sixty-three participants were used in this study. Of the total group drawn from six universities, 68 were choral and 95 were instrumental undergraduate music majors. Students were asked

to view a videotape where six female conductors were shown, in varying order, conducting the same musical excerpt. The conductors' body types were clearly ectomorphic (thin body build) or endomorphic (large body build). A 12-point questionnaire was given to participants. The first seven questions related to the ensemble's intonation, tone quality, attacks and releases, phrasing, dynamics, balance and blend, and diction. The remaining five questions were associated with the conductor's eye contact, facial expression, posture, overall effectiveness, and their confidence in the conductor. Students filled out a different 5-point Likert form for each conductor.

Van Weelden found no significant differences when looking at conductor's body type, the evaluator gender, and/or the music major of the evaluator. The only significant difference was found between performance rating and tape order, which had no real bearing on this study. This study is encouraging because Van Weelden helps to show that it's the music that is important to students, and not the body shape of the conductor. When the conductor was knowledgeable and engaging, the ensemble responded no matter what the physical character of the conductor.

Shayne Cofer (1998) studied the "Effects of Conducting-Gesture Instruction on Seventh-Grade Band Students' Performance Response to Conducting Emblems". Three research questions were investigated. The first dealt with the "effect of short-term instruction on seventh-grade band students' ability to recognize common conducting gestures" (p.362). A pencil and paper test and an individual musical performance measured this problem. The second research question was whether there was a relationship between the two measures. This was to help discover whether they measured the same conducting-gesture recognition and to see if students could recognize the

gestures while actually performing or only when utilizing a pencil-paper test. Shayne Cofer's final research question looked at specific conducting gestures as musical conducting emblems and how well students recognized the gestures.

Research subjects were 60 grade 7 wind instrumentalists. The students were divided into two groups. The treatment group received instruction "designed to improve their recognition and response to common conducting gestures" (p.360). The control group participated in a warm-up routine intended to review musical expression concepts without the use of conducting gestures. The study consisted of six phases: "the selection of conducting gestures for instruction; the editing of Sousa's (1988) original videotape and pencil-and-paper test; the development of a four-bar melody used in the instruction and the individual musical performance posttest; the development of research-designed lesson plans, the instructional period; and the posttest period" (p.363).

Results of this study found significant differences between groups on the paper-and-pencil recognition test, with the treatment group recognizing significantly more gestures. Of the 18 gestures studied the treatment group recognized 16 of the 18 gestures correctly on the paper-pencil test. Interestingly when playing, the treatment group also recognized 16 of the 18 gestures, but missed two different gestures. On the paper-pencil test, subjects missed *ritardando* and *accelerando*, while when performing they failed to recognize *crescendo* and *forte*. The control group recognized 11 out of 18 on the paper-and-pencil test and only 3 out of 18 when performing on their instruments.

Shayne Cofer suggested that "improved recognition and performance response to common conducting gestures may be possible for seventh-grade band students using a minimal amount of instruction and rehearsal time" (p.370). "The conductor's

effectiveness depends on the students' ability to recognize and respond to the gestures while playing their instruments" (p.371).

The eighteen gestures used in this study: piano, forte, subito piano, subito forte, crescendo (2), decrescendo (2), staccato (2), legato, tenuto, marcato (2), accelerando, ritardando, and fermata (2), are all regularly used musical expressions for junior high bands. The control group's failure to recognize and respond to many of the conducting gestures was surprising. Shayne Cofer's suggestions concerning teaching these basic gestures must be incorporated into regular rehearsal time. The implications of this study support the idea that if we want to develop musicians; then we must teach students how to respond to non-verbal communication from the conductor. Six of Shayne Cofer's suggested conducting gestures were incorporated into this action research project.

"The Effect of Accuracy of Instruction, Teacher Delivery, and Student Attentiveness on Musicians' Evaluation of Teacher Effectiveness" was a research study done by Madsen (2003). This study focussed on the perception of teaching. Its purpose was to determine the effects and possible saliency of accuracy of instruction, teaching delivery, and student attentiveness regarding the perceptions of teacher effectiveness of four groups of musicians with various experience levels.

There were 42 participants in each of the following groups: (a) music students in Grades 6-8, (b) music students in Grade 9-12, (c) undergraduate music majors, and (d) experienced classroom music teachers. This resulted in a total of 168 participants. The middle and high school students were from elected choral and instrumental music classes at two public schools while the undergraduate music majors and the experienced classroom music teachers were selected from their music courses at a state university.

Participants voluntarily viewed and evaluated the stimulus videotape either during regular class hours or in small groups outside of class.

The stimulus videotape used in this study contained eight scripted music lessons. Each scripted lesson contained approximately 40 steps and covered the teaching of an elementary general music concept through an originally composed song and movement activity. The researcher acted as the teacher and a group of seven to nine upper-elementary students served as “actors”. The students were rehearsed before the videotape was recorded, with students being coached in how to demonstrate on- and off-task behaviours. While the accurate and inaccurate teacher instruction behaviours were scripted into the lessons, the teacher’s delivery and the students’ on- and off-task behaviours were not scripted. Madsen provided specific operational definitions concerning accuracy of instruction, student attentiveness, and teacher delivery. Some aspects identified for teacher delivery were eye contact, vocal delivery, gesture/body language, facial expressions, and overall energy level.

The stimulus videotape was professionally edited so that each of the eight lessons was labelled as a teaching segment and placed in a randomly selected order chosen by the researcher. Each segment was four to five minutes in length. Three experts previewed the stimulus videotape and agreed with 100% reliability that each of the eight teaching segments demonstrated the combination of required variables.

Participants viewed the stimulus videotape and following each teaching segment completed a response form that required them to rate the teacher in terms of effectiveness using a 10-point Likert scale. Also required were three written comments as to why the participants gave the teacher that rating, for each of the eight teaching segments.

Written comments were coded by their content relating to: (a) Accuracy of Instruction, (b) Delivery, (c) Classroom Management, and (d) Other. A two-way ANOVA with repeated measures (experience level x teaching segment) was used to analyze the Likert scale responses. Madsen suggested that all four groups focused on teacher's delivery to be the most important factor in whether or not the teachers were effective. Experienced teachers were conscience of the accuracy of instruction while the other groups found this to be less important to teacher effectiveness as long as student behaviour was on-task. High school students looked at the teacher's high/low delivery of material as a greater indicator of teaching effectiveness rather than the accuracy of instruction or the social behaviours of the students. Middle school participants seemed to link teacher's effectiveness clearly with the classroom management skills of the teacher.

Madsen encouraged further research into the area of teaching effectiveness, which would examine delivery, accuracy of instruction, and student attentiveness in relation to student learning. She also suggested using diverse subject populations and settings.

This research suggests that much of effective teaching is bound up in delivery style. It is pertinent to this study that junior high students perceive classroom management to be highly relevant to teacher effectiveness. Accuracy of instruction is relevant from teachers', but not students' perspectives. It is important to note that my thesis statement concerning effective band rehearsals will be perceived differently by my students and me. Madsen's research study shows us that effectiveness is a compilation of characteristics not just a 'cut and dry' formula for accuracy. Maintaining an effective delivery style was an important consideration while implementing the instructional innovations used during this study.

Shayne Cofer (1998) gives specific guidance to improve the effectiveness and efficiency in a junior high band rehearsal. Teaching students to recognize and to respond to conducting gestures seems obvious but when reading Shayne Cofer's study we see that either students or teachers miss something in the translation. Pembroke and Fredrickson (2000) show how a teacher's own reflections are linked to the amount of music making that takes place in the classroom. If effectiveness is related to perception, as suggested in Van Weelden (2002) and Madsen (2003), then a teacher's own perception concerning the band they are conducting or the rehearsal they conduct will also have an effect on its effectiveness. The use of teacher journaling in this action research project helped to see if this link existed and how great a link it was concerning each day's rehearsal.

This section of my literature review focused on related music research in the rehearsal area. The studies were organized conceptually and a brief overview including the study's purpose, participants, method, and conclusions were presented. Personal interpretations and perspectives concerning the selected research were also given. Research in music education seems to be alive and well with many questions being answered while others still being posed. I hope to take the next small step in trying to synthesize some of these research ideas and seeing how or if they can be incorporated into a real music classroom setting.

CHAPTER 3

Methodology

This chapter focuses on the methods used in this research study. It begins with discussing the benefits of doing an action research project and then outlining the complete study. The research context and participants, including ethical issues will also be addressed. The main portion of this chapter deals with the teaching innovations used and the specific procedures employed so that replication of this study can be facilitated for those who may be interested.

Action Research

When deciding which research methodology to use, I considered both qualitative and quantitative research approaches. Stringer (2004), Katzer, Cook, and Crouch (1991), and Eisner (1991) all present viewpoints concerning the benefits and shortcomings offered by the different types of research available to educators. The root of “objective science” may be to gather data, which is quantifiable and clear, but it often doesn’t tell the entire story concerning the situation being studied. Some “naturalistic inquiry” projects are so subjective that the data findings are questionable. However, with well-obtained descriptive data, qualitative research can help both the researcher and the reader form complete pictures of what is truly occurring in the classroom setting.

“Research aims to create new knowledge and gather data, and to test and generate new theories that are more appropriate for human living than previous theories” (McNiff & Whitehead, 2002, p.27). McNiff and Whitehead go on to discuss the differences between empirical research, interpretive research, and critical theoretic research. They also discuss the three typologies of knowledge: know that, know how, and personal

knowledge. While each of the specified research practices studies a different type of knowledge set, McNiff and Whitehead elude to the benefit of taking a holistic approach to research whereby “the boundaries between theory and practice dissolve and fade away, because theory is lived in practice and practice becomes a form of living theory” (p.35). In essence, this approach to research has been labelled action research.

There are many different definitions of action research (Holly, Arhar, & Kasten, 2005; Johnson, 2005; McNiff & Whitehead, 2002; Mills, 2003; Stringer, 2004) but I would like to cite the one by Russel (2004). “Action research is a term broadly used to describe professionals studying their own practice in order to improve it. Applied to teaching, it involves gathering and interpreting “data” to better understand an aspect of your teaching that interest or concerns you” (p.2). This statement accurately represents why I embarked on this study. I wanted to improve my practice through a systematic inquiry leading me to a better teaching model.

Although there are different models of action research, the common elements found in all action research are: sense of purpose or focus, observation or monitoring practice, reflection or interpretation, and a form of action. In action research there are usually three cycles of “Look, Think, Act” (Stringer, 2004) before closure to a study. Action research values both the researcher and the participants. It values thick, rich descriptive data and empirical data. It allows for whatever is needed to present the complete picture thus allowing for true growth to occur in each specific classroom setting being researched.

Stringer (2004) illuminates how good action research incorporates the human dimensions of head, heart, and hand. He discusses how too often students, and some

teachers, move mechanically throughout their learning environments. Stringer advocates the need for motivating the entire human being, in both student and teacher.

Motivation may be more broadly conceived as engaging the *heart* or the *spirit* of the students and others with whom we work so they do not just ‘go through the motions’ but take ownership for their work and engage it joyously, enthusiastically, and creatively. The same is true for teachers themselves, who must constantly find ways to develop and sustain the creative energy required for their demanding day-to-day work with children in schools (Stringer, 2004, p.38).

Through this action research project I wanted to discover both student motivation and teacher motivation levels during band classes. Stringer (2004) also speaks about an index of engagement where there are four distinct levels of personal engagement: resistance, apathy, interest, and excitement. I wanted to find where my students were on the index of engagement and to see if changing our band rehearsal’s effectiveness and efficiency had any affect on students’ levels of engagement. Shuler (1990) described an effective teacher as a problem solver and stated that when teachers’ master generic research, music educators become more effective teachers. This action research project is my way of becoming a more effective teacher through the discovery of new practical knowledge.

Teaching Background

I have taught music education for the past twelve years. My first year of teaching consisted of short-term contracts in Winnipeg, Oakbank, Miami, and Elm Creek, Manitoba. Next, I taught for two years at Maples Collegiate, in the Seven Oaks School Division, with a general school population of approximately 1000 students. I then changed divisions to Hanover School Division and taught half time junior high music in

Landmark with approximately 200 students. During the next five years I taught all of the grades 4 – 12 music classes at Green Valley School in Grunthal, Manitoba, with a student population of 350. Two years ago I chose to return to the city and taught K-6 music at Sun Valley School in the River East Transcona School Division. For the past three years I have been with the same division and presently I am teaching junior high band at Robert Andrews School in East St. Paul. There are approximately 400 students enrolled in our school with 103 students in band (37 grade seven students, 35 grade 8 students, 31 senior one students). My teaching career has included part-time and full-time contracts, multiple school divisions, all age levels of students, and both rural and urban teaching.

Participants

The participants in this study were 28 grade 8 band students, 11 males and 17 females, plus 1 music educator, myself, in the role of teacher researcher. All students enrolled in the grade 8 band program were invited to participate but 7 students chose not to actively take part in the study. This translates to an 80 % participation rate. Grade 8 band is an elective option course where enrolment is contingent upon being in grade 7 band during the previous school year. Twenty-seven of the band students are in their second year of playing their band instrument, while 1 student is beginning his third year of playing.

Ethical Issues

Whenever a teacher uses their students as data sources there is an ethical concern related to the teacher's position of power. The researcher received approval from the University of Manitoba's Education/Nursing Research Ethics Board (ENREB), then school board approval, school approval, and parental approval for each student in grade 8

band participating in the study. It was clear that participation in the study was optional and that the students could withdraw at anytime without penalty, or grade retribution. The permission form (Appendix A) was administered through a third party to ensure that no parent or student felt obligated to participate in the study. This procedure met the requirements of informed consent for all parties involved.

Confidentiality and anonymity are ethical concerns when using videotape data. If any parents or students had concerns, the portion of data containing that student's image was removed or blurred. Videotape data was erased upon completion of the study.

If at anytime during the study the data gathering techniques changed or evolved a new informed consent form would have been administered to participants but this did not occur.

To gather quality data, real students in real situations must participate in the study. When the proper ethical guidelines are followed, everyone benefits from the research experience. Gay and Airasian (2000) make a key point stating:

Perhaps the fundamental rule of ethics is that participants should not be harmed in any way, real or possible, in the name of science. Respect and concern for your own integrity and for your participants' dignity and welfare are the bottom lines of ethical research (p.100-101).

Research Context

The study took place in a rural junior high school with a population of approximately 400 students and 35 adult professionals, 25 of whom are teachers. Students involved in the study were enrolled in grade 8 band, which is an option course. Students must have been enrolled in grade 7 band to be able to enter grade 8 band unless

special circumstances occur (e.g., private instrument lessons or an exchange student).

The school is located in an affluent community. Technically it is a rural municipality but it is close enough to an urban centre to be considered a suburb of the city. Most students are from affluent families although there are also students who come from low socio-economic backgrounds. There are well-developed K-6 general music programs at the local elementary schools, which provide students with a fairly rich musical background prior to entering junior high school. The junior high school is run using a six-day cycle with grade 8 band meeting three of the six days. This means that band alternates between meeting two or three times a week. Classes are fifty minutes in length.

Innovations

In order to establish more effective and efficient rehearsals I implemented key ideas expressed by Byo (1990) and Shayne Cofer (1998). These ideas focussed on the use of non-verbal methods to help foster deeper levels of student musicianship. Byo's article discussed six specific musical elements that help foster a musician's independence. These six elements are: rhythm, style, quality of sound, blend and balance, phrasing, and intonation. Shayne Cofer's (1998) study concerned teaching students to recognize conducting gestures and how increased student knowledge is directly linked to their ability to be effective musicians. I incorporated seven specific conducting gestures during this study to see if specific instructions concerning conducting gestures do in fact lead to more effective and efficient rehearsals. Menghini (2003) advocated students be conditioned to respond to a "set position". Conductors develop a stance that signals to the band that the time for active music making is at hand. Conductors cannot talk while their arms are in the set "ready" position since this

unconditions the students and they will stop responding effectively to the “set position”.

At the beginning of this study I was guilty of speaking while in the set position since there was complete silence and it seemed to be a good time to speak to every student. I aimed to stop speaking at this time and engage directly in music making.

I created specific objectives for each class which helped to focus rehearsals towards a defined purpose. These objectives incorporated one of Byo’s listening elements and the related conductor gesture or gestures suggested by Shayne Cofer. Krathwohl’s Taxonomy of the Affective Domain (Gronlund & Linn, 1990) has five different levels: receiving, responding, valuing, organization, and characterization by a value or value complex. Each level leads to an increase in personal engagement and a depth of internalization. Abeles, Hoffer and Klotman (1994) take these generic terms and relate them to the “Applications of Psychology to Music Teaching” in chapter 8 of their book. They believe that through specifically stated objectives teachers clarify, in their own minds, what they want to accomplish and have a better chance of engaging learners in all three domains of learning: cognitive, affective and psychomotor. Awareness of the taxonomy in each of these domains guides teachers to challenge their students into deeper levels of engagement.

Daily exit slips were completed by students to help instill self-reflection as a “habit of mind”. Farrell (1996) stated that students needed to develop their ability to understand their work in relation to the work of others. This skill is acquired through regular and frequent reflection. To encourage this reflective practice, students filled out daily exit slips, which dealt with their actions during each individual band class. Hewitt (2001; 2002) advocates the use of self-evaluation but warns that junior high students’

self-reflections don't always match actual musical results. Use of the daily exit slips helped focus the student's perception of the class' effectiveness and efficiency. Tips on how to reflect accurately on daily activities were discussed, and time was taken to share the data gathered with students every two cycles.

Teacher delivery style has been noted in many studies (Allsup, 2003; Anderson, 1999; Bauer, 2001; Bringham, Renfro, & Bringham, 1994; Brunner, 1996; Franciso, 1994; Lacombe, 2003; Madsen, 2003; Townsend, 2003; Van Weelden, 2002; Walker, 1989; Williamson, 1998; Wis, 1998; West, & Rostvall, 2003; Worthy, 2003) as having a direct effect on rehearsal effectiveness and tone. I strive to keep my delivery style effective and engaging. This incorporates facial expression, eye contact, varying tone of delivery, and the use of good posture during rehearsals. The music used during this action project was selected for its richness of melody and musical interest (rhythmically and dynamically). Although junior high band repertoire can sometimes be harmonically predictable, every effort was made to choose engaging music. Improvisation was used during warm-ups to help connect students with their interior creativity and to help with their aural listening skills (Byo, 1990; Hickey, 1997; West, & Rostvall, 2003). Also during cycle 6 and 7 aural listening examples were used to further enhance instrumental listening recognition (Fonder, 1998; Hewitt, 2001; Hewitt, 2002; Morrison, Montemayor, & Wiltshire, 2004; Price, 1998). I believe the goal of effective and efficient junior high band rehearsals is attainable through implementation of these ideas.

Research Procedures

Length of Study

Students in grade 8 band are scheduled to have class three times during a six day cycle. Classes last for fifty-minute time slots. Students have two minutes to travel through the hallways from one class to the next class, unless their class follows lunch. The band classroom usually has chairs and stands set-up before class but depending on class size sometimes students may have to procure their own chair and stand. Students are expected to enter the class, gather their supplies, set-up their instrument and then start warming up. The study occurred over 8 school cycles lasting from January, 2006 until March, 2006.

Scope of the Study

Cycle 1. At the beginning of the study students were given an attitudinal survey from which baseline data was solicited (Appendix B). The first cycle of classes consisted of regular rehearsals with no new special innovations being introduced. During the entire research project the conductor was videotaped. The digital video camera was positioned at the back of the rehearsal room, allowing the videotaping to be as unobtrusive as possible. In all rehearsal settings, the video camera was positioned so that I was in full view of the camera. All equipment and materials used for the video recording were of sufficient quality to provide clear audio and video signals. Following each rehearsal, within at least one hour's time, I wrote a journal entry regarding the effectiveness and efficiency of that day's rehearsal. Other themes or ideas resulting from the day's rehearsal were noted and later analysed. Following each rehearsal students completed an

exit slip. Students were asked to pack up five minutes prior to the end of class and were given in-class time to complete the exit slips (Appendix C).

Cycle 2. Legato and tenuto conducting gestures were taught along with warm-ups that focus on style. The legato conducting gesture was indicated by a smooth, connected and flowing pattern while the tenuto gesture was indicated by pulling upward or sideways after each ictus point. Students were instructed to listen to the different style legato and tenuto playing had in relation to tongued excerpts (e.g., Half the band listened while the other half played first legato, then tongued, and then tenuto; then they reversed roles).

Cycle 3. Staccato and marcato conducting gestures were taught. The staccato gesture was short and separated indicated by using a small rebound. The marcato gesture was a series of accents indicated by including a rebound after the ictus point. Rhythm was the listening focus during this cycle with students being instructed to listen for the silent inner pulse of the music (e.g., Alternating in pairs, students played while their partner tapped the inner pulse silently, and then students discussed how the two fit together). It was stressed that students all have different inner pulses but for a band to play effectively together the internal beat must be the same.

Cycle 4. Forte, piano and subito piano conducting gestures were taught. Holding the left-hand palm outward and inward with tension indicated forte. Piano was indicated by a small four-beat pattern. Subito piano was indicated by a sudden decrease in the distance of the beat pattern from the body. Quality of sound was the related listening objective focussed on during this cycle of rehearsals. Discussion and playing examples centred on how sound can be pinched or full and resonant. Students listened to models of these qualities sung by the teacher and then attempted to first sing and then play them on

their own instruments. Special attention was given regarding how playing at a piano dynamic sometimes leads to unsupported playing.

Cycle 5. Phrasing was focused on during one class in cycle 5. Expression through dynamic extremes such as *ff* and *mp* was also taught. During this cycle the school division's bus service was cancelled due to the winter temperatures. This resulted in only four students attending that day's rehearsal. The following day the grade 8 band performed at the provincial band festival. Prior to leaving for the festival we had an emergency rehearsal, which was audiotaped, and then later analyzed. No exit slips were completed on this day. The band performed two selections at the festival and then had a mini-workshop with a guest university conductor for approximately fifteen minutes. He focused his workshop mainly on the idea of air support and breath preparation. These ideas were directly linked to how sound is created and how it travels first through the students' instruments and then to the audience. The next day the band did a presentation for a group of grade 6 students from one of the local elementary schools to promote joining the grade 7 band program. Neither the festival nor the mini-concert was videotaped due to ethical considerations and logistical constraints.

Cycle 6. The first class in this cycle was missed due to my grade 9 band performing at the provincial band festival. For the other two grade 8 band classes in cycle 6, balance of sound between instrument sections was discussed. During the warm-up, students were asked to listen for a particular instrument section for three notes and then to alternate their listening to a different section. (In other words, everyone listened for the flute section, then the trumpets, then the clarinets and so on.) Individual playing requirements were then discussed in relation to achieving good band balance.

Overblowing or overpowering their neighbour's sound was examined with students being asked to balance with their neighbour. Different instrumental sections were asked to perform a variety of dynamics during chord warm-ups to help develop the students' aural awareness of blend and balance in the band. An example of this is where a flute and a trombone play together while also trying to listen to each other and balance their sound. The crescendo gesture was introduced, indicated by lifting the left hand, thumb up, and palm at an upward angle or by increasing the size of the pattern from small to large. It is important to note that most of these musical concepts have been taught in previous band and music classes but the specific link between the conducting gesture and musical concept may have been missed by either the conductor or students.

Cycle 7. Blend or "oneness" of sound was emphasized during this cycle's warm-up period. Students performed the circle of 4ths playing individual chords by instrumental sections (e.g., three flutes played Bb, D and F) and tried to achieve first section blend and then band blend. The idea of balance was reviewed in relation to good blend. Intonation was briefly discussed with attention being paid to beat-elimination. Also during this cycle, the decrescendo gesture was introduced. It was indicated by either gradually lowering the left hand with the palm facing the performers or by decreasing the size of the pattern from large to small. It is important for students to recognize that conducting gestures are not robotic and that depending upon the conductor or the music being performed different musical elements might be conducted with slightly different gestures.

Cycle 8. This cycle consisted of no new gestures being introduced but tried to assimilate all of the prior gestures through regular use via the music learned in class.

Students were given the attitudinal survey at the end of this cycle, with the cycle 1 data and the cycle 8 data being compared for any statistically significant differences. Video analysis also provided specific quantitative data concerning changes in instructional time spent on: playing, instruction, waiting, and other non-related music activities.

Data Sources and Collection Techniques

To have a parsimonious amount of data I decided to focus on eighteen rehearsals from January to March, 2006. Videotape data were collected for each rehearsal in the eight cycles. The video camera was set up in an unobtrusive part of the room and was focused on me. Following each rehearsal the videotape was dated and labelled for easy reference. During class time, students were given a pre- and post-attitudinal survey, one at the beginning of cycle one and the other at the end of cycle eight. The attitudinal survey (Appendix B), designed to take about 10 minutes, used a Likert-type scale that asked students to respond to statements by indicating whether they strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD). Each response corresponded with a point value, which allowed the data to be translated into numerical data. Students were given the last five minutes of each rehearsal to complete exit slips (Appendix C). The slips were collected anonymously in a drop-off box by the door upon leaving rehearsal. Each day's slips were gathered together and labelled with the rehearsal date.

As teacher/conductor/researcher, I was an active participant researcher.

“Teachers, by virtue of teaching, are active participant observers of their teaching practice” (Mills, 2003, p. 54). I kept a journal following each class during the study and then reflected on my writings; this type of post-evaluation technique is encouraged by Munson (1998) and by Williamson (1998). Personal reflections usually occurred within

one hour following each rehearsal. These field notes and reflections helped me track my professional growth. The journals also helped leave an audit trail of data for others who wish to read this research.

The data matrix in Table 1 aligns each research question with the relevant data sources.

Table 1.

Data Matrix

Research Questions	Data Sources	
Q1. What proportion of instructional time do I spend on: teaching musical concepts and skills; conducting active music making; classroom management; waiting or wasting time?	Videotape data	
Q2. How can I change my rehearsal practice to spend more time engaging students in active musical learning, and less time on non-musical tasks, thus improving the effectiveness and efficiency of my middle years band rehearsal?	Journal reflections	Videotape data
Q3. How do students perceive and respond to their band rehearsals?	Exit slips	Attitudinal surveys

Utilizing these various data collection techniques ensured triangulation.

“Triangulation involves the use of multiple and different sources, methods, and

perspectives to corroborate, elaborate, or illuminate the research problem and its outcomes” (Stringer, 2004, p.57).

Data Analysis

According to Shagoury Hubbard and Miller Power (2003), “data analysis is a way of ‘seeing and then seeing again.’ It is the process of bringing order, structure, and meaning to the data, to discover what is underneath the surface of the classroom” (p.65). In this section, I explain how each data source was analysed.

Videotape analysis consisted of two steps. Videos were reviewed and organized into rehearsal frames (Cavitt, 2003; Duke, 1999; Worthy 2003). “The organizing principle for each rehearsal frame is the target-the proximal goal toward which the instructional efforts are directed” (Duke, 2003, p, 22). Rehearsal frames were coded according to five different areas:

1. instruction (modelling, feedback, error correction)
2. active music making (playing or else on task behaviour related to musical subject – ex. composition)
3. classroom management (discipline, etc.)
4. waiting (for either teacher or student(s) to be ready, set-up of instruments and music, sectionals)
5. announcements (housekeeping for school and band activities – ex. Fundraising).

The total number of instructional minutes spent in each area were recorded and charted.

The second way that the videotape data were assessed was through teacher reflection questions:

1. Were the instructions clear and understandable to the students?
2. Were instructions repeated? Or were they stated clearly and succinctly one time only?
3. How long do I spend giving cues? Preparing in silence for a cue?
4. If a cue was given, was it clear?
5. Were several cues/ideas described at the same time so that students found it hard to follow or what to focus on?

The teacher journal reflections and answers to the video questions were coded to find common themes and categories from which to discover and report findings.

According to Stringer (2004):

Categorizing and coding, therefore, requires researchers to:

- ◆ Unitize the data
- ◆ Sort units into categories
- ◆ Divide categories into subcategories, where appropriate
- ◆ Code each category using a cover term expressing the type or nature of information in the category or subcategory
- ◆ Identify the attributes defining each category or subcategory (p.116)

Students' short answers on the exit slips were coded in a similar manner with special attention being given to any epiphanies or significant experiences being described by the students. Concept mapping was utilized to find themes for students' and teacher's

perceptions. General exit slip themes were shared and discussed with the students following the completion of every second cycle.

For each item of the attitudinal survey, mean scores were calculated to determine students' responses to their band rehearsals. To assess if there was a change in how students perceive and respond to their band rehearsals during the eight weeks of research their surveys and exit slips were statistically analysed. The differences between participants' pre- and post-survey mean ratings were compared with T-tests for paired samples. A significance level of $p \geq .01$ was set because multiple comparisons were made.

Limitations of the Method

Action research allows for thick, rich, qualitative descriptions that help the researcher and the participants to understand, reflect upon, and change their actual practice. The limitations of this action research study are that findings are transferable, but not generalizable, and that I am the only one reviewing and analysing the collected data.

Criteria for Quality

Quality action research is dependent on the research findings being valid. A study is valid when the intent of the research is what is actually studied. Guba's model for validity is discussed in both Stringer (2004) and Mills (2003). Guba maintains that valid research and its "trustworthiness" is dependent upon: credibility, dependability, confirmability and transferability. Eisenhart and Borko (1993) discuss how there are four standards of validity for classroom research. Standard 1 states that research should contribute to the knowledge in the particular field being researched. Standard 2 depends upon the fit between research questions, data-collection procedures and analysis

techniques. Standard 3 deals with the effective application of specific data-collection and analysis techniques while the final standard is linked to value constraints, both external and internal.

Although there are many different definitions of what constitutes validity in research, all definitions agree that having multiple forms of data collection contributes to a study's validity. In this study there were several steps included to ensure its validity. Triangulation is one of the best methods to ensure research validity. This action research study used multiple data sources including videotaped rehearsal data, teacher journaling data, attitudinal survey data, and exit slip data.

Member checks were done when the results of the attitudinal surveys and exit slips were shared with the students. Because the students were active participants in the study, the validity of the study is strengthened.

Hopefully the findings of this study will be transferable to other rehearsal settings, especially those at the junior high band level. Stringer (2004) states that using "thickly detailed descriptions" (p.59) will contribute to the trustworthiness and the transferability of a qualitative research study. An audit trail of data is available to help ensure dependability and confirmability, although the videotape data can not be used due to ethical concerns. Journals, exit slips, and attitudinal survey responses are available.

The greatest basis for this study's validity is the usefulness of the study in changing actual practice. Both students and teacher benefited from this educational experience making it an extremely valuable tool in musical and educational growth.

CHAPTER 4

Results and Discussion

The following chapter presents the research data that were collected over the eight cycles of action research. Results are organized in direct correlation with the research questions asked at the beginning of this action research project. In the “Instructional Time” section, video data is reviewed. The “Innovations” section summarizes the teacher’s responses to the new interventions recorded through daily journaling and reflecting on the videos viewed. Finally, the “Student Perceptions and Responses to Band Rehearsals” section focuses on how students viewed their music classes evident by data collected via exit slips and attitudinal surveys.

It should be noted that the original plan was to implement the action research project during the months of October and November but due to in-service days, waiting for students to return their consent letters, and other interruptions, the project was postponed until January. This timing presented different conflicts. The initial one and a half cycles were at the end of the teaching term and students needed to complete outstanding assignments for grading purposes. This situation resulted in more time being required for announcements than normal. Also due to the pending band trip, fundraising and trip information needed to be presented to the students, and so even greater announcement time was required. Although housekeeping announcements are common throughout the school year, the teacher tried to streamline announcements and other logistical procedures during the study to help facilitate greater music making time and less administration time. Please note that the annual provincial band festival was also held at the end of February.

Instructional Time

The first research question for this action research project asked, “What proportion of instructional time do I spend on: teaching musical concepts and skills, conducting active music making; classroom management; waiting or wasting time?”

Video data were collected to help answer this question.

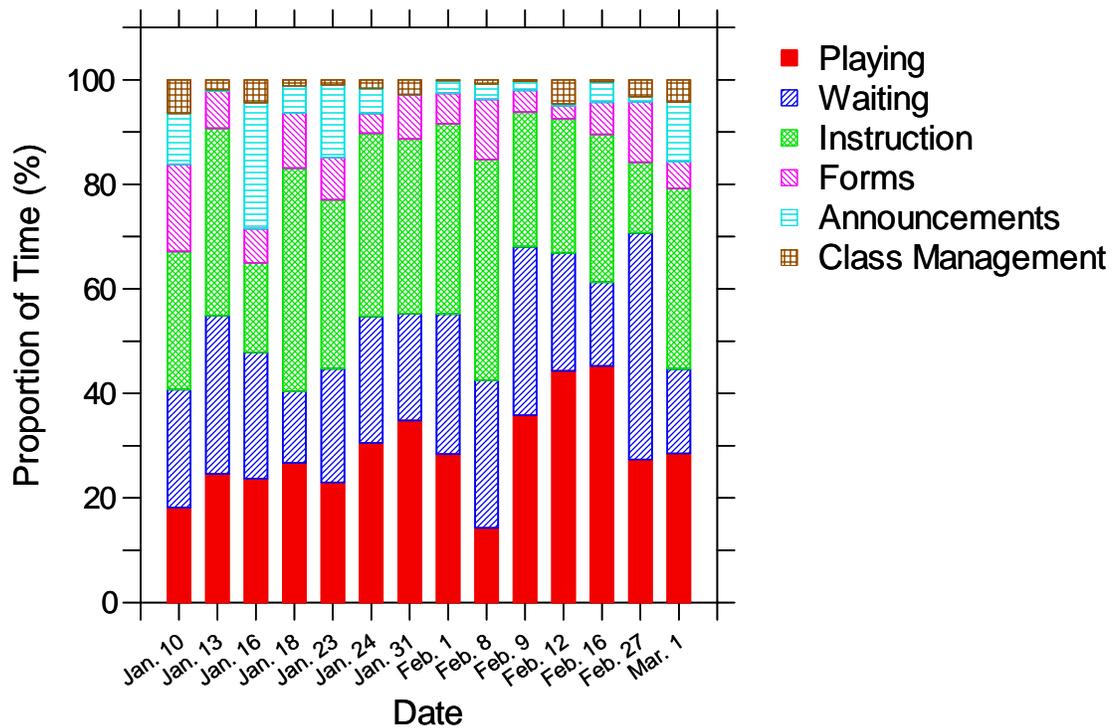


Figure 1. Bar graph showing percentage of instructional time spent on: playing, waiting, instruction, forms, announcements, and classroom management.

When looking at the video data graph (Figure 1) there is a steady increase in playing time until the final two classes, which were after festival performance, and at a time when review of the band’s performance occurred. Overall the proportion of class

time spent in instruction and with class management stayed relatively even. Time spent making announcements and completing research forms varied throughout the study. The most interesting finding relates to the waiting category. “Waiting” time seems to amount to between 15% to over 40% of class time, however this is misleading. Confusion resulted due to assigning too many activities to the “waiting” category. Time spent in: individual warm-up, individual or sectional rehearsal, or individual or sectional instruction were all classified as “waiting” by the researcher. Non-musical waiting, such as waiting for silence from class or waiting for the instructor to be ready, was also included in this category.

Realistically, much of that “waiting” time was spent in active music making. Because of the imprecise label used, if we look at the waiting time data and say that 50% was waiting and 50% was actual music making, then it follows that music making time increased during the action research study from 35% to as high as 50%. This is closer to what actually occurred during classes. If less than 20% of class time was spent in music making, it really wouldn't be a musical experience.

The proportion of class time spent in instruction varied from 18% to 43%, with the majority of classes being from 25% to 38%. These proportions are less than Cavitt's (2003) and Worthy's (2003) results where error correction and conductor talk amounted to approximately 49% of the total rehearsal. This difference in results could be due to the fact that this action research project was set in a junior high setting, and not in a high school or college setting. The amount of time spent in active music making increased over the course of the study. I think this resulted partially from the innovations presented

during this study and partially from my own increased focus and attention to detail, viewed and reviewed following each class throughout the study.

Figure 2 (see p.73) presents line graphs showing more detailed information about instructional time by individual categories. The “playing”, “waiting”, and “instruction” categories clearly take up the majority of time in each class. There are no clear patterns that can be discerned but, as the instructor, I feel that after having a class that seemed to be instructionally focused the following class usually concentrates more on playing than talking. To illustrate this point, the data for February 8 and 9 can be examined. February 8 is high in instruction while the next days are progressively higher in playing time.

Turning to other categories, the “forms” category is special to this action research project and is not a regular occurrence in our band classes. In group settings and especially in educational settings there are always announcements to be made such as “Practice records need to be handed in by next Friday”. I am pleased with the marked decrease in these kinds of announcements during the third, fourth and fifth cycle of this study. The increase at the end of the study time hopefully was due to logistical needs and not to reverting to pre-study behaviour. No significant differences occurred in the class management category. I was surprised at the low occurrence of class management issues in our daily rehearsals. Even on the days when it seemed that discipline was an issue, no noticeable percentage increase was evident. This shows that self-perception defines our reality of situations, which is not always reflected in scientific numerical data. Data gathered around the Band festival and action research project itself were eliminated from data analysis since they accounted for limited instructional time.

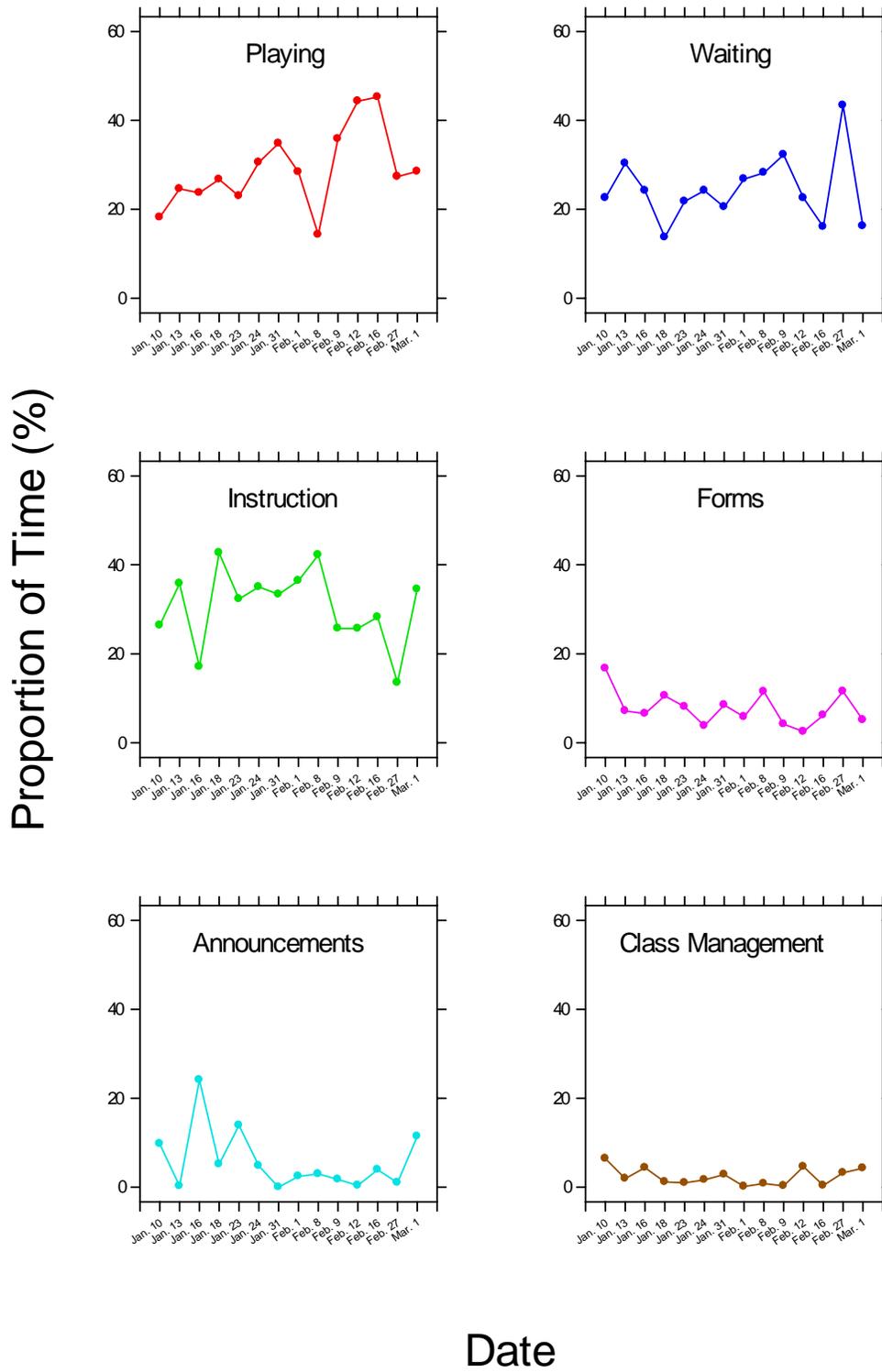


Figure 2. Line graphs showing changes in instructional time throughout the study by category.

Some confusion arose around the video data, because of the definition of categories. Most of the categories were self-explanatory (i.e. active music making, instruction, classroom management, and announcements). The category of “waiting” was broadly defined as waiting for student or teacher to be ready. This encompassed a variety of activities and I think affected the usefulness of the data. I classified any individual warm-up time prior to the full band warm-up as waiting. In between pieces, when I would give students a few moments to review and play individually the piece we were about to rehearse, I also classified as waiting time. Whenever I worked with an individual section of the band or an individual player, since the majority of people in the room were waiting, I also classified this as waiting time. This category definition needed to be clarified with clear distinctions between waiting and playing activities. I believe this is one reason that the class’ playing time is so low. I did identify this as a problem mid-way through the study but felt that it would be inconsistent to change the definitions mid-way through the study. Next time I would use Cavitt’s (2003) behaviour categories: teacher talk, teacher modeling, full ensemble plays, section plays, individual plays, performance approximation, student talk, and marking music to help clarify the differences between active music making, instruction, and waiting time. I would also be interested in knowing how other researchers, such as Worthy (2003) or Duke (1999), define playing time and whether or not individual warm-up and sectional playing is included in their definitions.

Innovations

The second research question posed in this study was, “How can I change my rehearsal practice to spend more time engaging students in active musical learning and

less time on non-musical tasks, thus improving the effectiveness and efficiency of my middle years band rehearsals?” As mentioned earlier, I believe a certain amount of change occurred just by examining my existing practices. To gain insight into how the innovations introduced during the study related to a change in my teaching practice, lesson plans, journal reflections, and video reflections were recorded and analyzed.

Lesson Plans

As evident in my lesson plans (Appendix D), no new innovations were implemented during cycle one. Starting with lessons in cycle two, I tried to frame each class into warm-ups, introduction of new innovations, and rehearsal of sections of the music pieces studied. The daily outline for each class was written on the board (Bauer, 2001) and warm-ups were planned to incorporate innovations in an educational and engaging manner. Circle of 4ths (Lisk, 1991), the Bb concert scale, and/or later a chromatic scale were used during warm-ups. The Bb concert scale was used to introduce legato and staccato. Later on, the circle of 4^{ths} was used to reinforce these musical ideas and to introduce marcato, inner pulse, quality of sound, dynamics, blend, and balance using both individual and section chord warm-ups. Following the warm-up period if further instruction was needed, it was provided, or if not, the new concept was incorporated into the rehearsal of actual musical compositions including: *Procession of the Sardar*, *Ashlawn Echoes*, *Childhood Hymn*, and *Creed*.

Some classes included warm-up improv that allowed students to create their own patterns expressing new ideas (West & Rostvall, 2003). Sometimes this was a very successful activity while at other times confusion arose. The chromatic scale was a new concept for grade 8 band and was only used in warm-up for reviewing ideas, not

introducing new musical elements. Planning ideas for specific musical selections included the specific measures to be rehearsed and any ideas or terms that needed to be reviewed. Breathing warm-ups were incorporated following the provincial band festival when it was clear that the concept of air support needed to be integrated regularly to help develop students' abilities to sustain and produce certain pitches.

I found it helpful to jot my lesson ideas down immediately following the completed lesson (Munson, 1998; Williamson, 1998). These post-rehearsal evaluations helped to remind me of the trouble spots that needed to be addressed and to avoid exact rehearsal repetition by recording the class' piece rehearsal order. If I waited too long to write my post-lesson journal, I lost some of the rehearsal passion for the grade 8 band performance pieces.

Lesson Reflections/Journaling

Throughout the study, I recorded my reflections on lessons in a journal (Appendix E). From content analysis of the data in my personal journal, there arose 5 specific thematic categories from that data: (a) Music Centred Issues; (b) Classroom Management Comments; (c) Housekeeping Announcements; (d) Music Pacing and Knowledge Concerns; and (e) Stress Related to the Study. The themes are ordered and discussed from most to least prominent. The most prominent category of reflective writing focussed on "music-centred issues". Every daily journal entry, except one, discussed positive and/or negative aspects of the music studied during rehearsal; sometimes specific bar assignments were commented upon, concerning either individual students playing needs or a specific instrumental section in the band. The second most frequent category mentioned dealt with "classroom management issues". Sub-themes of

comments related to: broken instruments, handing out music, perceived extra chatting, the arrival of a new exchange student, and student reactions towards me and/or the class were all mentioned during these daily reflections. It is interesting to note that classroom management issues were not the second or even third most prominent category when video data was analyzed.

“Housekeeping announcements” was the third most common journal entry topic. This sub-theme usually dealt with how much of the day’s class seemed to be taken up with discussing the trip or research project, and doing daily points. To help alleviate some of this non-music making time, I stopped writing receipts for cheques received at the beginning of class while students set up, and instead, prepared them after class and provided them for the following class. Also, a new points system was introduced at this time. All the students’ names were listed on the wall and each student wrote in their own daily points, instead of me doing roll call and having the students answer aurally. The purpose of the points system is to check whether students have their instrument, music and pencil. “Point system on the wall is building community by having the students look out for each other (4.2, February 9, 2006 Journal Entry)”.

The fourth, and lesser common journal entry, category was represented by the label “music pacing and knowledge concerns”. This sub-theme might have been directly linked to the provincial band festival performance and our pending band trip. As a typical music educator I was aware of the need for good rehearsal pacing to achieve “peaking musically” at the appropriate time. It is important to peak at the concert, as opposed to one week after the concert. The issue of running out of time in a class, or in a series of classes, is one that is addressed by getting better and better at the art of rehearsal

spacing. To illustrate my concerns, one daily reflection mentioned that we ran out of time during a class, and another stated that the grade eight band was under-rehearsed for the festival by about three classes (not including the snow day). Other unforeseen worries were mentioned such as 8 absent students from the festival due to a cold and flu outbreak. This problem can't really be taken into account when spacing classes, but I was concerned about ensuring that everyone was ready. If some students got sick, everyone else in the band theoretically, could still perform at the same standard previously achieved.

The final category emerging from the daily journals was "stress related to the study". Comments revealed that setting up the video daily and trying to obtain the digital camera from the teacher who was using it during the previous class in a timely manner was a challenge throughout the eight cycles. Other organizational details were mentioned periodically in the journals when they impacted my outlook. One journal entry dealt almost entirely with the issue of the video camera and only had one sentence that dealt with anything directly related to music. I did not get Cycle 3 Lesson 1 taped due to a mechanical difficulty, which was quite disturbing since the student perception of the class was somewhat opposite to the teacher's perception. While I was frantically trying to deal with the camera situation, some grade 8 students were involved in an altercation outside during the lunch break. When class began, those students and I were so caught up in our own stresses that we did not have the capacity to understand each other. As the teacher in that situation, I should have been centred and calm enough to sense their unease and to deal with them gently. Instead I was rushing and trying to be efficient. Even after the failure of the video, not discovered by me until after class, I was trying to run a "spit spot" class. This is not typical of my daily classes. I do try to balance focus with fun,

care for the group with care for the individual, and I usually place the children before the music.

Video Reflection

Excerpts taken from an early video reflection illustrate my instructional practice at the beginning of this study. (January 10, 2006, video reflection) I wrote: “often instructions slid into conversation”, “instructions were repeated, mostly 2 or 3 times”, “not a lot of silent cue preparation time, if any – except I do give silence right before a new idea (or what I perceive to be a new idea)”, and “cues are clear, but if students don’t know what the cue is for, it is next to useless”. Later entries drawn from my January 24, 2006 reflections stated: “silent cues were more frequent during piece rehearsals than when doing one section repeatedly. I don’t think enough silent time is given between ready and before playing is expected”; “silent cues are always clear, it is the count-off cues or speed cues that lead to confusion”.

The ideas expressed in these two video reflections expressed key ideas that helped me analyze my conducting gestures. I noted that silent cues were more frequent during the progression of the study, but that some classes were more successful than others. Count-off cues were still used when setting new tempos or locking in a tempo. The preparation time for silent cues varied greatly. Future studies could examine the length and effect of silent cues given. When the teacher took the time the students joined into the silence. At first, waiting in silence was not necessarily perceived as the most efficient use of class time, but during this study I realized that silence is sometimes the most effective use of class time.

Arm cues were always clear to the different sections but junior high students also need facial and body cues, and these were not always given. At the beginning of the study instructions were repeated, I didn't realize how often, but over the course of the study the repetitions of instruction was found to decrease significantly. Repetition did not totally disappear because this is a junior high band setting. It was noted in both the March 15th teacher journal entry and the teacher video reflection that the last class was the best class of the study. However, the student exit slips or the qualitative survey data, which will be discussed later, did not support this finding. This finding probably resulted from the relief of stress of implementing the action research project.

Overall, I think that the innovations employed in this study did help to create a more effective and efficient rehearsal environment. The students and teacher had clear knowledge of the rehearsal order and when new instructional content was being introduced. I found that my pacing was more efficient because I had specific innovations to introduce or review during each class. Perhaps equalling important to me is having a strong sense of direction with a specific daily and monthly plan that outlines concrete deadlines. These timelines help both me and the students focus upon each class.

The most effective innovation and technique I implemented during the entire study was the regular use of the silent preparation. Even though I used this technique in the past, during this action research project, I regularly used the silent cue to help settle and focus the band. Creating a habit of silence to prepare to play helped to focus both students' and teacher's energy towards the music. I did also use count-in cues when necessary to set tempo and when learning new sections of music. I believe a balanced approach leads to effective and efficient rehearsals.

This study clearly taught me that, to be an efficient teacher, organization plays a vital role in the classroom, especially when running a research project and carrying on with classes as usual. I feel that to be an effective educator at the junior high level, one must be caring and passionate in order to support and inspire the students. An effective educator also must be knowledgeable and experienced in the musical profession. Overall, during this action research project, I was striving to be a more efficient teacher with streamlined rehearsals, but was I truly effective? Did my desire for fast and efficient pacing of class sometimes overlook the need for deep and meaningful interaction with my students?

I will definitely continue to incorporate some of the new rehearsal and teaching ideas that I discovered from the literature review. Bauer (2001) promotes writing down the exact rehearsal order and Munson (1998) believes that conductors must do post-rehearsal evaluations, which evaluate both themselves and their students. I believe that students and teachers need to know where they're going (e.g., rehearsal agenda displayed on board), where they've been, and what needs to be changed (post-evaluation). I will strive to maintain these practices in my music classes.

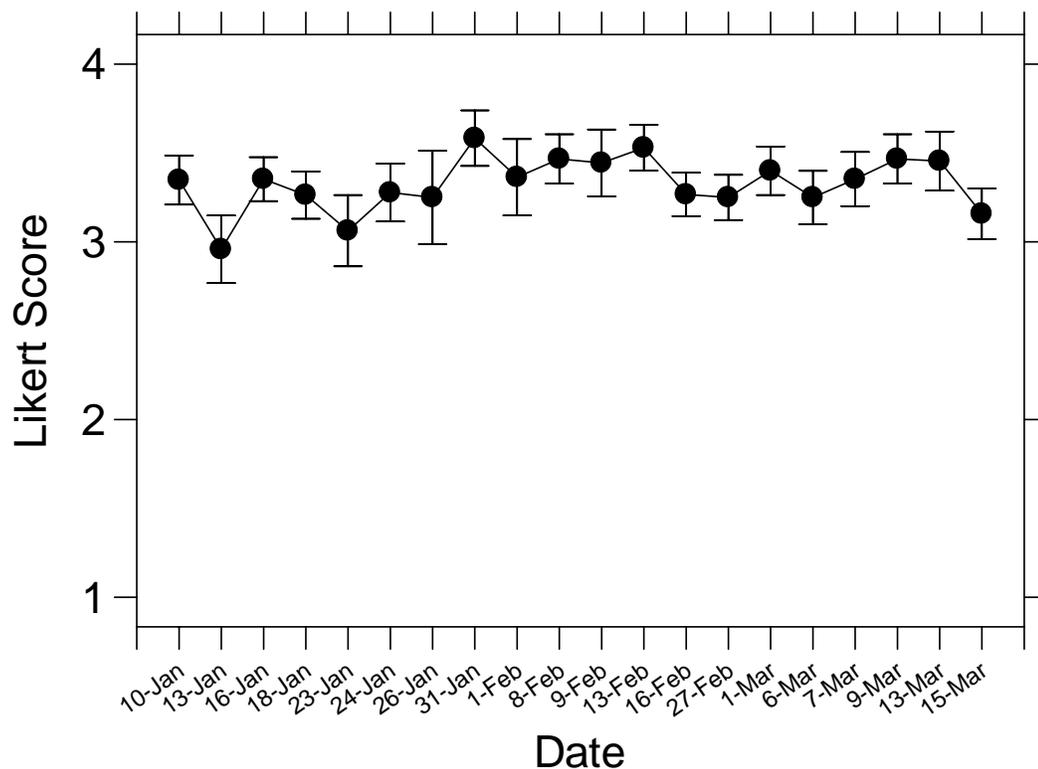
Student Perceptions and Responses to Band Rehearsals

Twenty-eight of the thirty-five students in grade 8 band agreed to participate in this study which translates into an 80 % response rate. Students completed exit slips daily, as well as a pre- and post-study attitudinal survey. Data collected from these sources helped answer research question #3, "How do students perceive and respond to their band rehearsals?"

Exit Slips

The exit slips students completed each day (Appendix C) contained five fixed items that required responses using a Likert-type scale, with the low end of the scale representing “strongly disagree” (1), and the high end representing “strongly agree” (4). Two additional questions were open-ended items to which students responded with written comments.

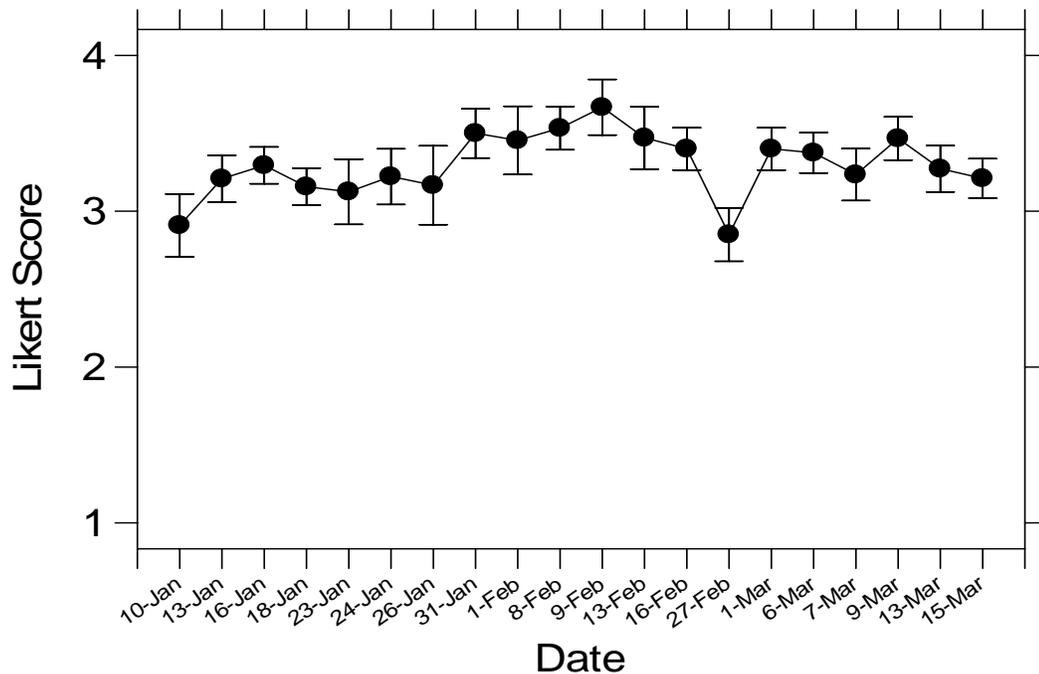
The five fixed items were designed to gather information about students’ perceptions of: (a) level of involvement in band classes; (b) use of class time; (c) effectiveness of collaborative work; (d) consistency of personal involvement; and (e) teacher effectiveness.



Rating Scale: strongly disagree (1), disagree (2), agree (3), strongly agree (4)

Figure 3. Students’ mean ratings of their perceived involvement in daily rehearsals.

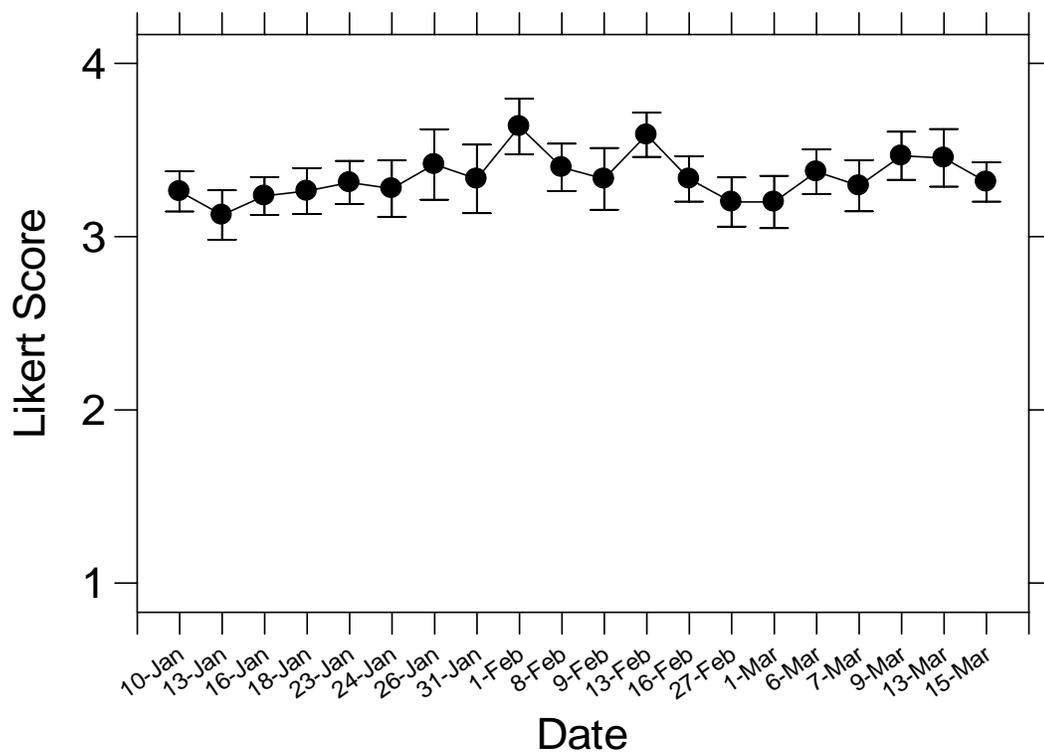
Looking at Figure 3 it is clear that students felt involved during each of the study's band classes. This action research project allowed students to actively participate in their daily learning experience. There was no discernable decrease in student involvement, which supports the innovations chosen and implemented during this action research project. I believe this feeling of involvement was not only linked to the teaching innovations implemented, but also to the learning environment that I strive to create during each music lesson.



Rating Scale: strongly disagree (1), disagree (2), agree (3), strongly agree (4)

Figure 4. Students' mean ratings of their level of agreement regarding creating music for the majority of class time.

Generally speaking, students agreed that the majority of the band classes were used to create music, with January 10th and February 27th seeming to be visibly lower than the other classes. January 10th was the first day of the action research project and was, in large part, spent explaining the mechanics of the study, and administering the pre-study attitudinal survey. February 27th was the class immediately following the band festival and the majority of time spent in post-performance analysis.

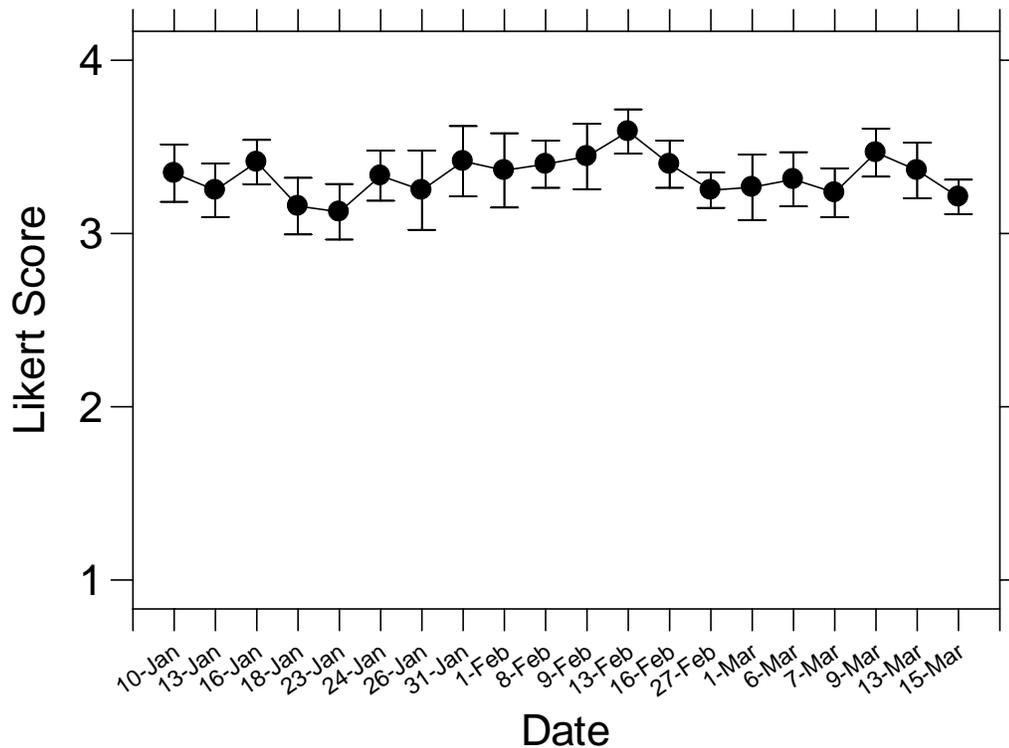


Rating Scale: strongly disagree (1), disagree (2), agree (3), strongly agree (4)

Figure 5. Students' mean ratings of their perceptions regarding the effectiveness of their collaborative work within the grade 8 band.

Figure 5 clearly shows that students believe they worked effectively together as an ensemble. The innovations and techniques introduced during this action research project helped to streamline the rehearsal process, which in turn helped the collaborative

nature of each band class. I have always strongly supported collaborative and mutually supportive music classes. I believe this is reflected in the way in which my students perceive their ability to participate effectively in each music class.

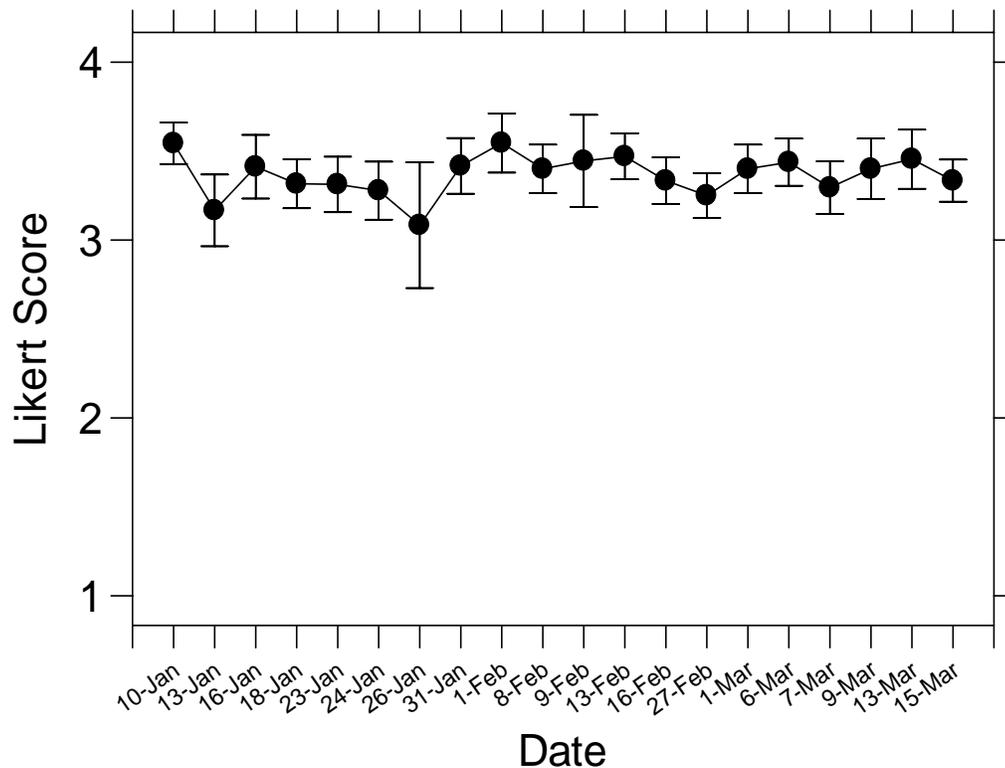


Rating Scale: strongly disagree (1), disagree (2), agree (3), strongly agree (4)

Figure 6. Students' mean ratings regarding their consistency of personal involvement during each band class.

All students agreed that they were consistently involved during each band class over the ten-week action research project. This indicates both a high level of agreement and a high level of involvement. I was encouraged by the results displayed in Figure 6 because I strive to involve each student during each lesson. I believe that because of clear planning, good lesson pacing, and providing variety in each class allowed for the

majority of students to stay engaged during band classes.



Rating Scale: strongly disagree (1), disagree (2), agree (3), strongly agree (4)

Figure 7. Students' mean ratings of their teacher as an effective instructor.

Generally speaking, students agreed that I was an effective instructor. These results showed that even when I was feeling frustrated and under stress due to non-musical tasks, the students still perceived me as being an effective teacher. I think that planning and clear intentions translate into effective teaching. It is important to note the findings of Madsen (2003) who claimed that junior high students link teacher effectiveness to classroom management issues and not music related issues. This is consistent with my video data which provided evidence that I spend very little instructional time dealing with classroom management issues.

Data gathered around the five fixed-response items showed no significant difference from the beginning of the research project to the end class. Line graphs displayed in Figures 3-7 show relatively horizontal lines, therefore, no further statistical analysis occurred.

Clear data was obtained from item 6 which stated, “Something I or the band learned today was...”. Four well-defined thematic categories emerged from student responses: (a) Music, (b) Instrument Technique, (c) No Response, and (d) Nothing. The “music” theme category included responses ranging from broad concepts like “music” to more specific ideas like “measure 23-30 in *Ashlawn Echoes*” (January 18, 2006, Student Exit Slip Data). The “instrument technique” category included comments referring to learning specific notes or instrument playing tips, rhythm notation or counting, breathing, and musical markings (such as dynamics, legato, coda, and so on). Examples taken from the exit slips complete on January 10, 2006 include “theory” and “we learned quarter, from eighth, from sixteenth notes” while February 27, 2006 yielded a comment “that we need to use more air when we play”.

The “no response” and “nothing” categories are fairly self-explanatory. The question of interpretation arises when interpreting if students’ lack of response was due to: (a) actually learning nothing, (b) laziness on the part of students, or (c) self-perceptions of having nothing new to add. I am likely typical of those music instructors whose classes are sometimes repetitions of music with nuances and notes being reviewed and/or playing the music to “get it into the fingers”. Do junior high students recognize this, or do they really feel like nothing is being accomplished? Is there a clear way of involving students so that they see the progress they are making, or will there always be

someone who feels they've learned nothing since they already knew their music?

Perhaps, I should have tried to employ strategies to help my students see the more minute changes in their performative learning.

Question 7 asked, "Did I really listen to others while we were playing or was I just "rehearsing"? This item was confusing for some students who seemed to have some difficulty differentiating between "listening" and "rehearsing". By cycle 3, however, most students understood that they must actively "listen" during rehearsal time. This question was worded similarly to a question used by Ulrich (1993) who asked, "Am I really listening, or just rehearsing?" (p.35). Perhaps the age of the participants affected their ability to answer clearly. The way the question was worded caused junior high students, who sometimes stop reading questions half way through, to answer "yes" when trying to say they were listening, even though the question was not in a "yes or no" format. The response was meant to be either "listening" or "rehearsing". Following the second lesson during cycle 2, data gathered from the exit slips during cycle 1 was shared with students. At this time, the meaning of question 7 was clarified to address the problem.

It should be noted that this problem did not arise when the instrument was piloted with a different group of students. Unfortunately, Question 7 posed consistent confusion throughout the study and therefore many student responses did not actually answer the question. For this reason, data obtained from question 7 is problematic and likely not representative of the students' true perceptions of their listening habits during band rehearsals. I actually sent a brief e-mail survey to other junior high band teachers, and while some teachers understood my definitions, which distinguished between "listening"

and “rehearsing”, others did not. This situation points to the need to thoroughly pilot test research instruments before putting them into practice.

Another reality of working with junior high students was that not all students who were supposed to participate in each class actually completed an exit slip each time. Some students chose not to complete exit slips, although students were given ample time at the end of each rehearsal period. The students who were not actively participating were asked to take a slip and silently answer the questions in their mind and then leave the blank exit slip in the anonymous drop-off box by the door. This procedure was to help alleviate any possible stigma for students who were not participating in the study, and to compile with ethical study guidelines. After the second class and finding blank exit slips in the recycling bin and garbage as well as outside the classroom door, I did not give forms to students who did not wish to take one.

Another problem occurred with the exit slips. One of the students who was participating actively in the study casually mentioned to me outside of class time that she only filled out the forms if she felt a class didn't go well. I encouraged her to fill out a form each class especially if she felt it went well so that an accurate view of student perception would be obtained. The issue was casually addressed with the full band to remind them that their daily participation was a key component in the success of the project. It should be noted that the completion of exit slips did vary greatly, with as few as 16 slips being filled out after one rehearsal to as many as 27 being completed following the provincial band festival.

Given my experience, the exit slip procedure did not prove to be the most useful reflective tool for junior high students. Students did not take the full amount of time

given to complete the forms. At the mid-way point in the project, students were quickly packing up, filling out the forms, and then visiting for the rest of the time period.

Because of this trend, I started to give less time at the end of class to fill out the forms. Five minutes seemed to be a significant amount of class time. By the end of the study, this was usually cut down to three minutes. Although I don't think deep personal reflection occurred each day, I do believe it was important for the students to have a voice during this action research project. Perhaps students got bored with this process, and I should have invited them to complete the exit slips less frequently. Alternatively, I could have conducted focus group interviews.

Survey Responses

The "Pre-Survey for Band Rehearsal Feedback and Attitudes" (Appendix B) consisted of 15 fixed response items and 2 open response items. The "Post-Survey for Band Rehearsal Feedback and Attitudes" (Appendix B) was identical in format to the pre-survey and was administered at the end of the study.

Fixed Response Items. The 15 fixed response items were designed to gather information about student perceptions regarding their activities and interactions during band class. The attitudinal surveys focussed on students' perceptions about: their individual musicianship, instrumental section effort, musical learning in the full class setting, and enjoyment/satisfaction regarding band class.

A statistical analysis of the results gleaned from students' responses to 15 fixed items, shown in Table 2 and Appendix G, yielded no significant differences between the pre- and post-survey procedures. T-tests assume equal variability in the two tests being compared; therefore F-tests were performed to check for significant differences in

variability between the pre- and post-survey data. Questions 1, 3, 7, and 9 had significant F-test variant results, and consequently a separate variant correction was applied for these questions to compensate for the F-test variant result during T-testing. No detectable differences between pre- and post-survey results were found for any questions ($p \geq .01$).

Table 2.

Pre-and Post-Survey Mean Results

Survey Items (N=28)	Pre-Survey Mean Rating	Post-Survey Mean Rating
1. I use my time effectively in band class.	3.400	3.89
2. I follow the people around me to know when to play.	3.240	3.148
3. I listen when musical ideas are being discussed.	3.200	3.444
4. I am a leader in my instrument section when we play.	3.200	2.963
5. I think I am a good band student.	3.420	3.315
6. I think I enhance our band's sound when I play.	3.250	2.963
7. It is worth the time that it takes to make pieces sound great.	3.320	3.407
8. I am playing to the best of my ability.	3.400	3.556
9. I like playing things well in band class.	3.440	3.704
10. I want to be a better musician.	3.200	3.389
11. I like learning challenging music in band class.	3.080	3.074
12. I like practising when I can see an improvement.	2.920	3.000
13. I actively think about my band pieces outside of class.	2.692	2.407
14. I feel satisfied at the end of most band classes.	3.040	3.143
15. I enjoy being in band.	3.438	3.074

The majority of responses clearly show agreement by students. Question 13 presents the lowest response with regards to thinking of band literature outside of class time. This result is not surprising when remembering that the action research project participants were junior high students.

Open Ended Response Items. The open-ended items asked, students what they enjoyed about band class and what they would change. Two clear thematic categories emerged from the pre-survey data related to students' "enjoyment": (a) Playing and (b) Class Environment. Included within the "playing" category were two sub-themes: (a) playing types of music (e.g. concert music and different music) and (b) playing their instrument with others. The "class environment" category included three sub-themes: (a) references to people (students and teacher) in band; (b) talking as a class about different things; and (c) references to the idea that band is not a "normal" classroom setting.

Since students' suggested changes to our band class at the beginning of the study were not implemented during the study, the new themes emerging from the post-survey were assumed to be a result of the study. The themes emerging from the post-survey item related to "enjoyment" were similar to the pre-survey results. "Playing" was again the most dominant sub-theme which included: (a) playing music; (b) playing fun songs; (c) playing my instrument; (d) playing well (new answer); and (e) learning more music. "Class environment" was the second most prominent response with all the pre-survey responses recurring, in addition to "band trips" and "everything" being included as aspects of the band program that students enjoyed. There were 4 students who choose not to respond to this question on the post-survey.

In response to being asked what students would change, pre-survey data was categorized into four themes: (a) Homework Assignments; (b) Class Structure; (c) Music; and (d) Nothing. Students suggested homework assignments should be changed to eliminate practice records, something students are asked to complete weekly and then are graded at the end of each term. Class structure changes included suggestions for having more discussion and laughing time, opportunities to change seating, time, and noisy kids. It was unclear what the time suggestion meant, whether class be lengthened or shortened, or rescheduled to a different period. It was also unclear to me what change students expected for the “noisy kids” since no direct suggestions were provided. Some students wanted the repertoire choices to include more songs they knew and less method book selections. Fewer numbers of students suggested “nothing” needed to be changed.

The post-survey responses indicating students’ desired changes resulted in similar categories to the pre-survey responses, with two additional themes. Theme categories related to “change” included: (a) Homework Assignments, (b) Class Structure, (c) Music, (d) Nothing, (e) Teacher, and (f) No Response. The homework assignment, again, suggested having no more practice records. It is interesting to note that compared to 11 students who wanted this assignment eliminated prior to the study only 5 students mentioned it during the post-survey. Changes to our class structure included suggestions for: (a) learning more about my instrument; (b) longer class time; (c) better student listening; (d) working on breathing more; (e) seating plan; (f) being videotaped; and (g) one for more talking time. These responses are more specific to class content than the corresponding pre-survey responses. It might be inferred that students were more aware of specific tasks being accomplished during each class.

The “music” category had three students advocating for more interesting and exciting music with one student suggesting that they should get to choose a composition for the whole band to perform. This idea will be tried during the final months of this year. Student input is invited and welcomed, but when preparing for festivals teachers are often constrained by a required syllabus list. As educators we should stretch our students’ musical exposure, and because of this I rarely choose popular music. However as a junior high band instructor, I probably should do at least one or two popular selections per year. I did try to incorporate this idea with the playing of *The Flintstones* theme song, but the piece was a challenging arrangement and obviously from the wrong era.

Five students responding that “nothing” should be changed represented the fourth theme related to changes in the band program. The fifth theme had three students suggesting that “the teacher” should be changed. The final category contained three “no responses”. With the additions of two new themes (“teacher” and “no response”) emerging from the post-survey data, I felt a sense of failure as a teacher. I wondered if during the action research study I somehow got caught up with the stress of taping, journaling, collating, and so on, that I lost my personality and sense of humour. When viewing the videotapes I noted that I was frazzled when starting some classes as I set up for the project and video. I tried very hard at the beginning of class to enter into the music, and maintain my personality and jocularity throughout the 10 weeks of study. During festival time, and in preparation for our tour, my focus does tend to become more particular concerning musical results, but I think this is typical of most music directors prior to performance. I try to educate my students through musical processes, and not

only through musical products. I think that this action research project and its particular innovations, while not drastically shifting student perceptions, helped them to realize what and why they learn regarding the basics of music. I believe that their direct involvement with the research process helped them to appreciate the work it takes to plan and organize effective music classes.

Byo (1990), Fonder (1998), and Ulrich (1993) advocate creating better student musicians by teaching them to listen better. I will continue to ask questions and interact with my students in ways to help guide them as musical listeners as well as performers.

This chapter presented and reviewed the data collected over the 10-week action research project. The three sections clearly present the quantitative data and qualitative themes in relation to the research questions. As well, I discuss and interpret the results from an action research perspective. In the next chapter, a summary of the study will be presented along with ideas for future research.

CHAPTER 5

Summary, Conclusions and Future Research

In this chapter the overall action research study will be summarized, conclusions drawn, and implications for future research identified. Chapter 1 introduces the topic and provides an overview of this action research project. Chapter 2 presents a review of the related pedagogical and research literature. Chapter 3 provides a description of the methodology utilized during this study and an overall account of the research design. Chapter 4 presents the results and an interpretation of what the data show. The following section provides a summary of the project, and outlines the conclusions that can be drawn from data that were collected.

Summary of Project

The purpose of this study was to examine strategies that lead to effective and efficient band rehearsals at the junior high level. Participants in this study were 28 grade 8 band students, 11 males and 17 females, as well as one music teacher researcher. Of 35 grade 8 band students, 28 chose to participate in this action research study, which translates into an 80% response rate. The school is located in a relatively high social-economic suburban junior high school. During a 10-week block, from January to March, 2006, specific teaching innovations drawn from the research and pedagogical literature were implemented to help the effectiveness and efficiency of the band class. Each music class was video taped and later analysed to ascertain how instructional time was being used through the division of rehearsal frames. Students provided their responses to the instructional innovations by completing exit slips daily and attitudinal surveys at the

beginning and completion of this research project. The teacher tracked her perceptions through daily journal entries and videotape reflection entries.

In this action research project my research questions were:

1. What proportion of instructional time do I spend on: teaching musical concepts and skills; conducting active music making; classroom management; waiting or wasting time?
2. How can I change my rehearsal practice to spend more time engaging students in active musical learning, and less time on non-musical tasks, thus improving the effectiveness and efficiency of my middle years band rehearsals?
3. How do students perceive and respond to their band rehearsals?

Conclusions

1. Looking at the video data gathered, active music making (i.e. playing) accounts for 15% to 45% of my class time. If the “waiting” category is included, then “playing” increases from 40% to 70% of class time. I believe the reality is in the middle with approximately 30% to 50% of music class spent in active music making. The data collected shows that approximately 15% to 45% of classes are spent on instruction depending on the material being presented. The class time spent completing forms is atypical since this activity only occurred during this action research project. Making announcements took up from 0% to 25% of class time with the majority of classes involving less than 5% of time on announcements. Surprisingly, less than 5% of class time was used for classroom management, with the majority of classes devoting less than 1% of class time to

classroom management issues. The literature provides support which indicates that these percentages characterize efficient band rehearsals.

2. New innovations using the ideas of Byo (1990) and Shayne Cofer (1998) fostered student musical independence by introducing non-verbal music skills. These skills focussed on: rhythm, style, quality of sound, blend and balance, phrasing, intonation, and conducting gestures. Also, regular use of a “set position” (Menghini; 2003) was incorporated into each music class which I believe was the most effective innovation introduced. This technique helped to create a “habit of mind” and a period of silent preparation for everyone in the room. As this habit formed, the length of time needed to prepare decreased, which contributed to the efficiency of the class. To be efficient classes need to be well planned with post-evaluations occurring after each rehearsal. I will continue to incorporate Bauer’s (2001) idea of writing the rehearsal order on the board and Munson’s (1998) post-rehearsal evaluations which evaluate both teacher and student activity.
3. Students clearly agree that they are involved during our daily rehearsal process. Exit slips data indicate that, overall, students felt we created music for the majority of our band classes with everyone, students and teacher, working in an effective manner. Students enjoyed “playing” and the “class environment” as evidenced by their written comments. “Homework assignments” and “class structure” were the two areas where students requested changes. Students felt that they regularly learned new things about “music” and “instrument technique”, which is very encouraging and tells me I am succeeding in creating independent musicians. Student survey responses to instructional innovations resulted in

positive means scores, however, comparisons of pre- and post-test means analysed using T-tests, showed no statistical differences between students' responses at the beginning and end of the study. Although some students were apathetic to the action research project, most expressed interest in the findings of the study. It is clear that students in this grade 8 band are interested in their learning environment and the majority of them are excited about music.

Future Research

While reviewing the related literature and conducting this action research study, many different ideas for future research come to mind. Future research that grows directly from my action research project would be to examine the length of silent cue preparation time and its link to effective rehearsals. Also, is there a notable difference when a conductor uses silent cues as opposed to count-off cues? What really is the correct pacing to use when preparing for an upcoming concert or festival performance? Is there a direct time link between the length of piece, difficulty of piece, age of participants, and so on, or do conductors just gradually develop a "feel" for correct pacing as they mature into their art form? Finally, is there a direct link between students perceived music responsibilities (e.g. expected practice time) and an ensemble's musical expressiveness?

Other interesting lines of research are evident in the related literature. According to Broomhead (2001), the link between time spent in an ensemble setting is linked directly to an individual's expressive instrumental playing which is very interesting. I think the next step might be to develop effective expressive performance measures to help educators evaluate how their rehearsals are truly affecting their students. These

measures could be linked to a playing evaluation, or maybe accomplished by way of a questionnaire format. If these measures were developed, I am certain that many music educators would be eager to implement them in their rehearsal practise. Hewitt (2001; 2002) discusses the problem of self-evaluation measures with junior high band students. The effective development of an accurate measurement tool would address some of the issues raised in these studies.

I agree with Duke (1999) that all research studies in music should strive to utilize the same definitions. Although there are many benefits to conducting individual action research studies, the ability to compare research projects would greatly increase if action researchers used similar definitions. Duke's use of rehearsal frames is a helpful research tool to aid data analysis. Although when analyzing my video data, sometimes I found the shift from one rehearsal frame to the next was hard to pinpoint. My thematic category labelled "waiting" could have been clear if all music researchers were using the same definitions. Further research could be done to help bring together the results and findings of the various music research projects that have already been conducted on similar topics that might employ similar operational terms.

Francisco (1994) studied the link between various types of communication (verbal, visual, modelling) and ensemble performance. Although this study was inconclusive I believe that the research areas surrounding conductor communication and the direct link to performance should be further studied. Not only could studies be done that involve specific types of communication, but similar to Duke and Henninger's (2002) study, which looked at positive and negative comments linked to learning, research could be done to examine how teacher comments and verbal tones affect student

performance and attitude. Do teachers get what they project might be the next logical study to follow-up the Pembroke and Fredrickson (2000) study involving daily logs of music teachers.

In the area of teaching effectiveness, Madsen (2003) suggested further research into the affects of teacher delivery, accuracy of instruction, and student attentiveness in relation to student learning. These future studies could use multiple levels of students and sizes of ensembles.

Cavitt (2003) looked into negative feedback in instrumental rehearsals and concluded that as long as the feedback was directed at the musical concept and not the individual student's behaviour, no negative stimuli resulted from the comments. I would be curious to investigate if these findings would hold true in a choral setting where personal involvement is inherent in the making of music. Does negative feedback have a different effect on band performers who have a separate instrument outside of their bodies than it does on choral performers who do not?

Closing Statement

This action research project provided professional growth for the teacher/researcher and the students/performers. By systematically studying my practice, I have improved. The data derived from exit slips and video recordings does reflect this improvement, and I feel I have increased my understanding of pacing and my students' overall perception of the band program. Allsup (2003), Broomhead (2001), Lisk (1991) and West and Rostvall (2002) discuss different musical experiences that help tap into a student's inherent creativity or expressiveness. I will continue to use engaging, but challenging, listening warm-ups, improv, and composition assignments to try and access

each student's inner creativity. I will use teaching ideas from the literature and new practical knowledge I have gained from this action research project to challenge and access my own musical creativity, and to help keep me energized in my chosen vocation.

In "An Interview with Don Buell", Simon (2006) states: "What causes a teacher to be efficient on the podium is when he or she recognizes whether a performance issue exists because the players don't understand something or if they lack the skills to do it. 'Understanding' is addressed most effectively through demonstration or modeling, while skill-related instruction is best delivered verbally" (p.60). I want to be effective and efficient in my music classes and I believe that this action research project has helped, and will continue to help me to achieve this goal.

REFERENCES

- Abeles, H. F., Hoffer, C. F., & Klotman, R. H. (1994). *Foundations of music education* (2nd ed.). New York, NY: Schirmer Books.
- Allsup, R. E. (2003). Mutual learning and democratic action in instrumental music education. *Journal of Research in Music Education*, 51(1), 24-38. Retrieved June 5, 2005, from EBSCOhost database.
- Anderson, B. L. (1999). The habits of highly effective music educators. *Teaching Music*, 7(2), 48-51.
- Barrow, L. G. (1994). Programming rehearsals for student success. *Music Educators Journal*, 81(2), 26-28.
- Bauer, W. (2001). Classroom management for ensembles. *Music Educators Journal*, 87(6), 27-32.
- Brigham, F. J., Renfro, A. K., & Brigham M. M. (1994). *Instruction and classroom management: A combination that is music to your ears*. Valparaiso, IN. (ERIC Document Reproduction Service No. ED374109)
- Broomhead, P. (2001). Individual expressive performance: Its relationship to ensemble achievement, technical achievement, and musical background. *Journal of Research in Music Education*, 49(1), 71-85. Retrieved June 5, 2005, from EBSCOhost database.
- Brunner, D. L. (1996). Carefully crafting the choral rehearsal. *Music Educators Journal*, 83(3), 37-39.
- Byo, J. (1990). Teach your instrumental students to listen. *Music Educators Journal*, 77(4), 43-46. Retrieved June 5, 2005, from EBSCOhost database.

- Cavitt, M. E. (2003). A descriptive analysis of error correction in instrumental music rehearsals. *Journal of Research in Music Education, 51*(3), 218-230. Retrieved March 4, 2005, from EBSCOhost database.
- Duke, R. A. (1999). Measures of instructional effectiveness in music research. *Bulletin of the Council for Research in Music Education, 143*, 1-48.
- Duke, R. A., & Henninger, J. C. (2002). Teachers' verbal corrections and observers' perceptions of teaching and learning. *Journal of Research in Music Education, 50*(1), 75-87.
- Eisenhart, M., & Borko, H. (1993). *Designing classroom research: Themes, issues and struggles*. Needham Heights, MA: Allyn & Bacon.
- Eisner, E. W. (1991). *The enlightened eye*. New York, NY: Macmillan Publishing Company.
- Farrell, S. R. (1996). *Tools for powerful student evaluation: A practical source of authentic assessment strategies for music teachers*. Fort Lauderdale, FL: Meredith Music Publications.
- Francisco, J.M. (1994). Conductor communication in the ensemble rehearsal: The relative effects of verbal communication, visual communication, and modeling on performance improvement of high school bands (Doctoral dissertation, Indiana University, 1994). *Dissertation Abstracts International, 56*(08), (University microfilms order no. 9542638).
- Fonder, M. (1998). Defining and realizing your band's ideal tone. *Music Educators Journal, 85*(3), 22-25.

- Gay, L. R. & Airasian, P. (2000). *Educational research: Competencies for analysis and application* (6th ed.). Upper Saddle River, NJ: Merrill.
- Goolsby, T.W. (1997). Verbal instruction in instrumental rehearsals: A comparison of three career levels and preservice teachers. *Journal of Research in Music Education, 45*, 21-40.
- Gronland, N.E., & Linn, R. L. (1990). *Measurement and evaluation in teaching* (6th ed.). New York, NY: Macmillan Publishing Company.
- Hewitt, M. P. (2001). The effects of modeling, self-evaluation, and self-listening on junior high instrumentalists' music performance and practice attitude. *Journal of Research in Music Education, 49*(4), 307-324. Retrieved June 5, 2005, from EBSCOhost database.
- Hewitt, M. P. (2002). Self-evaluation tendencies of junior high instrumentalists. *Journal of research in music education, 50*(3), 215-227. Retrieved June 5, 2005, from EBSCOhost database.
- Hickey, M. (1997). Teaching ensembles to compose and improvise. *Music Educators Journal, 83*(6), 17-21. Retrieved June 5, 2005, from EBSCOhost database.
- Hoffman, B. C. (1996). The thrill of drill. *Teaching Music, 4*(3), 33-35.
- Holly, M. L., Arhar, J., & Kasten, W. (2005). *Action research for teachers: Traveling the yellow brick road* (2nd ed.). Upper Saddle River, NJ: Pearson.
- Johnson, A.P. (2005). *A short guide to action research* (2nd ed.). Boston, MA: Pearson.
- Katzer, J., Cook, K.H., & Crouch, W. (1991). *Evaluating information* (3rd ed.). New York, NY: McGraw-Hill.

- LaCombe, J. S. (2003). Managing the music classroom you can! *Music Educators Journal*, 89(4), 21-24.
- Lehr, M. R. (1998). *Getting started with elementary-level band*. Reston, VA: Music Educators National Conference.
- Lisk, E. (1991). *The creative director: Alternative rehearsal techniques* [Videotape]. (Available from Meredith Music Publication, 170 N. E. 33rd St., Fort Lauderdale, FL 33334)
- Madsen, K. (2003). The effect of accuracy of instruction, teacher delivery, and student attentiveness on musicians' evaluation of teacher effectiveness. *Journal of Research in Music Education*, 51(1), 38-51. Retrieved June 5, 2005, from EBSCOhost database.
- Menghini, C. T. (2003). *The efficient school band rehearsal*. Retrieved March 23, 2005, from <http://www.vandercook.edu/free/EfficSchoolBandReh.pdf>.
- McNiff, J., & Whitehead, J. (2002). *Action research: Principles and practice* (2nd ed.). New York, NY: Routledge Falmer.
- Mills, G. E. (2003). *Action research: A guide for the teacher researcher* (2nd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Morrison, S. J., Montemayor, M., & Wiltshire, E. (2004). The effect of a recorded model on band students' performance self-evaluations, achievements, and attitude. *Journal of Research in Music Education*, 52(2), 116-129. Retrieved June 5, 2005, from EBSCOhost database.
- Munson, M. (1998). Ready for rehearsal? *Teaching Music*, 6(1), 32-34.

- Nelson, R. B. (1994). Aesthetics in the band room. *Music Educators Journal*, 80 (4), 24-28. Retrieved February 2, 2005, from EBSCOhost database.
- Pembroke, R. G., & Fredrickson, W. E. (2000). "Prepared yet flexible": Insights from daily logs of music teachers. *Bulletin of the Council for Research in Music Education*, 147, 149-152.
- Price, H. E. (1983). The effect of conductor academic task presentation, conductor reinforcement, and ensemble practice on performers' musical achievement, attentiveness, and attitude. *Journal of Research in Music Education*, 31, 245-257.
- Price, H.E. (Ed.). (1998). Music education research: An anthology from the *Journal of Research in Music Education*. Reston, VA: Music Educators National Conference.
- Rachleff, L. (1992). *A fresh viewpoint to making music* [Videotape]. (Available from Sharper Video Productions Inc., 463 W. Northwest Hwy., Palatine, IL 60067)
- Russell, T. (2004). *Action inquiry: Who? Why? How? So what?* Retrieved May 5, 2005 from <http://educ.queens.ca/~prof191/arguide.htm>.
- Sang, R. C. (1998). Review [Review of the dissertation J. M. Francisco: Conductor communication in the ensemble rehearsal: The relative effects of verbal communication, visual communication, and modeling on performance improvement of high school bands]. *Bulletin of the Council for Research in Music Education*, 136, 68-72.
- Saunders, T. C., & Holahan, J. M. (1997). Criteria-specific rating scales in the evaluation of high school instrumental performance. *Journal of Research in Music Education*, 45(2), 250-257.

- Shagoury Hubbard, R., & Miller Power, B. (1993). *The art of classroom inquiry: A handbook for teacher-researchers*. Portsmouth, NH: Heinemann.
- Shayne Cofer, R. (1998). Effects of conducting-gesture instruction on seventh-grade band students' performance response to conducting emblems. *Journal of Research in Music Education, 46*(3), 360-373.
- Shuler, S. C. (1990). Solving instructional problems through research. *Music Educators Journal, 77*(3), 35-40. Retrieved June 5, 2005, from EBSCOhost database.
- Siebenaler, D. (1997). Analysis of teacher-student interactions in the piano lessons of children and adults. *Journal of Research in Music Education, 45*, 6-20.
- Simon, K. J. (2006). An interview with Don Buell. *Canadian Winds, 4*(2), 59-61.
- Sousa, G. (1988). Musical conducting emblems: An investigation of the use of specific conducting gestures and their interpretation by instrumental performers (Doctoral dissertation, Ohio State University, 1988). *Dissertation Abstracts International, 49*, 2143A. (University Microfilms No. 8820356).
- Speer, D. (1994). An analysis of sequential patterns of instruction in piano lessons. *Journal of Research in Music Education, 42*, 14-26.
- Spradling, R.L. (1985). The effect of timeout from performance on attentiveness and attitude of university band students. *Journal of Research in Music Education, 33*, 123-138.
- Stinger, E. (2004). *Action research in education*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Swanwick, K. (1999). *Teaching music musically*. New York, NY: Routledge Falmer.

- Townsend, A.S. (2003). Stop! Look! Listen! For effective band rehearsals. *Teaching Music, 10*(4), 22-25.
- Ulrich, J. (1993). Conductor's guide to successful rehearsals. *Music Educators Journal, 79*(7), 34-36.
- Van Weelden, K. (2002). Relationships between perceptions of conducting effectiveness and ensemble performance. *Journal of Research in Music Education, 50*(2), 165-176. Retrieved March 4, 2005, from EBSCOhost database.
- Walker, D. E. (1989). *Teaching music: Managing the successful music program*. New York, NY: Schirmer Books.
- West, T., & Rostvall, A. (2003). A study of interaction and learning in instrumental teaching. *International Journal of Music Education, 40*, 16-29.
- Wiggins, J. (2001). *Teaching for musical understanding*. Boston, MA: McGraw Hill.
- Williams, D. A. (2002). Easy rehearsal techniques for new teachers. *Teaching Music, 9*(5), 28-32.
- Williamson, J. E. (1998). *Rehearsing the band* (2ed.). Cloudcroft, NM: Neidig Services.
- Wilcox, E. (1996). More than the notes. *Music Educators Journal, 82*(4), 6-11. Retrieved March 4, 2005, from EBSCOhost database.
- Wis, R. M. (1998). Invite, instruct, inspire. *Teaching Music, 5*(6), 38-40.
- Wolbers, M. (2002). Singing in the band rehearsal. *Music Educators Journal, 89*(2), 37-41.
- Worthy, M. D. (2003). Rehearsal frame analysis of an expert wind conductor in high school vs. college band rehearsals. *Bulletin of the Council for Research in Music Education, 156*, 11-19.

Yarbrough, C., & Price, H. E. (1989). Sequential patterns of instruction in music. *Journal of Research in Music Education, 37*, 179-187.

Zerull, D. S. (1992). Just imagine...improving the band experience. *Music Educators Journal, 79*(1), 25-28).

Appendix A: Informed Consent Letters

Parental Letter

Research Project Title: An Action Research Study of Effective and Efficient Rehearsals in a Grade 8 Band Setting

Researcher: Maureen Ferley, B.Ed, B.Mus., M.Ed. Student

Dear (Parent/Guardian):

My name is Maureen Ferley and I am a graduate student in the Faculty of Education at the University of Manitoba. I am currently working on the thesis research component in partial fulfillment for a Master of Education degree in music education. The purpose of the project is to examine strategies that lead to effective and efficient band rehearsals at the junior high level. Student participation in the study is strictly voluntary and they are able to withdraw from the research project at anytime throughout the study without penalty or grade retribution.

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your child's participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The project will take place during October and November of 2005 during regularly scheduled band classes. This timeframe encompasses 8 six-day school cycles, resulting in 24 fifty-minute grade 8 band classes, since band meets 3 times a cycle. Of these 24 classes, 18 will be videotaped for purpose of analyzing the teacher's use of instructional time. The videotape data will focus only on the conductor and any student image captured on tape will be blurred or deleted if shared in a public forum. Videotape data will be kept in an office filing cabinet and will only be accessible to the researcher. It will be discarded following the completion of the study by June 2006.

During cycle 1, students will be asked to complete an attitudinal survey, which will take about 10 minutes of class time to complete. Students will not put their names on the surveys. This will ensure students safety in their anonymity.

During cycles 2 –7, students will be taught ten common conducting gestures and the musical techniques necessary to achieve the basics of these ten musical elements. Students will learn how to conduct the gestures, recognize the gestures, and respond musically appropriately to the gestures on their instruments. There will also be different listening exercises introduced each cycle during the warm-up phase of rehearsal. During the last five minutes of each class students will be asked to complete anonymous exit slips, which will be collected in a drop-box beside the door while students leave rehearsal.

No new rehearsal strategies will be introduced during cycle 8 but this time will be a compilation of the previous 8 weeks learning. During the final class meeting of the project period, students will be given 10 minutes to complete the attitudinal survey again.

Compilation of each cycle's exit slip's data will be shared with the students. Students will have the opportunity to discuss any questions they have concerning the project at anytime during the action research project. At the end of the study, following data analysis, the findings will be shared with the students. Copies of the research project will be forwarded to relevant school administrators. Other interested parties can contact the researcher for a summary of the results of the study.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree for your child to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. Your child is free to withdraw from the study at any time, and/or refrain from answering any questions they prefer to omit, without prejudice or consequence. Continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout the research project.

Sincerely,

Ms Maureen Ferley
B.Ed., B.Mus.
Music Educator – Robert Andrews School
661-5838

This research has been approved by The Education/Nursing Research Ethics Board. If you have any concerns or complaints about this project you may contact the researcher, her advisor Dr. Francine Morin at 474-9054, or the Human Ethics Secretariat at 474-7122, or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

I, _____, _____ consent, or _____ do not consent to my child/ward to participate in this action research project.

Student's Signature

Date

Parent/Guardian's Signature

Date

Researcher's Signature

Date

Principal's Letter

Research Project Title: An Action Research Study of Effective and Efficient Rehearsals in a Grade 8 Band Setting

Researcher: Maureen Ferley, B.Ed, B.Mus., M.Ed. Student

Dear (Principal):

My name is Maureen Ferley and I am a graduate student in the Faculty of Education at the University of Manitoba. I am currently working on the thesis research component in partial fulfillment for a Master of Education degree in music education. The purpose of the project is to examine strategies that lead to effective and efficient band rehearsals at the junior high level. Student participation in the study is strictly voluntary and they are able to withdraw from the research project at anytime throughout the study without penalty or grade retribution.

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The project will take place during October and November of 2005 during regularly scheduled band classes. This timeframe encompasses 8 six-day school cycles, resulting in 24 fifty-minute grade 8 band classes, since band meets 3 times a cycle. Of these 24 classes, 18 will be videotaped for purpose of analyzing the teacher's use of instructional time. The videotape data will focus only on the conductor and any student image captured on tape will be blurred or deleted if shared in a public forum. Videotape data will be kept in an office filing cabinet and will only be accessible to the researcher. It will be discarded following the completion of the study by June 2006.

During cycle 1, students will be asked to complete an attitudinal survey, which will take about 10 minutes of class time to complete. Students will not put their names on the surveys. This will ensure students safety in their anonymity.

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No new rehearsal strategies will be introduced during cycle 8 but this time will be a compilation of the previous 8 weeks learning. During the final class meeting of the project period, students will be given 10 minutes to complete the attitudinal survey again.

Compilation of each cycle's exit slip's data will be shared with the students. Students will have the opportunity to discuss any questions they have concerning the project at anytime during the action research project. At the end of the study, following data analysis, the findings will be shared with the students. A copy of the research project will be forwarded to you upon completion of the study. Other interested parties can contact the researcher for a summary of the results of the study.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to allow the project to proceed. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities.

Sincerely,

Ms Maureen Ferley
B.Ed., B.Mus.
Music Educator – Robert Andrews School
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I, _____, _____ consent, or _____ do not consent for this action research project to proceed.

Principal's Signature

Date

Researcher's Signature

Date

Superintendent's Letter

Research Project Title: An Action Research Study of Effective and Efficient Rehearsals in a Grade 8 Band Setting

Researcher: Maureen Ferley, B.Ed, B.Mus., M.Ed. Student

Dear (Superintendent):

My name is Maureen Ferley and I am a graduate student in the Faculty of Education at the University of Manitoba. I am currently working on the thesis research component in partial fulfillment for a Master of Education degree in music education. The purpose of the project is to examine strategies that lead to effective and efficient band rehearsals at the junior high level. Student participation in the study is strictly voluntary and they are able to withdraw from the research project at anytime throughout the study without penalty or grade retribution.

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The project will take place during October and November of 2005 during regularly scheduled band classes. This timeframe encompasses 8 six-day school cycles, resulting in 24 fifty-minute grade 8 band classes, since band meets 3 times a cycle. Of these 24 classes, 18 will be videotaped for purpose of analyzing the teacher's use of instructional time. The videotape data will focus only on the conductor and any student image captured on tape will be blurred or deleted if shared in a public forum. Videotape data will be kept in an office filing cabinet and will only be accessible to the researcher. It will be discarded following the completion of the study by June 2006.

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I, _____, _____ consent, or _____ do not consent for this action research project to proceed.

Superintendent's Signature

Date

Researcher's Signature

Date

Appendix B: Survey Tools

Pre-Survey for Band Rehearsal Feedback and Attitudes

Please circle the response that best describes how you feel concerning your general perception of band class: 1-Strongly Disagree 2-Disagree 3-Agree 4-Strongly Agree

- | | | | | |
|---|---|---|---|---|
| 1. I use my time effectively in band class. | 1 | 2 | 3 | 4 |
| 2. I follow the people around me to know when to play. | 1 | 2 | 3 | 4 |
| 3. I listen when musical ideas are being discussed. | 1 | 2 | 3 | 4 |
| 4. I am a leader in my instrument section when we play. | 1 | 2 | 3 | 4 |
| 5. I think I am a good band student. | 1 | 2 | 3 | 4 |
| 6. I think I enhance our band's sound when I play. | 1 | 2 | 3 | 4 |
| 7. It is worth the time that it takes to make pieces sound great. | 1 | 2 | 3 | 4 |
| 8. I am playing to the best of my ability. | 1 | 2 | 3 | 4 |
| 9. I like playing things well in band class. | 1 | 2 | 3 | 4 |
| 10. I want to be a better musician. | 1 | 2 | 3 | 4 |
| 11. I like learning challenging music in band class. | 1 | 2 | 3 | 4 |
| 12. I like practising when I can see an improvement. | 1 | 2 | 3 | 4 |
| 13. I actively think about my band pieces outside of class. | 1 | 2 | 3 | 4 |
| 14. I feel satisfied at the end of most band classes. | 1 | 2 | 3 | 4 |
| 15. I enjoy being in band. | 1 | 2 | 3 | 4 |

16. Some things I enjoy about band class:

17. Some things I would like to change in band class:

Post-Survey for Band Rehearsal Feedback and Attitudes

Please circle the response that best describes how you feel concerning your general perception of band class: 1-Strongly Disagree 2-Disagree 3-Agree 4-Strongly Agree

- | | | | | |
|---|---|---|---|---|
| 1. I use my time effectively in band class. | 1 | 2 | 3 | 4 |
| 2. I follow the people around me to know when to play. | 1 | 2 | 3 | 4 |
| 3. I listen when musical ideas are being discussed. | 1 | 2 | 3 | 4 |
| 4. I am a leader in my instrument section when we play. | 1 | 2 | 3 | 4 |
| 5. I think I am a good band student. | 1 | 2 | 3 | 4 |
| 6. I think I enhance our band's sound when I play. | 1 | 2 | 3 | 4 |
| 7. It is worth the time that it takes to make pieces sound great. | 1 | 2 | 3 | 4 |
| 8. I am playing to the best of my ability. | 1 | 2 | 3 | 4 |
| 9. I like playing things well in band class. | 1 | 2 | 3 | 4 |
| 10. I want to be a better musician. | 1 | 2 | 3 | 4 |
| 11. I like learning challenging music in band class. | 1 | 2 | 3 | 4 |
| 12. I like practising when I can see an improvement. | 1 | 2 | 3 | 4 |
| 13. I actively think about my band pieces outside of class. | 1 | 2 | 3 | 4 |
| 14. I feel satisfied at the end of most band classes. | 1 | 2 | 3 | 4 |
| 15. I enjoy being in band. | 1 | 2 | 3 | 4 |

16. Some things I enjoy about band class:

17. Some things I would like to change in band class:

Appendix C: Student Exit Slip

Date: _____

Students will pack their instruments up five minutes before the end of class and will receive an exit slip for each rehearsal. Exit slips will be anonymous and will be collected in a box at the door when the students leave rehearsal.

For questions 1 to 5 please respond with strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD). Write out your response for questions 6 & 7.

1. I felt involved during today's rehearsal process. _____

2. I felt we used most of our time to create music. _____

3. The band worked effectively together today. _____

4. My personal involvement was consistent. _____

5. My band teacher was an effective instructor today. _____

6. Something I or the band learned today was:

7. Did I really listen to others while we were playing or was I just "rehearsing"?

Appendix D: Lesson Plans

Cycle 1

Had no new outlines written classes followed the previous teaching pattern of working on whatever did not get accomplish during the previous class. The teacher would introduce music ideas when they linked directly to the musical selection being performed. The method book's general outline and order of presenting musical ideas were followed.

Cycle 2

Starting now all lesson orders of music were posted (except for when noted)

Lesson 1. Introduce the legato conducting gesture during the warm-up period. Then transfer the idea into *Ashlawn Echoes*, one of the compositions being prepared for performance at the provincial band festival at the end of February.

Lesson 2. Present the idea of no longer doing classroom points during rehearsal time. This was introduced to cut down on "wasted" time at the beginning of each rehearsal calling out roll-call and seeing who had or had not brought their instrument, music and pencil to rehearsal. Share Cycle 1's initial data with the class. Discuss the musical idea of tenuto with half the band listening while the other half played. They alternate states. Rehearse *Ashlawn Echoes* measures 29-65 followed by *Procession of the Sardar* measures 47 to wherever possible. Discuss new meat fundraiser and give out receipts for the initial payment for the band trip.

Lesson 3. Use the circle of fourths to warm-up while incorporating the legato and tenuto musical ideas. Allow for some improvisation by the students to create their own warm-up rhythm pattern. (This was slightly confusing for most of the students.)

Procession of the Sardar measures 47 onwards followed by the beginning of *Ashlawn Echoes*.

Cycle 3

Lesson 1. Circle of fourth warm-up with staccato notes. Rehearse *Ashlawn*

Echoes with special focus on the coda (began at measure 45 and took the coda).

Procession of the Sardar measures 19-27 should be focused on with addition planning measures 60 to the end if time permitted (time did not permit).

Lesson 2. Circle of fourths warm-up with inner pulse being discussed. The class will be divided into two groups with the first group playing while the other listens. The students will play the circle of fourths and to hold each note for four counts followed by one rest before continuing on to the next note. The initial entry will be given by no pulse will be suggested by the conductor. Students are asked to listen to their own inner pulse and to ignore their neighbour. When then group started playing with a common pulse they were asked to stop and then the other group played. *Ashlawn Echoes* measures 1 to 29 followed by trying to run *Procession of the Sardar*. If time permits play *Toe Tappin'* (no time).

Lesson 3. Method Book #107 and 108 followed by #113. Staccato and marcato conducting gestures will be introduced during these selections. Followed by *Procession of the Sardar* measures 27-47 and *Toe Tappin'* for fun (turns out this was not fun and too hard with only the first 5 measures being performed).

Cycle 4

Lesson 1. Review legato/tenuto and staccato/marcato conducting gestures using a Bb concert scale and/or the chromatic scale on p.22 in the method book (Reminded students of the upcoming chromatic test). Learned #117, 118, and 119, related exercises

in Book. Review *Procession of the Sardar* measures 27-52 followed by a run through of *Ashlawn Echoes*.

Lesson 2. Discuss Quality of sound differences between pinched and full during the warm-up using the Circle of 4's. Fixed the beginning – 19 in *Procession of the Sardar*. Run *Ashlawn Echoes*.

Lesson 3. Three classes left before festival. Warm-up with chords in *Ashlawn Echoes* (mm 29-coda). *Procession of the Sardar* rehearse beginning-19, 27-31, and 60-end. If time remains run the *Flinstones*.

Cycle 5

Lesson 1. Focus on *Procession of the Sardar* ending and then work on *Ashlawn Echoes*. For both pieces play through and fix any trouble spots. Talk about dynamics and expression.

Lesson 2. (missed because of snow day) Final rehearsal before festival. Circle of 4th chorda and dynamics warm-up, using Forte/subito forte and piano/subito piano. Check *Procession of the Sardar* middle section from 27-27 and then run it through. Check *Ashlawn Echoes* measure 9's tempo and then take the coda. Run it as well. (Flinstones if time since grade 6 concert is the day following the festival.)

Lesson 3. Grade 6 concert for one of our feeder schools. Basic plan was to play our two festival pieces plus the *Flinstones* theme and do a general introduction for each instrument and the band program at our school.

Cycle 6

Lesson 1. Missed due to the Senior 1 band playing at the provincial music festival. Grade 8 band was rescheduled for the afternoon but one of the teachers wanted half the

band to have their subject class so the other half of the band went to the library (my afternoon position) and did silent study.

Lesson 2. Explain the difference between rehearsing and practising (again). Share how I felt the festival performance went, both positives and negatives (I felt under rehearsed and that some student's were still practising on stage while other students really stepped up – example the flutes.) Ask for students' perceptions written anonymously on back of exit slips and then listen to one tape and read the comments. Get new music – assign practise bars (points no longer for supplies and outward preparedness but now linked to music preparedness – this is a great idea but still hasn't been successfully incorporated into daily class smoothly). * Teacher must have music pre-sorted. Play something before the end of class – *Childhood Hymn* – beginning section if possible.

Lesson 3. Breathing warm-up in for 4 out for 8 then 12, in for 2 out for 12 etc. Circle of 4ths warm-up for blend and balance – listen for the different sections. Run all of *Freedom's Light* and then do *Childhood Hymn* measures 1-26.

Cycle 7

Lesson 1. Breathing warm-up followed by circle of 4th chords by individual not by large section (i.e. flutes play Bb, D and F not just Bb) while listening for blend in their section first and then the band as a whole. Introduce *Creed*.

Lesson 2. Brief Breathing warm-up followed by Circle of 4ths chords by section – no longer than 5 minutes. Then do the rhythm warm-up in *Creed*. Measures 1-26 should be note perfect (homework) so learn the rhythms. End with *Childhood Hymn*.

Lesson 3. Creed warm-up with chord example followed by rhythm example.

Work measures 1-55 and then sight-read to the end (this did not happen). Make sure to play *Childhood Hymn* since the last two classes we haven't played the piece. Discuss decrescendo and crescendo within the context of the pieces.

Cycle 8

Lesson 1. Circle of 4ths individual chord warm-up. Focus on the lower parts in the opening of *Childhood Hymn* – sectional if need be. *Creed* 1-55, 61-85 (didn't get to *Creed*).

Lesson 2. Breathing warm-up. *Childhood Hymn* clarinet 2 opening test if not successful since it was for homework. Make sure you rehearse the ending today. *Creed* 1-55, 61-85. Final class taping since next class they have a substitute.

Lesson 3. Substitute teacher complete post-survey and hand in then work in sectionals on *Creed* and *Childhood Hymn* (specific sections given to substitute for each section).

Appendix E: Teacher Journal Entries

1.1 Jan.10 (forgot actually 4:20 a.m. Jan.11)

The first day of this project was a little stressful prior to class time. I thought I had found the required recording materials but at lunch time when I went to get them some of the m were missing. I did finally find the square that attached the camera to the tripod and finished setting things up with enough time that I could eat. I do wonder however how this setup will work when I teach grade band in the a.m. and between other classes.

The class itself went a little off the plan (okay way off – way more talking than I had planned). I had wanted the first class back centered around playing, both in our books and new sheet music but while playing the first # a rhythm problem came up and we spent quite a while learning how to count (4 sixteenth notes) which we have discussed previously. Something I thought was review in nature felt like a beginning concept.

We played 2 method exercises that dealt with the new rhythms and then went on to a new piece “Procession of the Sardar” which also contained the (dotted eighth sixteenth note) rhythm figure. We ran out of time so I’m not sure the students recognized the transfer but we needed to play rather than talk.

I didn’t leave enough time at the end for exit slips (I thought) but most students finished anyway – next time will give them the full 5 minutes.

There were a lot of housekeeping announcements since it was the first day back after Christmas break, they needed to understand the project and the next 10 weeks, we have a trip coming up and it’s the end of term and they needed to know their outstanding assignments so they can complete them.

I felt a lot of class time was spent talking but hopefully this will decrease because we will only be doing 1 written response each class (exit slips) instead of the 2 we needed to complete today (pre-survey and exit slip).

The students mostly reacted fine to the start of the project though multiple students asked if this was for marks – a huge motivating factor in junior high school. I will try to readdress this issue next class so everyone is clear (Maybe when I share the first cycles feedback it might be an appropriate time since next class I really just want to play).

There was a lot of chatting today which is a common occurrence when Gr. 8 band meets following lunch.

I think the class was about a 7.5 for music making, 7 efficient, 7.5 effective.

1.2 Jan. 13th

This is frustrating. I started and ended the class racing around due to this research project. We're sharing the digital camera and when I went early for it and the tripod, the camera was out. I needed to go back at the beginning of Gr. 8 Band class to retrieve the camera. Somehow in the confusion I lost the blank DV tape and since the battery was low I used the DC cords.

Class started okay – reviewed two method book numbers and the counting. Then we made the transfer (dotted eighth followed by a sixteenth) to Procession of the Sardar. I think I tried to do too much at the same time but then it felt like not enough playing was happening.

Derek's saxophone broke and I couldn't fix it but it split my focus. Percussion missed a piece but I think they got their beginning pattern.

I feel more playing went of this class. I ran out of exit slips – it's a little stupid having the kids not completing them take them. I found one in the recycling bin instead of the drop-off box but that's one less than last classes 2 on the floor.

Efficient 8 without project 6 with project.

Effective 9 or 8

Good class.

1.3 Jan. 16

I forgot to journal until 4:10 p.m. Rehearsal went well basic Bb warm-up with new Optimist festival piece being sight read – Ashlawn Echoes – did okay.

Started to get out Toe Tappin' but decided to discuss term marks and trip details.

Efficient 8.5

Effective 8.5

Good class.

2.1 Jan. 18

Shortened Day therefore class was super quick but I think it was productive. I do feel that it takes too much time to do points every class. Trip packets/deposits and questions needed to be dealt with but seemed to be fairly quick. Class went well. Good legato playing and conducting and good transfer to the piece.

Effective 9.5

Efficient 9

2.2 Jan. 23

Introduced tenuto marking and reviewed legato. Bb concert scale should sound better than it does. I felt good about the pacing when we started playing. I feel that 5

minutes is too long to do the forms and pack-up. Back row doesn't hear/listen #'s is this me of them? Today had a combination of silent cues and snaps with counting. I think that is okay since often the students need to feel the pulse of piece to play it correctly. Briefly reviewed cycle 1's results and discussed how to answer, I felt I was non-judgemental but informative.

Efficient 8

Effective 9

Good Class

2.3 Jan. 24

Things went well/Lauren/Samantha and Johanna felt maligned due to me talking to them re: talking. Jessica is protesting something. Rhys, Maxine and Amanda are distracted a lot during class and Nicole P. does nothing. Other than them things went really well. Trumpets learned their new part. Triplets were reviewed and hopefully learned. The warm-up didn't go as smoothly as I would have liked but oh well. I felt we played music for a fair portion of the class.

Effective 8.5

Efficient 7.5 (warm-up curfluffal)

3.1 Jan. 26

Good class – too bad about the tripod though. I had a camera pre-set-up but then it wasn't recording so I had to go get a new camera and then at the end of class it was off so I hoped it recorded.

Good staccato/ good balance I think of playing and not.

Efficient 9

Effective 9

Used different camera than usual and didn't realize that the new camera had a select mode on the record button. Instead of being in recording mode it was in playback mode – Really too bad since the students' perceptions of the class were not the same as my own. Some of the students were involved in an altercation at lunch prior to class. I'm wondering if their responses/lack of or if this "project" is actually a detriment to class procedure.

3.2 Jan. 31

Students and teacher done? No, smile – embrace the project. Okay inner pulse work but really felt weird maybe not meant for today. Good Ashlawn start. P of S needs a lot more work. Next class do that.

A couple negative encounters but mostly very positive.

Effective 8.5

Efficient 8

3.3 Feb. 1

Okay/ Good class. Good introduction and review of chromatics/ enharmonics. Test assignment given spur of the moment due to a realization the most students don't really learn what they don't need to. #113 took longer than I anticipated so did 27-47 in P of S therefore no Flintstones. Instead success (hopefully) was felt by playing 27-54 in P of S.

Effective 7

Efficient 7.5

Necessary 10

4.1 Feb. 8

Very Good Class – new Korean student (with not much English) and still we accomplished almost most of what I wanted to get done, all that we needed. Warm-up went very well with the legato, staccato, marcato conducting gestures being reviewed taught and followed clearly by the students. The triplets and chromatic ideas were reinforced by their method book exercises and then we finished with not work in Procession of Sardar.

Effective 9.5

Efficient 9 (8 really due to new student time)

4.2 Feb. 9

Point system on the wall is building community by having the students look out for each other. I abandoned the new Korean student. I tried to help but it was taking too long so I left him so that he didn't feel too much pressure. Warm-up went fine with the ideas of playing "pinched/full" briefly discussed and then revisited the idea with the clarinets during Procession of Sardar.

Good progress even or especially with the percussion without Morgan (snare drum) since it seemed easier for everyone to hear how they fit in.

Efficient testing. Good timing/pacing of class.

Effective 8.5

Efficient 9

4.3 Feb.13

Warm-up with Ashlawn 29-45 still sucks, alto saxes are a little better but the timpani still needs work; 57-72 they forgot the whole thing during the first time through;

coda section was good. Procession of Sardar – we ran the whole thing; 1-19 didn't go well first time but the second time it worked. The rest of the song worked well. We had never tried the ending and the ending needs work.

We also ran the beginning of Flintsones. It felt liked we played a lot today. During the packing up of instruments I explained the video data charts to 2 groups of students.

Effective 9

Efficient 8.5

5.1 Feb. 16

Last two rehearsals before Optimist festival – why does it feel like we are severely under prepared. We skipped some of the warm-up to jump right into playing (also since camera set-up took time because CR8 before class having all the digital cameras.)

Great listening from students but I felt frazzled and inefficient. I felt like we spent a lot of time on Procession of Sardar and though we probably should have changed pieces we needed to address the ending and the middle section. How did we get here without that being fixed. The accidental thing is finally being played by almost everyone. I almost stopped to readdress it but didn't and the students fixed it themselves. Does that mean their listening skills are improving? Ashlawn went okay but the tempo was much slower than ever before. What will happen?

I briefly touched on ff and mp dynamic conducting gestures relating to the Procession of Sardar ending. (no order on board)

Effective 8.5

Efficient 8

5.2 missed due to snow day

5.3 Feb. 27

Tape sounded better than I thought for Festival. Rehearsing/practicing discussion went okay although I know some students were slightly confused but I think the understood by the end of the discussion.

Clear practicing assignment was given.

I know there was a lot of talking but we did get to some breathing exercises warm-up and playing. I think pacing went well but too bad that Patty didn't press the record button! (Good thing we checked too bad it was 15 minutes into class!)

Effective 7

Efficient 8 (Good handing out of pieces!)

Necessary 9

6.1 missed due to grade 6 concert

6.2 Missed due to Senior one band at festival

6.3 March 1

Slow start due to a special teacher – student v-ball game at lunch. Also needed to look at payments for the trip.

Balance introduced and beginning understanding coming. Childhood Hymn reviewed with note problems still present. Brief practice assignment reassigned – what will or should the consequences be?

Freedom's light sight read – the students and I don't like it so we won't do it in Edmonton. Instead I will copy Creed and we'll do that instead. Not a lot of time for forms but I really wanted to finish playing the piece through once.

Effective 9

Efficient 7.5

7.1 March 6

Warm-up took most of class. Working on breathing and chord section blend (notes still an issue with some students even though we've been playing the circle since September).

Creed handed out, not as efficient as Childhood, 2 pages of music seems to be harder to get than one page! Tried a bit of the song and then listened to the Grade 9's recording from festival, not a stellar aural model but it gave them a general feel for the piece.

Personal attitude/re: instrument or self briefly discussed at the end of class.

Effective 8.5 for basics 6 for playing music

Efficient 7.5

7.2 March 7

Okay music handing back (ugh now I have to sort!). Good breathing and chord warm-up. Good Creed beginning (now will we learn this in time!) Didn't get to Childhood. Creed assignment given until bar 55.

Effective 8.5

Efficient 8.5

7.3 March 9

Pretty good class – warm-up chords not really effective since clarinets and trumpets all really have the saxophone part in Creed. Good rhythm warm-up and money announcements re: trip.

Taking double attendance wastes time and trying to do it and answer questions wastes more time. Playing wise I was disappointed in their progress and gave a little lecture. We went slower and magically everything got better.

Good progress and sight-reading on Creed.

Childhood – good upper parts but the low parts but the low parts really are lacking. I think we need a tuba (Senior 1?) and a bari sax (gr.8 student trying tomorrow).

Effective 8

Efficient 8

8.1 March 13

No bells shortened day. Fairly productive class. Nice first bari sax class! Second clarinets still don't know their notes. I heard that most of one of my grade 8 class didn't sign up for band next year and I feel like a horrible teacher. I tried to be upbeat but still realistic regarding playing expectations.

Effective 8

Efficient 8

8.2 March 15

Good pacing – half the band was late due to a math quiz.

Breathing good progress. Creed 1-80 good progress, but the runs still need work (80-end haven't looked at!)

Childhood very good – ran the whole thing.

Effective 9

Efficient 9

Good class to end with for the study. Next class 8.3 is with a substitute and the students will complete the post-survey.

Appendix E: Pre - and Post - Survey Statistics

F-test stuff for question 1				
Case number	VA1PRE	VA1POST	F1	FTEST1
1	0.314	0.667	2.122	0.034
F-test stuff for question 2				
Case number	VA2PRE	VA2POST	F2	FTEST2
1	0.746	0.773	1.036	0.467
F-test stuff for question 3				
Case number	VA3PRE	VA3POST	F3	FTEST3
1	0.333	0.667	2.000	0.046
F-test stuff for question 4				
Case number	VA4PRE	VA4POST	F4	FTEST4
1	0.729	1.000	1.371	0.220
F-test stuff for question 5				
Case number	VA5PRE	VA5POST	F5	FTEST5
1	0.561	0.660	1.177	0.345
F-test stuff for question 6				
Case number	VA6PRE	VA6POST	F6	FTEST6
1	0.422	0.543	1.289	0.271
F-test stuff for question 7				
Case number	VA7PRE	VA7POST	F7	FTEST7
1	0.405	0.893	2.208	0.027
F-test stuff for question 8				
Case number	VA8PRE	VA8POST	F8	FTEST8
1	0.333	0.583	1.750	0.086
F-test stuff for question 9				
Case number	VA9PRE	VA9POST	F9	FTEST9
1	0.293	0.590	2.011	0.045
F-test stuff for question 10				
Case number	VA10PRE	VA10POST	F10	FTEST10
1	0.506	0.750	1.481	0.168
F-test stuff for question 11				
Case number	VA11PRE	VA11POST	F11	FTEST11
1	0.687	0.993	1.447	0.183
F-test stuff for question 12				
Case number	VA12PRE	VA12POST	F12	FTEST12
1	0.692	0.910	1.314	0.252
F-test stuff for question 13				
Case number	VA13PRE	VA13POST	F13	FTEST13
1	0.924	1.022	1.106	0.402
F-test stuff for question 14				
Case number	VA14PRE	VA14POST	F14	FTEST14
1	0.646	0.873	1.353	0.229
F-test stuff for question 15				
Case number	VA15PRE	VA15POST	F15	FTEST15
1	0.898	0.594	1.513	0.160

Two-sample t test on Q1 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.400	0.816
presurvey	27	3.389	0.560

Separate Variance t = 0.057 df = 42.1 Prob = 0.955

Two-sample t test on Q2 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.240	0.879
presurvey	27	3.148	0.864

Pooled Variance t = 0.380 df = 50 Prob = 0.706

Two-sample t test on Q3 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.200	0.816
presurvey	27	3.444	0.577

Separate Variance t = -1.238 df = 42.9 Prob = 0.223

Two-sample t test on Q4 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.200	1.000
presurvey	27	2.963	0.854

Pooled Variance t = 0.921 df = 50 Prob = 0.361

Two-sample t test on Q5 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.420	0.812
presurvey	27	3.315	0.749

Pooled Variance t = 0.486 df = 50 Prob = 0.629

Two-sample t test on Q6 grouped by TIME\$

Group	N	Mean	SD
post survey	24	3.250	0.737
presurvey	27	2.963	0.649

Pooled Variance t = 1.479 df = 49 Prob = 0.146

Two-sample t test on Q7 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.320	0.945
presurvey	27	3.407	0.636

Separate Variance t = -0.388 df = 41.6 Prob = 0.700

Two-sample t test on Q8 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.400	0.764
presurvey	27	3.556	0.577

Pooled Variance t = -0.832 df = 50 Prob = 0.409

Two-sample t test on Q9 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.440	0.768
presurvey	27	3.704	0.542

Separate Variance t = -1.420 df = 42.8 Prob = 0.163

Two-sample t test on Q10 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.200	0.866
presurvey	27	3.389	0.712

Pooled Variance t = -0.862 df = 50 Prob = 0.393

Two-sample t test on Q11 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.080	0.997
presurvey	27	3.074	0.829

Pooled Variance t = 0.023 df = 50 Prob = 0.981

Two-sample t test on Q12 grouped by TIME\$

Group	N	Mean	SD
post survey	25	2.920	0.954
presurvey	27	3.000	0.832

Pooled Variance t = -0.323 df = 50 Prob = 0.748

Two-sample t test on Q13 grouped by TIME\$

Group	N	Mean	SD
post survey	26	2.692	1.011
presurvey	27	2.407	0.961

Pooled Variance t = 1.052 df = 51 Prob = 0.298

Two-sample t test on Q14 grouped by TIME\$

Group	N	Mean	SD
post survey	25	3.040	0.935
presurvey	28	3.143	0.803

Pooled Variance t = -0.431 df = 51 Prob = 0.668

Two-sample t test on Q15 grouped by TIME\$

Group	N	Mean	SD
post survey	24	3.438	0.771
presurvey	27	3.074	0.948

Pooled Variance t = 1.491 df = 49 Prob = 0.142