Music Description and Expressive Performance by Middle School Instrumentalists

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy
in the Graduate School of The Ohio State University

By

Elizabeth Longo Braun, B.M., M.M.
Graduate Program in Music

The Ohio State University

2012

Dissertation Committee:

Professor Patricia J. Flowers, Advisor
Professor Jan Edwards
Professor Daryl Kinney
Copyright by

Elizabeth Longo Braun

2012
Abstract

The purpose of this mixed-methodology study was to investigate how middle-school instrumentalists (N = 60) understand expression in music by examining the categories of language they use to describe music (music analytic, metaphor/imagery, temporal) and how they perform when given music analytic or figurative language as performance instructions. Sixth, seventh, and eighth grade students wrote descriptions of six brief excerpts, all of which were played on piano. Students used music analytic language in 41.5% of excerpts, metaphor/imagery in 36.1% of excerpts, and temporal language in 22.4% of their descriptions. There was a significant difference among the types of language used; music analytic terms were the most common type of description, followed by metaphor/imagery. Temporal language was used significantly less frequently than the other types of language. However, there were no significant interactions between category of language and grade level or instrumental experience. Experts then attempted to match descriptions to excerpts. Findings indicated that they could be matched to stimulus recordings 67.4% of the time.

A sub-set of seven students who studied piano in addition to their school instrument were selected for the second phase of the study. Students were given a piece of music and 15 minutes to practice. They then selected at random one of four different performance instructions (2 using music analytic language, 2 using figurative language), given a few minutes to practice according to the instructions, and then performed as per
the instructions. This process was repeated until each of the four instructions had been performed. Analysis of the recordings of the performances indicated that students could perform in such a way that their performances could be matched to the performance instructions 82.86% of the time. Experts also rated the performances for expressivity. There was no difference in expert ratings based on whether analytic or figurative language was used in the instruction. There appears to be little relationship between written vocabularies used to describe musical performances and expressive performances by middle-school instrumentalists.
Acknowledgments

I could not have completed this document were it not for the support of my husband, Roger. Throughout our lives together, whenever I have expressed the need for a greater professional challenge, he has supported me and made major adjustments to his professional life in order to enable me to make changes in mine. Whether timing his sabbatical to correspond with my final push toward completing this document was intentional or not, it was certainly necessary and I am grateful.

My mother, Anna Longo, was another inspiration for me. No matter how old I get, I still want to make her proud.

Then there is my daughter, Sarah. Were it not for her spontaneous, vivid, and unsolicited description of what she “saw” when I asked her to simply tell me if she thought two performances were the same or different I would not have been so inspired to pursue the research questions I finally decided upon.

Finally, I deeply appreciate the patience, guidance, time, responsiveness, expertise, and all-around support given to me by Dr. Patricia J. Flowers. I am keenly aware of how fortunate I am to have had her as my advisor for the last couple of years and grateful that she was always so supportive in the years before she became my advisor. Given my numerous false starts, I am so thankful that she didn’t give up on me when she very easily could have.
Vita

April 11, 1968 ..................................................Born – Alexandria, Virginia

1990...............................................................B.M., Music Education
University of Michigan

1995...............................................................M.M., Conducting
University of Wisconsin

1990-1992 ...................................................Orchestra and General Music Teacher,
Woodbridge, Virginia

1992-1997 ...................................................Band and Orchestra Teacher,
Stevens Point, Wisconsin

1997-2001 ...................................................Band and Orchestra Teacher,
Okemos, Michigan

2001-2004 ...................................................Graduate Teaching Associate, Music
Education, The Ohio State University

2004-2005 ...................................................Instructor of Instrumental Music Education,
James Madison University

2005-present .................................................Director, Athens Community Music School,
Ohio University

Publications


Fields of Study

Major Field: Music Education

Cognate: Instrumental Conducting
# Table of Contents

Abstract........................................................................................................................................ii

Acknowledgments..............................................................................................................................iv

Vita................................................................................................................................................v

List of Tables .................................................................................................................................x

List of Figures ............................................................................................................................... xi

Chapter 1 ....................................................................................................................................... 1

Statement of Purpose...................................................................................................................... 7

Limitations ...................................................................................................................................... 9

Operational Definitions .................................................................................................................. 9

Chapter 2 ....................................................................................................................................... 11

Review of Literature....................................................................................................................... 11

Children’s Understanding of Emotion in Music............................................................... 13

Perception of Expression in Music: Studies with Children......................................................... 15

Aesthetic Response and the Continuous Response Digital Interface ......................... 18

Performance of Expression in Music: Studies with Children...................................................... 20

Performance of Expression in Music: Studies with Adults......................................................... 23

vii
Children’s Descriptions of Music ................................................................. 24
Methods of Instruction for Teaching Expressivity .................................... 27
Summary ........................................................................................................ 32
Chapter 3 ....................................................................................................... 33
Methodology .................................................................................................. 33
The Pilot Study – Listening and Describing Music ...................................... 34
The Study Phase I – Listening and Describing Music .................................... 36
The Study Phase II – Performing with Expression ......................................... 43
Chapter 4 ....................................................................................................... 47
Results ........................................................................................................... 47
Phase I – Listening and Describing Music ...................................................... 48
Phase II – Performing with Expression .......................................................... 59
Identifying Associations .................................................................................. 92
Associations among Phase II Participants’ Ability to Describe Music and Perform with Expression ................................................................. 95
Chapter 5 ....................................................................................................... 98
Summary, Discussion, Implications and Recommendations ....................... 98
Summary ........................................................................................................ 99
Discussion .................................................................................................... 106
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implications and Recommendations</td>
<td>114</td>
</tr>
<tr>
<td>References</td>
<td>118</td>
</tr>
<tr>
<td>Appendix A: Background Data Questionnaire</td>
<td>127</td>
</tr>
<tr>
<td>Appendix B: Listening and Describing</td>
<td>130</td>
</tr>
<tr>
<td>Appendix C: Matching Descriptions to Excerpts</td>
<td>132</td>
</tr>
<tr>
<td>Appendix D: Instructions for Content Analysis</td>
<td>153</td>
</tr>
<tr>
<td>Appendix E: Music for Study</td>
<td>155</td>
</tr>
<tr>
<td>Appendix F: Matching Performances to Prescribed Playing Conditions</td>
<td>157</td>
</tr>
<tr>
<td>Appendix G: Rating Sheets</td>
<td>160</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. *Participant Background Data* ................................................................. 37

Table 2. *Excerpts Used for Main Study* ................................................................. 39

Table 3. *Frequency of Language Used by Grade and Category* ............................ 51

Table 4. *Number of Descriptions Containing Each Language Category by*  
  Grade and Instrumental Experience ....................................................................... 53

Table 5. *Mean Scores of Correct Matches of Descriptions to Excerpts* ................. 55

Table 6. *Expert Success in Matching Descriptions to Music* ................................. 57

Table 7. *Number of Performances Matched to Instructions* ..................................... 62

Table 8. *Expert Ratings of Expressive Elements by Participant and Performance*  
  Condition .............................................................................................................. 65

Table 9. *Average of Expert Ratings by Type of Measure and Condition* ............... 68

Table 10. *Means and Standard Deviations of Overall Ratings by Performance*  
  Condition .............................................................................................................. 69

Table 11. *Performance Ratings and Descriptions Matched by Participant* ............. 96
List of Figures

Figure 1. Average Use of Language Categories for Phase I and II Participants ............ 95
Chapter 1

The French novelist Victor Hugo wrote that, “Music expresses that which cannot be said and on which it is impossible to be silent” (Anderson, 1899). This tenet, held by many music teachers across the country, is often invoked when advocating for music education. The realities in the classroom, however, are often in conflict with this sentiment because teaching and assessing “that which cannot be put into words” remains difficult at best. Ironically, much of instructional time – particularly when delivered by less experienced instructors – is spent giving verbal instructions (Goolsby, 1999). Verbal instructions, however, can be very effective, particularly when used in response to a performance trial that has just occurred (Price, 1983; 1989; 1992), and are clearly an effective approach in music teaching (Yarbrough & Price, 1989). However, Yarbrough and Price (1989) suggested that while there is obvious attention paid to error detection, “the ability to speak appropriately about the musical score to students and to creatively describe what the music should sound like to young students is an art that has not been developed” (p. 184).

It can be argued that this deficit is due in large part to what has historically been the norm of music education in the United States: an emphasis on rewarding high-level
performances according to Western values and standards such as note reading, individualized music making, technical perfection, and a classroom setting in which students succeed because their teacher is a strong and capable leader. This approach to teaching fuels a common practice where the objective elements of music or performance technique must be in place before the expressive elements can be introduced or achieved. Reimer (2003) calls this phenomenon “technique now, musicianship later” and insists that it has “plagued performance teaching in music education throughout its history, accounting for much of the convergent, rule-learning-and-following, technique-dominated, rote nature of the enterprise” (p. 130). Further, Reimer (2003) posits that while it is important to develop technique, it is wrong to separate the technical elements from the expressive (or what he calls creative) elements until the “former attains some prescribed level of achievement” (p. 130).

Jorgensen (1997) writes, “Since music entered public education in the nineteenth century, music education has often been thought of narrowly and unsatisfactorily in terms of incomplete musical tasks and objectives, elementary and intermediate levels of musical instruction carried out in the context of state-supported schools, and identified especially with music of the Western classical tradition” (p. ix). Wiggins (1996) wonders if our narrow focus and the limited opportunities we provide for children has led us to vastly underestimate the musical thinking of children and thus limit their potential to “function independently or solve problems” in the music classroom. Indeed, there is great irony in the paradox between the commonly held view of music as being a creative domain and the reality that the practice of teaching music so often falls neatly within the
boundaries of traditional educational models. In music, as in virtually every other subject taught in public schools, the received tradition places the teacher as the focal point of the class and the students as the receptors.

Using this model, music educators across the country have developed many effective strategies for delivering a great deal of content, but certain competencies, specifically those which relate to expressive performances, remain a challenge to deliver and measure. This comes as no surprise. As Rodriguez (1998) suggests, performing with or listening for expression cannot be easily taught possibly because “expression seems to inhere in gestalt, rather than discrete features of the music” (p. 49). What is surprising, if not also disappointing, is that The National Center for Education Statistics’ most recent survey of the National Assessment of Educational Progress in the Arts (2009) found that only 20% of eighth graders “were able to identify the name of a piano dynamic marking and explain its meaning.”

Considerable previous research indicates that even young children can discriminate basic emotions communicated in music (Adachi & Trehub, 2000; Cunningham & Sterling, 1988; Dolgin & Adelson, 1990; Kratus, 1993; Meerum Terwogt & van Grinsven, 1991; Morton & Trehub, 2007) and that children can identify contrasts in dynamics, tempo, articulation, and timbre (Flowers, 1990). We also know that middle school instrumentalists are more successful at perceiving expressive performances than non-expressive performances (Braun, 2005; Burnsed & Sochinski, 1995) but factors that influence their success may include a preference for or familiarity with a particular timbre (Braun, 2005; Geringer & Madsen, 1996).
Less is known about how well children can perform with expression and what strategies work best at helping them learn to perform with expression. For example, Rohwer (2001) found that 7th graders were capable of creating an expressive performance, but to a lesser degree than more experienced musicians. Adachi and Trehub (1998) found that children ages 4-12 were capable of using expressive elements such as tempo, dynamics, and pitch to distinguish their sung performances. In a study designed to determine the effects of instruction on middle school singers’ ability to perform with expression, Ebie (2004) found that modeling and audio-visual methodologies were most effective with middle school students.

In an attempt to get at the heart of what children understand about the music they listen to or perform, teachers often turn to verbal or written descriptions. They do this in part because the National Standards for Music Education encourage them to do so, but also because language provides an accessible means for most children to demonstrate their understanding. Teachers may begin by asking children to make some simple observations about performances (e.g., Was that loud or soft?), gradually ask children to make judgments (e.g., Did you like it? Why?), and finally ask children to describe what they hear. The latter opportunity not only allows children to personalize their experience with music, or as Flowers (2011) suggests, “engag(ing) a richer, more personal lexicon in describing music and their response to it,” but it also provides the teacher with the opportunity to gear her response to that which the child seems to most readily relate. However, it is also important to recognize that there is considerable research that demonstrates that young children “perceive and respond to music in ways that they
cannot put into words” and that this “human responsiveness may crystallize with the growth of language skills” (Flowers, 2011).

In order to use listening to develop students’ abilities to create a musically expressive performance, children must first become familiar with vocabulary associated with an expressive performance (i.e., tempo, dynamics, articulation, pitch). For children to learn to identify/label what they hear and then be able to make critical judgments about such things as structure and harmony, the expertise of the music educator is required (Darrow, 1990). Similarly, Broudy (1968) espoused a philosophy suggesting that guided learning in art education is imperative and introduced the term connoisseurship or “consensus of the learned” which argues that it is up to the experts, or connoisseurs, to cultivate the pupil and provide standards for developing aesthetic sensitivity. According to Broudy, there are four dimensions of aesthetic sensitivity—sensitivity to sensory differences, sensitivity to formal properties, sensitivity to technical features, and sensitivity to expressiveness (1968, p. 11). Once a student has developed these “dimensions” under the guidance of an expert, he will have the tools to make aesthetic judgments of his own. Haack (1990) suggests that when students can identify and make judgments about what they hear, they will “listen more closely and perform more expressively.” Further, when students verbalize what they hear, music educators can get a clearer picture of their understanding of music (Flowers, 1990).

In addition to listening for the expressive elements and structural elements of music in isolation, perceiving and understanding their relationship is key to developing aesthetic sensitivity (Haack, 1992). In music, structural elements are often expressed in terms of
form. Musicians are trained in music school to recognize the various forms based on key area and the appearance or treatment of theme. Thus, when we see a new piece of music, we can begin to identify its form and make predictions about what will come based on what has come before. Certainly, this training leads to better musical understanding.

Swanwick (1988), however, suggests that musical structure can more simply be thought of as “the effectiveness with which one expressive gesture is heard to relate to another; this applies as much to an improvised jazz solo as to a movement of a symphony” (p. 31). Although we spend much time boiling down music into all of its various parts and attempting to identify their function, Swanwick (1988) suggests that humans are set up to perceive music as “meaningful wholes” (p. 31). Musical structure, arises both from our need to perceive groupings and simultaneously “play imaginatively with new possibilities” (Swanwick, p. 31).

Even with all of the necessary elements properly in place – correct notes, rhythms, tempo, and dynamics, good intonation and adherence to the expressive markings – an expressive performance cannot be guaranteed to be perceived or performed. Beyond the craftsmanship of the notes on the page and beyond the interpretation of the performer, the listener’s state of arousal, which can be influenced by age, caloric intake, the presence of stimulants or depressants, or the diurnal cycle of sleep and wakefulness, plays a major role in determining the response to music (Huron, 2002). There is also the physiological feeling of tension that is created when these musical elements along with melody, harmony, form, and texture combine to move forward, grow, and increase in energy. After this tension peaks at the culmination of a phrase, there is often a natural release or
relaxation as the music decreases in energy and momentum. The aesthetic response is deeply rooted in perceiving this relationship. Barra (1983) posits that it is the relationship between tension and the energy elements that create the most important relationship for both performer and listener (p. 2). Not only must a student become technically proficient and able to appropriately control the energy elements of music, but she must know enough about what is going on at the moment, be mindful of what has come before, and be able to project what will come next in order to create an expressive performance. More simply put, in order communicate expressivity both as it is performed and perceived, music must have direction. It must either be going somewhere or coming from somewhere. Furthermore, Barten (1992) suggests that, “terms and symbols need to be interpreted in context” and “much of the expressiveness of music stems from relational properties (e.g., how two instruments interact; one section in the context of another; the first versus second time a theme appears; how to make transitions).” Perceiving and understanding the relationship of expressive elements and structural elements is key in developing aesthetic sensitivity (Haack, 1992).

Children can perceive the expressive elements of music and at some level they know them. The challenge for music educators, then, is to find ways to assess student understanding of these abstract concepts and then devise the most effective ways to teach them.

**Statement of Purpose**

The purpose of this mixed-methodology study was to investigate how middle-school instrumentalists understand expression in music by examining the language they
use to describe music and then comparing it to their performances. The study sought to answer the following questions:

1. How do middle-school instrumentalists use written language to describe music? More specifically, what kinds of terminology do they use – music analytical, metaphor/imagery, and/or temporal? Does grade level or piano study in addition to another instrument affect type of language used?

2. Do middle-school instrumentalists’ written descriptions convey sufficient meaning that they can be matched back to stimulus recordings by experts? Does grade level or piano study in addition to another instrument affect the matchability of their descriptions?

3. How effectively do middle-school pianists apply expressive elements in performing a short piece of music given performance instructions described by music analytic or figurative language? More specifically, do their performances convey each of the intended performance instructions so they can be matched by experts? Does the type of language used in the performance instruction affect the expressivity of the performance? Is any one of the performance instructions more likely to elicit an expressive performance? What are the qualitative characteristics of the students’ performances?

4. Is there an association between young pianists’ ability to describe musical performances and their ability to perform with expression?
Limitations

This study was conducted at a middle school and community music school in Athens, Ohio. I implemented all phases of the study. Participants were enrolled in 6th, 7th, and 8th grade bands or took private lessons through the community music school. Generalizations from this study are limited by the specific characteristics of the participants and school/community music school settings.

Operational Definitions

Expressivity refers to the communication of emotional expression or meaning as demonstrated through the performance of music.

The terms figurative language and metaphor/imagery, represent the same idea in that they both refer to language that departs from its literal meaning to suggest a likeness or analogy, however, they are based on different literatures. The term metaphor/imagery is used in Phase I of the study as it is characteristic of the related literature. The term figurative language is used in Phase II of the study when referring to two of the performance directions in order to be consistent with Sheldon (2004), from whom they are borrowed.

Music analytic language refers to terminology that is associated with the elements of music and may include words such as forte, arpeggio, or chord or more common terms
such as loud, high, or slow.

**Temporal language** refers to words that indicate change or the “unfolding of sound over time” such as next, then, or suddenly (Flowers, 2005).
Chapter 2

Review of Literature

The enormity of the construct of expression as it exists in music has challenged writers, philosophers, and composers for centuries. Looking back through the centuries at the philosophies that have shaped musical thought and creation, a common thread appears. Music, like the other arts, has long been associated with the communication of emotion and meaning. Reimer (2003) describes music as “sounds organized to be inherently meaningful.” The basic elements of the organized sound that we call music are described by Copland (1985) as rhythm, melody, harmony, and tone color. Additionally, Copland acknowledges two other important features that lead to musical understanding, which are musical texture (i.e., monophonic, homophonic, and polyphonic) and musical structure (i.e., form). When these elements are organized in just the right way, the communication and apprehension of emotion or meaning in music become possible.

There is no doubt that music educators have been struggling with how musical expression is taught and learned since music was introduced into the public school curriculum in the late 19th century. Formal experimental research on the study of
expression in music began shortly thereafter and is documented first in the writings of psychologists and educators such as Seashore and Hevner. These early researchers sought to identify what lies at the heart of an expressive performance both physically and cognitively. Seashore (1930) examined the physical aspects of music and believed that expression in music “consists in esthetic deviation from the regular—from pure tone, true pitch, even dynamics, metronomic time, rigid rhythms, etc.” (p. 9). Hevner (1936) sought to identify how basic emotions are represented through music and created the “adjective circle.” To this day, the bulk of research has relied on these two initial streams of research – that which focuses on the physical properties (e.g. Seashore) and that which focuses on the emotional properties (e.g. Hevner). Additionally, Meyer’s landmark work *Emotion and Meaning in Music* (1956) connects structural events with psychological responses. Meyer suggests that when cognitive expectations of what should happen musically are not fulfilled, they “can be considered a deviation. Hence, deviations can be regarded as emotional or affective stimuli” (p.32).

The study of expressivity in music today, however, is generally approached from two primary perspectives – that of the perceiver and that of the performer – both of whom make inferences about music based on its structure and/or their expectation (Meyer, 1956). Further, Clarke (1988) describes a set of “generative rules” for expression that can be applied to all instruments (noting that some instruments are restricted by their inherent properties) and has reduced them to three areas: timing, dynamics, and articulation. For example, the harpsichord can be varied only in timing and articulation whereas the
human voice, on the other end of the spectrum, can be varied in those areas as well as dynamics, timbre, vibrato, and the text itself (p. 21).

Recently, scholars have isolated specific expressive elements to determine both subjects’ ability to perceive them and their preferences for them. For example, Johnson (1996, 1997, 1999, 2003) has focused numerous studies on the effects of rubato. Gabrielsson (1988) defines the use of “timing” in relation to four categories including “tempo, different classes of duration, articulation, and deviations from mechanical regularity” (p. 31). Gabrielsson also suggests that “the duration of the sound events, as well as of ‘non-sound’ events” is “the only variable over which the performer has practically complete control, regardless of which instrument he uses,” and that this is the “most important tool available to the performer” (p. 29).

**Children’s Understanding of Emotion in Music**

A number of studies have examined how well children can recognize basic emotions as conveyed by music in which the descriptors used were happy, sad, angry, or afraid/frightened (Cunningham & Sterling, 1988; Dolgin & Adelson, 1990; Meerum Terwogt & van Grinsven, 1991). Dolgin and Adelson (1990) used those terms with 4, 7 and 9 year-olds and asked them to select which emotion was expressed in original melodies performed once by viola and once by a soprano. Consistent with the studies mentioned in the previous paragraph, they found that age does generally correlate with ability and that happy and sad were easier to interpret than the other descriptors.
When using segments from recordings of classical music, as did Cunningham and Sterling (1988) and Meerum Terwogt and van Grinsven (1991), the results again generally supported previous research. The recurring findings were that happy and sad were easier for children to identify than anger and fear. This may be due in part to the fact that happiness and sadness are dichotomous whereas the relationship between anger and fear is less clear.

It was the potential for confusion and lack of a clear dichotomy between anger and fear that led Kratus (1993) to instead choose the terms excited and calm. Although a high percentage of subjects across age and gender did agree on whether an excerpt was happy or sad, excited or calm, subjects still found it significantly easier to determine whether an example was happy or sad.

The work of Adachi and Trehub (2000) asked young children to discern between happy and sad performances, which they could indeed do, but of particular note was that the young children could perceive these intentions in performances by other young children. They showed that “young children’s ability to discern musical performers’ expressive intentions does not depend on professional performances” (p. 221), but conceded that the results may have been different had it not been a forced-choice task.

In another study, Morton and Trehub (2007) hypothesized that if “expressive vocal features are more salient in songs than in speech, then children should judge the singer’s feelings on the basis of performing style, regardless of lyrics” (p. 631). For this study, they composed song fragments that specifically described happy events sung in a happy style (major key and rapid tempo) and sad events sung in a sad style (minor key
and slow tempo). Additionally, they recorded the same music sung with conflicting musical and verbal cues as well as sung in the correct style, but with the syllable “da.” They found that when using the syllable rather than meaningful lyrics, children (ages 5 to 10 years) could discern happy music from sad music. However, when the children listened to music with lyrics that were in conflict with the musical cues, they “seemingly ignored the instructions to listen to the singer’s voice, focusing on what she sang about rather than how she sang” (p. 634).

**Perception of Expression in Music: Studies with Children**

Burnsed and Sochinski (1995) used sequencing software to alter and control for dynamics in computer generated performances of ten American folk songs that they then presented to middle-school music students. The subjects were asked to select which version (of two contrasting performances – one with explicit dynamics, one with even dynamics) they liked best. A statistically significant number of students preferred the expressive version of each song presented. When Burnsed (1998) replicated the study with a larger sample of elementary-aged children, similar findings emerged. Burnsed’s final replication of the study (2001) introduced conductors as subjects along with elementary and middle-school students. In this case the dynamic nuance was made less obvious by using a software program to reduce the dynamic range by one-third in the expressive performances. The results suggested that age and/or musical experience seemed to affect the preference for subtle dynamic nuance in that the older and more experienced musicians demonstrated a stronger preference. Ultimately, Burnsed
suggested that “expressive performance must be very explicit to affect musical preferences in the younger grades, and extensive music study may be necessary before the more subtle nuances of expressive performance are perceived and preferred” (p. 55).

Rodriguez (1998) arrived at similar conclusions to those of Burnsed. He found that when using a same-different response, children could discriminate between expressive and mechanical performances with accuracy that increased as age increased. Like Burnsed, Rodriguez used computer technology to generate the expressive and mechanical performances used in the listening phase. In addition, Rodriguez interviewed subjects and also had them perform simple songs using the *Instant Pleasure* software. Perhaps not surprisingly, Rodriguez found that the children’s ability to perceive expression in music was greater than their ability to produce it.

Braun (2005) used unaltered performances of professional musicians playing unaccompanied music that was idiosyncratic to each instrument. The performances consisted of ten randomly ordered expressive and non-expressive selections (five of each condition). The subjects were seventh- and eighth-grade instrumental music students who were asked to listen to each performance and rate their perceived expressiveness of each on a scale of 1 (“not expressive”) to 5 (“very expressive”). Findings indicated that subjects were better at perceiving expressive performances, which they did correctly on three of the five examples. Subjects rated only one of the five non-expressive examples, however, consistent with experts. In general, subjects tended to give non-expressive

---

1 *Instant Pleasure* is a software program that allows a user with minimal skill to control tempo, rhythm, and dynamics in a music performance involving a digital keyboard (Kinney, 2001).
performances a neutral response. The conclusion was drawn that the subjects may have confused “what they perceive with what they prefer, and their limited experience in both listening and performing may also prevent them from distinguishing between that which is simply a mature tone and that which is a truly expressive performance” (p. 23).

Perception of Expression in Music: Studies with Adults

Not surprisingly, the majority of research on expression in music, whether it is perception of or performance of, involves adult subjects, either musicians or non-musicians. Some scholars have pursued lines of research that examine the perception of expression in music from a more general perspective. Those studies have sought to determine if, in general, musicians and non-musicians can discern expressive intent. For example, Crist (1996) presented performances first alone, where he asked subjects to indicate whether the examples were expressive or not, and then in pairs where he asked subjects to select which of the two performances was expressive. His findings indicated that regardless of mode of presentation, subjects could reliably identify expressive performances.

Similarly, Kinney (2004) found that musicians and non-musicians demonstrated similar ability to successfully discriminate between expressive and unexpressive performances. However, it should be noted that the “magnitude of the difference evidenced in (musicians) ability to distinguish expressive from unexpressive performance(s) indicates that (musicians) are more likely to make confident assessments” (p. 55).
Although Kendall and Carterette (1990) did a multi-phase study that also included an examination of the perception of timing and amplitude, their results support other research showing that both musicians and non-musicians are able to accurately determine expressive intent with frequency that is greater than chance.

**Aesthetic Response and the Continuous Response Digital Interface**

In some lines of research, perception of expression has been referred to as “aesthetic response” or “response to tension” and utilized the Continuous Response Digital Interface (CRDI) dial to measure response. The CRDI dial allows for the isolation of musical elements and the identification of the precise location in the music where aesthetic responses are taking place (Geringer & Madsen, 1996; Madsen, 1997; Madsen & Coggiola, 2001). Brittin and Duke (1997) found that the CRDI mode of evaluation may be more beneficial than a rating scale if the research question “centers on the subjects’ changing perceptions during the course of a listening experience” (p. 256). In some CRDI studies, (adult) subjects were asked to take an exit questionnaire where they indicated whether or not they believed that they had an aesthetic experience (Madsen, Byrnes, Capperella-Sheldon, & Brittin, 1993; Madsen, Brittin, & Capperella-Sheldon, 1993) and whether or not they felt the use of the dial corresponded to their actual aesthetic experience. Findings in both studies indicated that subject responses were overwhelmingly positive to both questions. Of particular note, is that the aesthetic responses of musicians and non-musicians closely tracked together throughout the listening experiences (Madsen, Brittin, & Capperella-Sheldon, 1993).
Fewer studies have used the CRDI device to evaluate children’s responses to music. One such study was conducted by Fredrickson (1997) and focused on children’s perception of tension when listening to the first movement of Haydn’s Symphony No. 104. He found that the younger subjects used a wider range of the dial and older subjects were more conservative (p. 626). Paul (2003) devised a study that incorporated an interview process immediately following the listening portion and found that the CRDI “proved to be an effective, efficient method for gathering aesthetic response data” (p. viii). In a 2009 study that extended these findings, Paul found that the “children and adult musicians did not differ appreciably in their overall reactions” to the musical stimulus (p. 40). DeNardo and Kantorski (1995) used the CRDI device to have children indicate, by pointing the dial to “the appropriate response zone” (same, similar, or different), how the second, third, and fourth phrases of four-phrase songs compared to the first phrase (p. 44). The CRDI device was employed here because the researchers wanted to “investigate music as a temporally experienced event” (p. 43) and were able to do so by recording student’s responses every half-second. The CRDI technology continues to be more widely used with adults, but has tremendous potential to be used in more diverse applications with children.

The findings of studies on the perception of expression in music confirm what many musicians and music educators would expect: in general, people with varying degrees of musical background are capable of identifying expressive performances at a basic level. For example, when less experienced musicians speak about what they apprehend in performances, they frequently refer to one of three dichotomous
relationships – high/low; fast/slow; loud/soft (Hair, 1981). Overall, dynamics seems to be the most salient element of performance as described verbally by children and non-musician adults (Flowers, 1984; Hair, 1981) and apprehended aurally by non-musician adults (Geringer & Madsen, 1996).

The majority of studies of expression in music in general have focused on the perceptions of listeners. Palmer (1996) suggests that the disparity between the numbers of studies conducted that focus on perception versus those that focus on performance exists because, in our society, virtually everyone listens to music whereas few actually perform it. For obvious developmental reasons, this is especially true for children. There are fewer studies of children’s performance of expression in music.

Performance of Expression in Music: Studies with Children

In a study of children ages 4 - 12, Adachi and Trehub (1998) asked children to sing a familiar song (i.e., “Twinkle” or “ABC”) twice – once to make the experimenter feel happy and once to make her feel sad. The detailed audio and visual analysis by gender, age, and previously determined ability (i.e., “good” or “ordinary”) revealed that children of all ages were capable of portraying the contrasting emotions and did so by using facial, gestural, vocal, and musical devices (p. 145). Regardless of age or gender, “children consistently used tempo, dynamics, and pitch” to differentiate their performances (p. 148).

In another study that sought to determine expressive performance and perceptual skills of students at different age levels, Rohwer (2001) asked 7th grade, 10th grade, and
college music major instrumentalists to perform a researcher-composed melody on their primary instrument twice—once non-expressively and once expressively (“musically or beautifully”). Results indicated that 94% of the subjects made noticeable expressive changes to the melody. In general, all subjects were capable of expressive performances and chose to vary them in similar places, but to varying degrees.

Flowers, Wapnick, and Ramsey (1997) conducted a study of 5- to 9-year-old children to determine if performance environment (utilizing two software products – one that sounded exactly what the children played and one that sounded “Twinkle” no matter what keys the children depressed), performance condition (utilizing eight combinations of loud, soft, fast, and slow), or age affected the tempo and dynamics of the music they produced. Their findings indicated that there were no significant differences among performing environments with regard to tempo, however, there were significant differences with regard to dynamics and performing environments. When using the software that produced a recognizable song in a harmonic setting, children played louder.

Broomhead (2001) studied high school choir members’ individual abilities to perform expressively and the relationship to the ensemble achievement. While he did not find a correlation between individual performance and ensemble performance, he did find that years of outside group involvement, semesters of participation in high school choir, years of private voice instruction, and age of first private lessons significantly affected individual expressive performance. Similarly, Kinney (2004) found that students who participated in a high school performing ensemble were able to perform significantly more expressively than those that had not participated in such a group.
Although his data was gathered from college-age music students who were self-reporting after the fact, Woody (2000) found that 30% of subjects indicated that it was during their middle school years when they first became concerned with making expressive performances. Those same subjects indicated that they learned by observing others (37%), in private instruction (34%), or from non-musical sources (24%).

Ebie (2004) explored the effects of four instructional treatment conditions (verbal, vocally modeled, kinesthetic, and audio-visual) on male and female middle-school choral student’s ability to convey happiness, sadness, anger, and fear while singing. His findings indicated that males scored significantly higher than females in their ability to convey anger and that conveying fear was equally difficult for both. Most importantly, his findings indicated that the modeling treatment and the audio-visual treatment methodologies were significantly more effective than the verbal instruction treatment.

As so much instruction in music occurs in a large group ensemble setting, a line of research spearheaded by Price has attempted to determine the effect of expressive conducting gestures on group performance or the perception of group performance. In one such study, Winter and Price (1991) asked a successful 8th grade band and its conductor to prepare two similar pieces of music under two different conditions – expressively and strictly (separated by one week). Band members then responded to a survey which asked them to describe their feelings after each rendition as well as questions about the music itself and the conductor. Results found that there was a measurable conducting style effect for opinion, but not on performance. Several other studies, however, have found that conducting gesture did significantly affect
performances by high school students and that those performances that occurred under expressive conducting conditions were perceived as more expressive (Grechesky, 1985; Laib, 1993; Sidoti, 1990).

Like the studies on the perception of expression, results of studies that focused on performance of expression in music by children confirm what many music educators would expect. Their success in conveying expression is generally tied to age and experience and their subtlety less refined than that of adult performers. However, whether by singing, performing alone, or performing with others, children can perform with expression.

**Performance of Expression in Music: Studies with Adults**

Although we think of an expressive performance as highly personalized from performer to performer, it is actually “rule-governed” and “not arbitrary” (Sloboda & Davidson, 1996). For example, Gabrielsson and Juslin (1996) had nine adult musicians (all male) perform a well-known tune with the following different emotional expressions: happy, sad, angry, fearful, tender, solemn, and no expression. Subjects were free to vary any musical variables they wished, but had to keep the pitches. Their study resulted in “expression profiles” for each emotion (e.g., common characteristics of each) and indicated that basic emotions such as happy, sad, and angry appeared easier to communicate.

In a much larger study involving 135 European music students who played a variety of instruments, Lindström, Juslin, Bresin, and Williamson (2003) had subjects
respond to an extensive survey to “explore how students conceive of expressivity in music performance” (p. 29). Their findings indicated that subjects see expressivity as “the most important characteristic” of a music performance by others (p. 31). When asked what music can express, “emotion” was the most frequently first-ranked item at 99% followed by “psychological tension/relaxation” at 92%. When provided a list and asked to select which of 38 emotions music can express, basic emotions were selected more frequently and complex emotions least frequently. Another section of the questionnaire asked subjects if and how they practice musical expressivity as a part of their regular practice routine. Eighty-three percent of subjects “consciously try to express emotions” either “always” or “often” when practicing and 92% believed that they “express emotion without consciously thinking about it” (p. 33). When asked about how they practice expressivity, the reports were mixed. Granted, this is based on self-reported estimates, but there was a low positive correlation \( (r = .14, p < .05) \) between subject age and time spent practicing expressivity as well as a low negative correlation \( (r = -.16, p < .05) \) between subject age and time spent on technical skills meaning that older performers spent more time practicing expressivity.

**Children’s Descriptions of Music**

The words that children use to describe music provide a good, if imperfect, means for teachers to assess student understanding and tailor instruction. With words, children can potentially demonstrate their understanding of musical elements, form, and events as well as indicate their preferences, but not necessarily all facets can be verbalized at all
ages. As numerous studies have indicated, written and verbal descriptions generated by listeners who were presented with an aural stimulus vary with age and musical experience (Flowers, 1984, 1985, 1996, 2000, 2005; Flowers & Wang, 2002; Hair, 1981; Nierman, 1983; Rodriguez, 1998; Van Zee, 1976; Zimmerman, 1971). For example, young listeners will tend to name things that they hear (e.g., instruments) whereas older and more experienced listeners will use “relational language, including temporal terms such as beginning, after, next, or suddenly” (Flowers, 2005, p. 16). Additionally, Flowers notes that polysemous words (words with multiple meanings) present a special challenge for young listeners because although they are “known and used by children” it is not “in the way musicians use them” (2005, p. 14).

Ways to improve upon the appropriateness of language used by children and adults have been investigated. Although his purpose was to develop an effective “Musical Perception Test Free of Technical Vocabulary,” Utley (1973) asked children in grades 7 through 9 to listen to musical examples and describe what they heard. In cases where children used what he called “technical” words, Utley asked them to state them again using “other words” and found that those words were readily understood across groups.

Others approached this task by examining the effect of instruction in music vocabulary. For example, Cassidy and Speer (1990), Flowers (1983, 2000), and Herberger (1983) found that when instruction in music vocabulary was introduced in conjunction with listening experiences, subjects were more effective at using technical terms to describe music.
In addition to technical or analytical terms, it is common for listeners of all ages to reference personal experiences or make associations with commonly experienced events to describe what they hear. There seems to be no single word to best describe this practice as Flowers (2011) notes that researchers have used such terms as “extramusical, referential, associative, metaphoric, analogical, affective, emotional, or aesthetic.”

Given that music education in the classroom setting is quite often delivered verbally, the study of the use of language as it pertains to teaching and learning musical expression takes on great importance. In fact, it is not uncommon for music teachers to “exploit the similarities between musical sound and human emotion or movement through the use of figurative language marked by imagery and descriptive metaphors” (Woody, 2002a, p. 216). This is particularly true when music performance is concerned.

Stollack and Alexander (1998) suggest that using “likeness statements” in combination with metaphors allow teachers to reach disparate types of students because the likeness statements can evoke a kinesthetic experience as well as a mental image of their own past experiences with the idea being conveyed.

Sheldon (2004) designed a robust study in which music education majors as well as practicing music teachers were asked to create analogies or metaphors for teaching expression in music along with the specific nuance they associated with the language. Expert panelists then selected and ranked the submissions resulting in 11 that were used in the study. In the next phase, music majors volunteered to record their interpretations of the figurative language or literal terminology using their principal instruments. Expert judges then rated the expressivity of the performances in relation to the language or
terminology used. Those with the highest scores were then used in another listening test where subjects had to match the performances again with the language or terminology developed previously. Her findings indicated that listeners “were successful at identifying a general intended realm of expression” (p. 365) with figurative language, but that literal terminology allowed listeners to “pinpoint and apply the correct term” with greater efficiency (p. 367). Ultimately, she suggested that use of a combination of the two is justified. Carpenter’s findings (1986), however, seemed to indicate that what takes place in practice is contrary to what Sheldon suggests. Carpenter found that the preponderance of verbalizations used to initiate behavior in junior high and senior high rehearsals were “verbal-technical directions” (p. 77). Teachers used verbal imagery in fewer than 2% of their instructional behaviors.

Methods of Instruction for Teaching Expressivity

Woody (2000) asked subjects (46 undergraduate music majors) to reflect on the method most often used by their teachers to teach them expressivity. Woody’s findings indicated that 61% reported that they were “verbally taught” and 39% reported that “modeling” was most often used. Lindström et al. (2003) asked subjects a similar question and found that “metaphors” were ranked first while “aural modeling” and “felt emotion” trailed close behind with near equal frequency.

When asked what techniques they would use to teach expression to their future students, aural modeling and “encouraging felt emotion” were the two most frequently cited methods in Woody (2006a). When Lindström et al. (2003) asked subjects a similar
question, “metaphors” was the most frequently cited method followed by “felt emotion” (p. 36).

In a study that focused on the effects of aural modeling on expressive performance, Woody (1999) had college music majors follow a score while listening to an expressive performance, give retrospective verbal reports on their thoughts while listening, then give an imitative performance based on the model. The models were created by expert performers and captured via MIDI\(^2\) on a Disklavier. Subjects were successful at identifying the loudness features via the verbal protocol and those who “explicitly identified dynamic variations more successfully performed those features” (p. 339).

In another study focused on the effects of aural modeling, Woody (2002b) found that “subjects’ ability to identify features was related to general contextual expectations” (p. 59). His suggestions included encouraging students to “perform musical expressive features with more deliberation” and that models presented to students should be more explicit and slightly exaggerated for them to be perceived.

In a study designed to expand upon his earlier findings, Woody (2003) also examined the importance of motor production in an aural modeling task. In this case, the musical examples were recorded three times by experts on a Disklavier, each using specifically prescribed variations of dynamics and tempo. Subjects first performed the excerpt in a deadpan manner. They were then provided with an expressive model (heard

\(^2\) MIDI refers to Musical Instrument Digital Interface and in this case was an electronic keyboard which communicated information to a computer about characteristics of a subject’s performance.
twice) and asked to imitate it. They then got to hear both the deadpan and expressive models again before making a final imitative performance of the expressive model. Next, subjects were asked to make a drawing of the dynamic and tempo contour that they heard and answer a questionnaire about their practice habits. Findings indicated that subjects’ deadpan performances “retained reduced features of normal expressive performances” which provided further evidence that “musicians mental representations of performance are influenced by certain ‘rules of expressivity’” (p. 60). The line drawings, Woody suggested, corroborated other research which indicated that “successful expressive performance is mediated by an explicit plan for performance that addresses concrete properties of sound” (p. 60) and recommended that teachers, in addition to providing an aural model, also provide concrete instruction.

Johnson (2000) designed a study to determine the effect of instruction on the appropriate use of rubato. In order to remove the technical performance difficulty of this task, subjects performed on a MIDI keyboard utilizing Instant Pleasure software. Subjects listened to a technically accurate model of the Bouree Number 1 from the Bach Cello Suite Number 3, practiced with the MIDI keyboard, and then were asked to give a “musical” performance. Subjects in the experimental group were then given a graphic and written rhythmic tendency profile that was compiled by averaging 15 professional performances. Those subjects practiced and recorded a second time. Although the relationship was weak, those who received the treatment did “show a marked movement toward the model rhythmic performance” (p. 82).
Woody (2006a) focused on the role of imagery-based instruction and found in subjects’ written comments about their thinking as they practiced that they must first feel technical mastery “before they can turn their thoughts to any expressive consideration” (p. 134). He suggested that the more important finding was perhaps the “inverted-U relationship between private instruction and the use of the cognitive translation process” (p. 135). In other words, those with the least and most private instruction tended to use “an emotion based strategy” and those with the middle amount of private instruction tended to “translate imagery examples into explicit plans for the sound properties of their performance” (p. 135).

Woody (2006b) compared the efficacy of three popular instructional approaches to teaching expression – Metaphor/Imagery (MI), Aural Modeling (AM), and Concrete Musical (CM). Subjects were asked to first create a baseline performance of three melodies presented, which were captured via MIDI. Subjects then received each of the instructional conditions (one for each of the different melodies previously recorded) and given time to practice each immediately after the presentation. After practicing each melody under each condition, subjects were asked to give a final “expressive performance” of each melody, which was also captured via MIDI. The baseline and final performances were compared to one another and against expert performances of each. Results indicated that “advanced musicians can adapt to various approaches to teaching expressive performance” and that “no one mode was more successful in affecting change from baseline performance” (p. 32), however, some interesting trends did emerge. For instance, the aural modeling condition was “relatively consistent in producing
performances quite similar to the expert model” (p. 32). Further analysis showed that concrete musical instruction (where detailed expressive markings are indicated on the score) may be less efficient in that it resulted in significantly more practicing, but may be more effective when trying to communicate subtle expressive features. The metaphor/imagery approach tended to produce considerable change in performance, “but not necessarily in the direction of an accepted expert-like interpretation” (p. 33).

Ultimately, Woody suggested that the music educator’s expressive goals be considered when selecting an instructional mode to be employed. Aural modeling, for instance, may be most effective to use if a specific sound is sought by the instructor. On the other hand, if a teacher wants to “add life” to a performance, the metaphor/imagery approach may be the most effective.

Juslin, Karlsson, Lindström, Friberg, and Schoonderwaldt (2006) developed a software program dubbed Feel-ME, (*Feedback Learning of Musical Expressivity*) that is intended to provide cognitive feedback (CFB) regarding the communication of expression in music. The program focuses on the acoustic cues of tempo, sound level, articulation, and timbre and uses statistical analysis to provide feedback. Results indicated that subjects were skeptical of the ability of a computer program to help improve the ability to communicate emotions, however, the program positively affected the performances. While this was an exploratory study it appeared to have potential because when removing the human from the feedback it became less threatening and it also allowed for a visual representation of that which needed to be altered to improve the performance.
In their observational study, Karlsson and Juslin (2008) examined how students were actually being taught so that they could identify how naturally arising problems regarding expression were addressed. While their focus was on just five teachers and twelve students with whom they worked, common trends emerged. For instance, lessons tended to focus on reproductions of pieces, focused mostly on technique, were dominated by teacher talk, and included little teacher modeling. They also found that teachers tended to address expression implicitly, rather than explicitly. It appeared that teachers tended to focus more on “helping the student to dare to play expressively than on explaining how the expressive playing might be accomplished” (p. 328).

Summary

The study of expression in music is complex. It is widely accepted that music has the capacity to communicate meaning in general, but it is also agreed that precisely what is being communicated varies across individuals. The elements of music that are altered in the creation of an expressive performance are generally agreed upon, yet even when performed they do not always elicit an emotional response. It is known that perceiving and conveying expression in music begins very young and improves with age and experience, yet there is much about this relationship that is unknown.
Chapter 3

Methodology

This mixed-methodology study was designed to examine how middle-school instrumentalists understand expression in music by examining the language they use to describe music and then comparing it to their performances. The research questions included the following:

1. How do middle-school instrumentalists use written language to describe music? More specifically, what kinds of terminology do they use – music analytical, metaphor/imagery, and/or temporal? Does grade level or piano study in addition to another instrument affect type of language used?

2. Do middle-school instrumentalists’ written descriptions convey sufficient meaning that they can be matched back to stimulus recordings by experts? Does grade level or piano study in addition to another instrument affect the matchability of their descriptions?

3. How effectively do middle-school pianists apply expressive elements in performing a short piece of music given performance instructions described
by music analytic or figurative language? More specifically, do their performances convey each of the intended performance instructions so they can be matched by experts? Does the type of language used in the performance instruction affect the expressivity of the performance? Is any one of the performance instructions more likely to elicit an expressive performance? What are the qualitative characteristics of the students’ performances?

4. Is there an association between young pianists’ ability to describe musical performances and their ability to perform with expression?

The Pilot Study – Listening and Describing Music

In order to determine appropriate stimulus recordings for the study as well as other procedural elements, it was deemed necessary to conduct a pilot study. A test was first administered to a group of fifth-grade band students (N = 18) from the same school district as those who would participate in the main study.

Five musical examples – including one practice – were used as the stimuli for this test. Two examples were selected from recordings that had been used by Flowers in a previous study (1984) for a similar task. Those recordings were purposefully performed by an expert musician so that the elements of dynamics, articulation, and tempo were emphasized while still being performed musically. Specifically, the examples were taken from piano pieces in Easy Classics to Moderns (Agay, 1956) and included: Waltz—Kabalevsky and In the Country—Kabalevsky.
The three other examples used were commercial recordings representing the Classical and Romantic eras. The specific selections included: *Piano Sonata in C, KV 330 (Allegretto)*—Mozart; *Ballade No. 2 in b minor*—Liszt; and *Mephisto Waltz no. 1*—Liszt. The commercial examples were selected to provide stylistic contrast to the others and to determine if there were noticeable differences in responses to naturally occurring performances versus those in which certain musical elements were experimentally manipulated.

The children were given instructions to “listen carefully and think about how it sounds to you” during the first presentation of each piece and then to “write down words to describe what you heard” the second time the example was presented. A practice example was then provided in order to give the children an opportunity to orient themselves to the task and ask questions as needed.

While it has been shown that word count alone is not a good measure of how or what a listener perceives in a performance (Flowers, 2005) it is notable that in this instance the commercial recordings elicited a greater average number of words per student. There was a significant difference in the number of words used to describe commercial recordings (*M* = 8.17, *SD* = 4.29) than those with manipulated elements (*M* = 5.81, *SD* = 3.52), *t* (35) = 3.25, *p* < .01, suggesting that the naturally occurring performances may elicit more detailed responses than those where expressive elements were controlled.

The results were also examined for characteristics of each of the descriptions. Three *a priori* categories were chosen based on previous work by Flowers (2000). The
categories included: metaphor/imagery, analytical musical elements, and temporal change. Interestingly, the only descriptions which included language referencing a temporal change were in response to the commercial recordings. Also, references to analytical music elements occurred more frequently in the descriptions for the commercial recordings.

After reviewing these results, I consulted with the music teacher whose students participated in the pilot study. She made useful observations about the quality and character of the recordings themselves and related classroom experiences that demonstrated the impact of both on student responsiveness. I then consulted with other recognized music experts and ultimately decided to use only commercial recordings for Phase I of the main study.

The Study Phase I – Listening and Describing Music

Participants and setting.

The majority of participants in the main study ($N = 60$) were seventh- and eighth-grade children ($n = 46$) drawn from a public middle school band program located in southeastern Ohio. Although the school is located in a college town, 38.8% of students attending the middle school are considered economically disadvantaged and 16.2% of students are identified as students with disabilities. Students enrolled at this school are predominantly White, non-Hispanic (85.9%) (“School Building Reports,” 2011).
Additionally, sixth-graders \( n = 14 \) were drawn from participants in a community music school in the area. Given that those children also attended public schools in the same district it was thought that they possessed a similar economic and racial make-up.

Background data were collected for each of the participants immediately preceding the listening portion of the study (see Appendix A). Children were asked to identify their sex, age, grade, musical instruments regularly played, years playing each instrument, whether or not they had taken private lessons on any of the instruments, and number of years of private lessons (see Table 1). Their ages ranged from 11 to 15\(^3\) years with an average age of 12.67 years. There were 34 female and 26 male participants.

| Table 1 |
|---|---|
| **Participant Background Data** |  |
| | Girls \( n = 34 \) | Boys \( n = 26 \) |
| Average Age | 12.59 years | 12.77 years |
| Grade |  |
| Eighth | 9 (26%) | 5 (19%) |
| Seventh | 18 (53%) | 14 (54%) |
| Sixth | 7 (21%) | 7 (27%) |
| Instrument(s) Played |  |
| School only | 18 (56%) | 18 (69%) |
| Piano only | 0 | 0 |
| Both | 14 (44%) | 8 (31%) |
| Average Years Playing |  |
| School instrument | 2.8 years | 2.7 years |
| Piano | 2.1 years | 1.5 years |
| Private Lessons | 21 (62%) | 14 (54%) |

\(^3\) The data were collected at the end of the school year and there was only one child aged 15.
**Stimuli for listening.**

In addition to two of the three recordings used in the pilot study, four additional recordings were identified. To keep the style within the limits of common practice piano music, selections from late Classical through early 20th-century and recorded by renowned artists were reviewed. Those recordings were trimmed to desired lengths and saved as mp3 files using *WavePad Sound Editor* software. The trimmed recordings were then saved to compact disc.

The resultant six excerpts ranged in length from 51-64 seconds and were distributed to four expert musicians. Each expert was given a questionnaire in which they were to indicate the overall dynamic and tempo heard in each example by selecting either *piano*, *mezzo piano/mezzo forte*, or *forte* and *adagio*, *moderato* or *allegro*. They were also asked to indicate the overall articulation heard and given the choices of *staccato* or *legato*. With regard to *rubato*, experts were asked to agree or disagree with the statement, “This excerpt used *rubato*.” Lastly, they were asked to rate each example for overall expressivity using a Likert-type scale where 1 indicated not expressive and 4 indicated very expressive. Upon returning the surveys, each expert expressed how difficult they found the forced choices, particularly for dynamic and articulation. The questions regarding tempo, *rubato*, and overall expressivity seemed to be easier tasks to assess in the way requested. This feedback and their agreement provided ample support that the selections would be appropriate stimuli for use in the main study (see Table 2).
Table 2

Excerpts Used for Main Study

<table>
<thead>
<tr>
<th>Order</th>
<th>Composer</th>
<th>Title and Movement</th>
<th>Performer and Label</th>
<th>Length of Excerpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Barber</td>
<td>Excursions, op. 20 – Allegretto</td>
<td>John Browning (Nimbus Records)</td>
<td>64 sec.</td>
</tr>
<tr>
<td>5</td>
<td>Barber</td>
<td>Excursions, op. 20 – Allegro molto</td>
<td>John Browning (Nimbus Records)</td>
<td>51 sec.</td>
</tr>
<tr>
<td>6</td>
<td>Beethoven</td>
<td>Sonata no. 21, op. 53 – Allegro con brio</td>
<td>Richard Goode (Nonesuch)</td>
<td>64 sec.</td>
</tr>
<tr>
<td>1</td>
<td>Debussy</td>
<td>Pièce pour piano</td>
<td>Noriko Ogawa (BIS)</td>
<td>62 sec.</td>
</tr>
<tr>
<td>3</td>
<td>Mozart</td>
<td>Sonata in c, kv 330 – Allegretto</td>
<td>Leon Fleisher (Philips Classics)</td>
<td>59 sec.</td>
</tr>
<tr>
<td>4</td>
<td>Liszt</td>
<td>Ballade no. 2 in b minor</td>
<td>Vladimir Horowitz (RCA)</td>
<td>57 sec.</td>
</tr>
</tbody>
</table>

Procedures.

The majority of participants (n = 46) completed the listening portion of the study during a regularly scheduled band class in May 2012. After the background survey was distributed and participants were given time to ask questions and complete the survey, the instructions for the task was presented. Specifically, I informed participants that I was interested in the words that children use to describe music. I acknowledged that some
may wish to use metaphors to describe the music while others may prefer to use musical terms, but that both were acceptable and there were no wrong answers. I also informed them that I would like them to write the descriptions so that if someone else read them they would know what the music sounded like. Further, I informed them that I later intended to scramble their responses and present them to experts who would try to match their descriptions to the appropriate recordings. Before presenting the musical examples, I encouraged the students to listen carefully and think about each example during the first presentation and then write during the second presentation. Additionally, participants were informed that they did not have to use complete sentences nor did they need to worry about spelling (see Appendix B).

The source materials for the musical examples came from commercial recordings. The performances were presented to participants using a *Bose Wave Music System* which provided excellent audio quality. Each of the six performances was presented twice with the second presentation immediately following the first. After the second presentation, approximately 30 seconds were allowed to pass as I observed the group to determine if participants needed additional time to complete their writing. Then I announced that the next recording would begin and reminded the group of the recording number that was to be presented. Upon the completion of the second presentation of the final excerpt, participants were encouraged to take their time and continue writing as necessary and then all papers were collected. This process was implemented twice, once for the eighth-grade band and once for the seventh-grade band.
Fourteen additional participants, all students who either played an instrument in band or played piano and who were currently taking private lessons through a community music school, were administered the listening portion of the study in a similar way. In order to accommodate schedules, those participants came as available in small groups to the community music school located in a school of music at a university. All elements of the presentation of the study were the same as they had been at the middle school. The only notable difference was that the musical examples were presented via classroom audio system with speakers that were mounted on the wall. This system, like the system used in the band classroom, was of excellent quality.

**Analysis.**

All of the participant’s descriptions were typed and arranged in random order within participant and then the participants themselves were randomized (see Appendix C). The document containing the randomized descriptions (60 participants X 6 descriptions each) and a compact disc containing the six stimulus recordings were given to seven experts, all of whom were general music or instrumental music teachers at the elementary, middle school, or high school level and had been teaching for a minimum of five years. The experts were asked to match the written descriptions to the music that they believed each participant to be describing. The degree to which experts were able to match descriptions to excerpt was viewed as a measure of the child’s ability to use language in describing salient elements and meaning in music. This process was used in
prior research with subjects in elementary grades as well as adults (Flowers 1996, 2000; Flowers & Wang, 2002).

In addition to the match-to-excerpt task, all six descriptions for each participant were content analyzed for the presence of language that was identified as music analytic, metaphor/imagery, and/or temporal. These categories have been used in previous research with young children and adults, allowing the responses of middle-school children to be viewed in a developmental context.

In order to establish reliability of the content analysis, twenty-five participants’ descriptions were randomly selected from the match-to-excerpt task used in the first part of the analysis (150 total descriptions). These descriptions were presented to two experts with instructions directing them to indicate whether they saw the presence of any of the three categories (music analytic, metaphor/imagery, temporal) in each of the descriptions by putting a corresponding notation (“A,” “M/I,” or “T”) next to each description. The experts were instructed that this was not a count of how many times a category of language was used, but whether or not a type of language category appeared at all within each description. In order to clarify the instructions, an example was provided (see Appendix D). The results for each description, then, ranged from indicating that only one language category was used to indicating all that all three categories were used. I also completed this task. Next, I tallied the results of all three analyses and based on the high reliability of our agreement, I determined that it was appropriate to use my data in all subsequent analysis.
The Study Phase II – Performing with Expression

Participants and setting.

Subjects who participated in Phase II of the study represented a subset of the original 60 subjects who completed Phase I, the listening portion. This group was kept intentionally small because of the individual testing and in depth performance analysis that was to be carried out. Volunteers were sought from among the original subjects who played piano in addition to their school instrument, yielding 7 subjects (4 girls, 3 boys) for Phase II of the study.

Participants were scheduled individually and asked to come to the community music school for administration of this portion. In advance of their arrival, they were reminded that they would be given a piece of unfamiliar music, asked to practice it for approximately 12 minutes, and then asked to perform it in different ways based on instructions that they would receive at the time of the study. Each of the subjects completed this portion during July and August 2012.

Stimulus music for performing.

The music selected for the performing portion of the study was Little Playmates by F. X. Chwatal and taken from Suzuki Piano School, Volume I (Summy-Birchard Music, 1978). This piece was selected because the key, form, and writing were deemed both simple and having the potential to be performed in a variety of ways.

In order to reduce the influence that either the title or dynamic markings could produce, the piece was transcribed using Finale 2009 and reproduced with the title
“Music for Study” (see Appendix E). The fingerings were included in the reproduction as was the expressive marking, Allegretto. Both were included to aid the participants in their initial preparation of the piece. When given the conditions under which they should prepare a subsequent performance for recording, participants were reminded that the Allegretto marking was then irrelevant.

**Performance instructions.**

Four performance instructions were selected to represent common-practice performance indications. Two of the conditions used music analytic terminology and two conditions used figurative statements. The music analytic language included terms that addressed dynamic, tempo, and articulation. Specifically, the conditions included “loud, very fast, detached” and “quiet, slow, connected.” The figurative language conditions were selected from that which had been used by Sheldon (2004) in a previous study. Those conditions included “Like a child playing” and “Like a fierce thunderstorm.”

**Phase II – Procedures.**

Upon arrival at the school of music, participants were taken to a faculty studio and seated in front of a Steinway Model B, 7-foot grand piano. All participants were invited to play on the piano to orient her- or himself to the touch and warm-up as needed. When they were acclimated, I read the instructions, presented the notated music, and asked if there were any questions before leaving the room to allow the participant to practice.
After approximately 12 minutes, I returned to the room and presented a cup containing four individual pieces of paper that were folded and on which I had typed each of the performance instructions. The participant then selected one slip of paper, read it aloud, and then was given a few minutes to practice their interpretation of the instructions while I stepped out of the room. Upon my return, I prepared the Zoom H2 digital audio recorder, announced the participant number and performance condition, and recorded the performance. Immediately following the performance, the participant was asked to rate how well she or he followed the instructions on a scale of 1 to 10 where “1” meant that she “did not follow the instructions well” and “10” meant she “did follow the instructions extremely well.” The self-reported ratings and other relevant thoughts gathered from the participants were immediately noted for further discussion in Chapter 4.

This process was repeated for each participant until they had performed each of the four performance conditions. I then asked each participant which performance they liked best and why and recorded the responses.

**Phase II – Analysis.**

All participant recordings were transferred to a computer, edited using WavePad Sound Editor to remove talking and equalize the recording levels, saved, and labeled. No information that would allow the identification of the performer or performance condition was used in the labeling. The resultant recordings were then copied to compact disc so that so that they could be distributed to experts for evaluation.
Five expert piano teachers received the compact disc, evaluation materials, and instructions for completing three tasks. The first task required experts to listen to each participant’s four performances and attempt to match each to the playing instructions that they believed the participant was representing (see Appendix F). The second task required experts to then listen again and evaluate each of the performances for the communication of expressive elements only. Specifically, this evaluation used a rating scale of 1 to 5 (poor to excellent) to evaluate the following expressive elements: articulation, *rubato*, phrasing, and dynamics. Finally, experts used a rating scale of 1 to 10 (not expressive to very expressive) to evaluate each performance and give an overall rating of expression (see Appendix G). These three tasks – matching, evaluating expressive elements only, and evaluation of overall expression – were completed for all four performances by all seven participants. Experts matched and rated 28 performances in total.

In order to provide the data needed to answer my 3rd and 4th research questions, I calculated each performer’s expressive intent success rate by taking the total number of correct matches for each judge and dividing it by the number of judges. As a check, I then calculated the expert match rate by adding all of the matches for each performer by judge and dividing it by the number of performers. I then calculated participant mean ratings, first for each expressive element and then overall rating of expression, for each performance and all participants. Lastly, I completed an in-depth case study of each of the participants in which I described their individual characteristics and focused on the tempo, dynamic, and articulation/style used in each performance.
Chapter 4

Results

This study investigated the ways in which middle-school instrumentalists understand expression in music by examining the language they used to describe music and then comparing it to their performances. Specific research questions included:

1. How do middle-school instrumentalists use written language to describe music? More specifically, what kinds of terminology do they use – music analytical, metaphor/imagery, and/or temporal? Does grade level or piano study in addition to another instrument affect type of language used?

2. Do middle-school instrumentalists’ written descriptions convey sufficient meaning that they can be matched back to stimulus recordings by experts? Does grade level or piano study in addition to another instrument affect the matchability of their descriptions?

3. How effectively do middle-school pianists apply expressive elements in performing a short piece of music given performance instructions described by music analytic or figurative language? More specifically, do their
performances convey each of the intended performance instructions so they can be matched by experts? Does the type of language used in the performance instruction affect the expressivity of the performance? Is any one of the performance instructions more likely to elicit an expressive performance? What are the qualitative characteristics of the students’ performances?

4. Is there an association between young pianists’ ability to describe musical performances and their ability to perform with expression?

Phase I – Listening and Describing Music

Sixty middle-school students (sixth grade, n = 14; seventh grade, n = 32; eighth grade, n = 14) who were enrolled in a public school instrumental music program in southeastern Ohio participated in Phase I of the study. Each participant’s involvement lasted approximately 25 minutes. I first thanked them for participating in the study and then distributed a background survey to each participant. After time to ask questions and complete the survey, I presented the instructions for the listening task. Participants wrote descriptions for each of the six examples that heard. I encouraged them to write in such a way that if their descriptions were re-ordered they could still be matched to the correct recordings by experts. I also encouraged them to listen carefully during the first presentation of the music and write during the second presentation. Lastly, I informed them that they need not worry about spelling or writing complete sentences.
Types of language used.

After compiling all of the data, I examined the written descriptions for characteristics of the type of language used. Three *a priori* categories were chosen based on previous work by Flowers (2000). The categories included: music analytic terms, metaphor/imagery, and temporal change. Music analytic terms included those that are commonly used in the musical lexicon (e.g., loud, fast, staccato, forte). Metaphor/imagery terms are those that represent the likeness of the music; either how it sounds or what it referentially depicts. Temporal terms communicate the “unfolding of sound over time” and may include such words as “next,” “then,” or “suddenly” (Flowers, 2005).

In order to determine the reliability of my analysis, the six descriptions for 25 randomly selected participants were presented to two experts who were asked to code them by category. The experts were instructed that this was not a count of how many times a category of language was used within each description, but whether or not a type of description appeared at all. The results for each description, then, ranged from indicating that only one language category was used or all that all three categories were used. In addition to the two experts, I also coded the same descriptions.

The overall agreement among the two experts and myself on descriptions coded as music analytic was 92.47%, ranging from 61.33% to 100%. The overall agreement among the two experts and myself on descriptions coded as metaphoric was 92.91%, with scores ranging from 77.67% to 100%. The overall agreement among the two experts and myself on descriptions coded as temporal was 92.19%, with scores ranging from 66.5%
to 100%. Based on the high reliability of our agreement, I determined that it was appropriate to use my data in all subsequent analysis.

**Occurrences of language by category.**

Overall, 78.3% of participants used all three language categories (analytic, metaphoric, temporal) at least once to describe the six pieces of music they heard. Music analytic language was used for at least one description by 98.3% of participants. Metaphorical terminology was used for at least one description by 93.3% of participants and temporal language was used by 85% of participants. The results suggest not only that these middle-school instrumentalists are comfortable using a variety of terminology to describe music, but it is especially interesting to note that the majority of students used temporal language to describe what they heard in at least one description.

If all 60 participants had used all three types of language in all of their descriptions, there would have been a maximum of 1,080 occurrences; that is to say 360 uses (60 students X 6 descriptions) in each of the three language categories (analytic, metaphoric, temporal). In reality, participants did not use all categories for all descriptions. Overall, music analytic terms were used to describe the music most frequently (41.5%), metaphorical terms the next most frequently (36.1%), and temporal terms the least frequently (22.4%). Use of language at each grade level showed a similar pattern to the overall results. These data are presented in Table 3.
<table>
<thead>
<tr>
<th>Grade</th>
<th>Occurrences of Language</th>
<th>Analytic</th>
<th>Metaphor</th>
<th>Temporal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sixth-grade</td>
<td>63 (37.9%)</td>
<td>66 (39.7%)</td>
<td>37 (22.3%)</td>
<td></td>
</tr>
<tr>
<td>Seventh-grade</td>
<td>169 (42.7%)</td>
<td>138 (34.8%)</td>
<td>89 (22.5%)</td>
<td></td>
</tr>
<tr>
<td>Eighth-grade</td>
<td>70 (42.2%)</td>
<td>59 (35.5%)</td>
<td>37 (22.3%)</td>
<td></td>
</tr>
<tr>
<td>All grades</td>
<td>302 (41.5%)</td>
<td>263 (36.1%)</td>
<td>163 (22.4%)</td>
<td></td>
</tr>
</tbody>
</table>

Note. There were 166 actual occurrences of all language categories for 6th and 8th graders; there were 396 actual occurrences of all language categories for 7th graders.

Further investigation was undertaken to determine if there was a significant difference in the occurrence of language used at the three grade levels and by instrumental experience (school-instrument only versus school-instrument plus piano).

These variables were examined by a three-way analysis of variance with repeated measures. Findings indicated that there was a significant difference among the types of language used, $F(2,54) = 18.16, p = .000$. Post hoc comparisons using t-tests showed that temporal language was used significantly less frequently than analytic and metaphor/imagery. While there was greater use of analytic language over metaphor/imagery, this did not represent a significant difference ($M_{analy} = 5.03, SD = $
1.59, $M_{\text{meta}} = 4.38$, $SD = 1.86$, $M_{\text{temp}} = 2.72$, $SD = 1.81$). There were no significant interactions between category of language and grade level, $F(4,54) = .914$, $p = .46$; category of language and instrumental experience, $F(2,54) = .171$, $p = .84$; or all three variables, $F(4,54) = 1.572$, $p = .19$. There was also no main effect for grade level, $F(2,54) = .271$, $p = .76$; instrumental experience $F(1,54) = .376$, $p = .54$; and no interaction between these two variables $F(2,54) = .522$, $p = .60$. In summary, students in grades 6, 7, and 8 used similar categories of description and this was not affected by playing piano in addition to a school instrument. Use of music analytic terms was the most common type of description, followed by metaphor/imagery. Temporal language was used significantly less frequently than the other types of language. The means and standard deviations for use of the three types of descriptive language are shown for each grade and by instrumental experience in Table 4.

---

4 Music analytic vs. metaphor/imagery, $t(59) = 1.74$, $p < .09$
Music analytic vs. temporal, $t(59) = 10.19$, $p < .00$
Metaphor/imagery vs. temporal, $t(59) = 4.20$, $p < .00$
### Table 4

*Number of Descriptions Containing Each Language Category by Grade and Instrumental Experience*

<table>
<thead>
<tr>
<th></th>
<th>Analytic</th>
<th>Metaphor</th>
<th>Temporal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sixth-grade</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School-instrument plus piano (n = 5)</td>
<td>Mean (SD)</td>
<td>4.20 (2.05)</td>
<td>5.40 (0.89)</td>
</tr>
<tr>
<td>School-instrument only (n = 9)</td>
<td>Mean (SD)</td>
<td>4.67 (2.12)</td>
<td>4.33 (2.18)</td>
</tr>
<tr>
<td>Overall (n = 14)</td>
<td>Mean (SD)</td>
<td>4.50 (2.03)</td>
<td>4.71 (1.86)</td>
</tr>
<tr>
<td><strong>Seventh-grade</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School-instrument plus piano (n = 15)</td>
<td>Mean (SD)</td>
<td>5.47 (0.83)</td>
<td>4.53 (1.46)</td>
</tr>
<tr>
<td>School-instrument only (n = 17)</td>
<td>Mean (SD)</td>
<td>5.12 (1.58)</td>
<td>4.12 (2.32)</td>
</tr>
<tr>
<td>Overall (n = 32)</td>
<td>Mean (SD)</td>
<td>5.28 (1.28)</td>
<td>4.31 (1.94)</td>
</tr>
<tr>
<td><strong>Eighth-grade</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School-instrument plus piano (n = 4)</td>
<td>Mean (SD)</td>
<td>6.00 (0.00)</td>
<td>3.25 (0.96)</td>
</tr>
<tr>
<td>School-instrument only (n = 10)</td>
<td>Mean (SD)</td>
<td>4.60 (1.95)</td>
<td>4.60 (1.90)</td>
</tr>
<tr>
<td>Overall (n = 14)</td>
<td>Mean (SD)</td>
<td>5.00 (1.75)</td>
<td>4.21 (1.76)</td>
</tr>
<tr>
<td><strong>All grades</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School-instrument plus piano (n = 24)</td>
<td>Mean (SD)</td>
<td>5.29 (1.23)</td>
<td>4.50 (1.41)</td>
</tr>
<tr>
<td>School-instrument only (n = 36)</td>
<td>Mean (SD)</td>
<td>4.86 (1.79)</td>
<td>4.31 (2.12)</td>
</tr>
<tr>
<td>Overall (N = 60)</td>
<td>Mean (SD)</td>
<td>5.03 (1.59)</td>
<td>4.38 (1.86)</td>
</tr>
</tbody>
</table>

*Matching descriptions to music.*

Next, I randomized the written descriptions for each participant and created a Matching Descriptions to Excerpts document (see Appendix C). This document and the
stimulus recordings were given to 7 experts either in hard copy or via a link to an online storage server. As there were six descriptions, the score for each participant was based on a score of 0 to 6 where “0” meant that an expert did not match a single description to music correctly and a “6” meant that an expert matched all of the descriptions to music correctly. Each participant, then, could obtain a maximum score of 42 if all six descriptions were matched correctly by all seven judges.

If all seven expert judges had matched all 6 descriptions to excerpts for each of the 60 participants, there would have been a maximum of 2,520 matches. Overall, the experts matched 1,699 descriptions to excerpts which is an average of 28.32 (67.4%) across all participants. Seventh-graders descriptions elicited the highest average match-to-excerpt rate by experts with a grade-level average of 29.38 (69.94%). Eighth-graders descriptions elicited an average of 28 matches (66.67%) and sixth-graders descriptions elicited an average of 26.21 matches (62.4%).

A univariate analysis of variance was used to determine if grade level or whether the participant studied piano in addition to their school instrument had any effect on the success with which their descriptions were correctly matched back to the music by experts. Results indicated that there was no significant difference in the match rate based on grade level, \( F(2, 54) = 1.011, p = .371 \), or whether the participant studied piano in addition to their school instrument, \( F(1, 54) = 2.330, p = .133 \), nor was there an interaction, \( F(2, 54) = .697, p = .502 \). The means for each grade level and by musical experience are presented in Table 5.
### Table 5

**Mean Scores of Correct Matches of Descriptions to Excerpts**

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>$M (SD)$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All grades</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>60</td>
<td>28.32 (6.66)</td>
</tr>
<tr>
<td>School-instrument plus piano</td>
<td>24</td>
<td>30.75 (5.57)</td>
</tr>
<tr>
<td>School-instrument only</td>
<td>36</td>
<td>26.69 (6.89)</td>
</tr>
<tr>
<td><strong>Sixth-grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>14</td>
<td>26.21 (8.12)</td>
</tr>
<tr>
<td>School-instrument plus piano</td>
<td>5</td>
<td>27.80 (6.26)</td>
</tr>
<tr>
<td>School-instrument only</td>
<td>9</td>
<td>25.33 (9.22)</td>
</tr>
<tr>
<td><strong>Seventh-grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>32</td>
<td>29.38 (5.87)</td>
</tr>
<tr>
<td>School-instrument plus piano</td>
<td>15</td>
<td>32.33 (3.88)</td>
</tr>
<tr>
<td>School-instrument only</td>
<td>17</td>
<td>26.76 (6.18)</td>
</tr>
<tr>
<td><strong>Eighth-grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>14</td>
<td>28.00 (6.74)</td>
</tr>
<tr>
<td>School-instrument plus piano</td>
<td>4</td>
<td>28.50 (9.04)</td>
</tr>
<tr>
<td>School-instrument only</td>
<td>10</td>
<td>27.80 (6.18)</td>
</tr>
</tbody>
</table>

Additional analysis was performed to determine the correlation between the number of descriptions matched to excerpt and type of terminology used. Results indicated that as number of descriptions using music analytic terms increased so did the number of correct matches ($r_{pb} = .269, p = .038$). While this correlation was statistically significant it was in the low moderate range. Given the reality that most participants used all three types of language and there was a restricted range due to the way data were gathered (e.g., I recorded whether or not the type of language appeared, not the frequency with which it appeared) this correlation is limited in its representation.
The least and most successful descriptions.

There were two participants for whom three experts could not match a single written description to music excerpt. Also, there were three other participants for whom at least two experts could match only one written description to the music. These participants were the least successful at writing descriptions that could be matched to the music by expert. The match rate for these participants ranged from 23.81% to 42.85%.

Conversely, the ten most successful participants wrote descriptions such that five of seven experts could match all of their descriptions to the music examples. For these participants, the percentage of descriptions matched to music examples ranged from 80.95% to 90.48%. This range existed because although five judges matched all descriptions, two judges did not match all descriptions. The number of matches that those judges did match correctly ranged from 2 to 4, thus the range of total matches for the most successful students ranged from 34 to 38. These results are presented in Table 6.
Table 6

Expert Success in Matching Descriptions to Music

<table>
<thead>
<tr>
<th>Most Successful&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Number Matched (42 possible)</th>
<th>Percent Matched</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant A</td>
<td>35</td>
<td>83.33</td>
</tr>
<tr>
<td>Participant B</td>
<td>34</td>
<td>80.95</td>
</tr>
<tr>
<td>Participant C</td>
<td>36</td>
<td>85.71</td>
</tr>
<tr>
<td>Participant D</td>
<td>37</td>
<td>88.09</td>
</tr>
<tr>
<td>Participant E</td>
<td>37</td>
<td>88.09</td>
</tr>
<tr>
<td>Participant F</td>
<td>38</td>
<td>90.48</td>
</tr>
<tr>
<td>Participant G</td>
<td>38</td>
<td>90.48</td>
</tr>
<tr>
<td>Participant H</td>
<td>38</td>
<td>90.48</td>
</tr>
<tr>
<td>Participant I</td>
<td>38</td>
<td>90.48</td>
</tr>
<tr>
<td>Participant J</td>
<td>36</td>
<td>85.71</td>
</tr>
</tbody>
</table>

Least Successful<sup>b</sup>

| Participant K               | 10                          | 23.81           |
| Participant L               | 12                          | 28.57           |
| Participant M               | 18                          | 42.85           |
| Participant N               | 16                          | 38.09           |
| Participant O               | 18                          | 42.85           |

<sup>a</sup>Five experts matched all descriptions for these participants.

<sup>b</sup>Three experts were unable to match any descriptions for these participants.

Characteristics of the least successful descriptions.

The least successful participants wrote descriptions such that three experts could not match a single description to the music examples or two or more experts could match only one of their descriptions to the music. There were 2 boys and 3 girls who fit this profile; one who played piano in addition to her school instrument and 4 who did not. One of the participants was in the 7<sup>th</sup> grade and there were two participants in the 6<sup>th</sup> and 8<sup>th</sup> grade respectively.
For the least successful descriptions, the average word count was 93.2 words, which is slightly below the total group average of 97.8 words. The number of words they used ranged from as few as 35 words to as many as 170 total words to describe the six excerpts. Unlike their more successful counterparts, all of these participants did not utilize all three language categories (analytical, metaphorical, temporal). One participant did not use any temporal language and another participant did not use any metaphorical language to describe any of the musical examples. Despite that, the average use of each of the three categories for the least successful descriptions was almost exactly the same as the group averages.

*Characteristics of the most successful descriptions.*

The most successful participants wrote descriptions such that 5 of 7 experts could successfully match all six of their descriptions to the music examples. The demographics of the ten most successful participants were more evenly distributed. There were 5 boys and 5 girls; 4 played piano in addition to their school instrument and 6 did not. Four of the participants were in the 7th-grade and there were three participants in the 6th- and 8th-grade respectively.

Although word count alone is not necessarily an indicator of the quality of a description, it is interesting in this context. The average word count across the entire group was 97.8 words used to describe the six musical examples. For the most successful participants, however, the average word count was 125.3 words; two students used only 45 total words and one who used 204 total words to describe the six excerpts. This wide
range corroborates previous research that shows that success with writing descriptions that can be matched to excerpt is independent of word count.

Participants who wrote the most successful descriptions used all three language categories (analytical, metaphorical, temporal) with similar frequency to the entire group. Specifically, they used music analytic language in about 41% of their descriptions, metaphorical language in about 33% of their descriptions, and temporal language in about 26% of their descriptions. In this case, however, these participants used temporal language slightly more and metaphorical language slightly less than the group average. (Refer to Table 3.)

Phase II – Performing with Expression

Seven students (4 girls and 3 boys) participated in Phase II of the study and each participant’s involvement lasted approximately 45 minutes. After an initial practice period lasting approximately 12-15 minutes, subjects randomly selected a piece of paper containing one of the following four performance instructions:

- Perform the music in the following way: Quiet, slow, connected
- Perform the music in the following way: Loud, very fast, detached
- Perform the music in the following way: Like a child playing
- Perform the music in the following way: Like a fierce thunderstorm
The four instructions were intentionally designed so that two of them used music analytic language and were obviously contrasting. The other two examples employed figurative language that had been used in a previous study by Sheldon (2004) and were also determined to be contrasting.

Participants were then left alone for an additional 3-5 minutes to practice the piece as the performance conditions indicated. Upon my return, students were asked to perform the piece according to the instructions on the slip of paper drawn and this performance was recorded. At the conclusion of the performance, participants were asked to self-evaluate how well they adhered to the performance instructions on a scale of 1 to 10. This procedure was repeated until each of the four performances was completed.

**Matching performances to performance instructions.**

The resultant recordings were compiled, edited to eliminate any talking or other means of identifying a participant, labeled by performer and performance number (e.g., “P1 -1” meant Performer #1 – 1st Performance), and recorded to compact disc. Five experts were presented with each of the four performances of the seven subjects (28 total performances) and given several tasks.

The first task for experts was to match individual performances to playing conditions by performer. That is to say, experts were presented with a “Matching Performances to Prescribed Playing Conditions” sheet (Appendix F) and instructed to listen to the four performances for the first participant and then match each performance to the playing condition that they thought was being represented by the performer. They
were asked to repeat this process for each performer until they had matched each of the four performances with each of the seven performers.

Most experts indicated that they found the differences so subtle that they had to go back and listen multiple times. Two experts found the performances so similar that they questioned whether they were hearing four distinct performances. In the end, however, all five experts had success with the matching task and rates that ranged from 78.6 to 92.8 percent with an average of 82.9%.

Next, a percentage was calculated for each participant to determine their success at effectively communicating the intent of each of the four playing conditions. Results showed that, overall, participants could convey the expressive intent of the performance demands in such a way that their individual performances could be matched back to the appropriate instructions with a minimum of 80% accuracy. These findings suggest that there was consistency among the experts with regard to their ability match performances to playing conditions and an effectiveness by participants to communicate the intended expression of the performance instructions. These results are presented in Table 7.
### Table 7

**Number of Performances Matched to Instructions**

<table>
<thead>
<tr>
<th>Performer</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Performer Success Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>90</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>90</td>
</tr>
</tbody>
</table>

Expert Match Rate* 85.7 78.6 78.6 78.6 92.9 82.9

* shown as percentage

**Characteristics of the mismatched performances.**

Since there were four different playing conditions, the possible number of correct matches that each expert could make for each performer was 0, 1, 2, or 4. As Table 7 indicates, experts matched either all or half of all performances with performance instructions. In the cases where experts matched only two performances, there were some common playing instructions that were mismatched among experts. Specifically, in six of
the twelve mismatched performances, the performers’ intentions were to play “Loud, very fast, detached” and the expert selected “Like a fierce thunderstorm” as the match. In five of the mismatched performances, the performers’ intentions were to play “Like a child playing” and the expert selected “Like a fierce thunderstorm” as the match. And in one instance, an expert mismatched an intended performance of “Like a child playing” with “Loud, very fast, detached.”

The mismatch of “Loud, very fast, detached” with “Like a fierce thunderstorm” is not surprising. Although they used two different types of language (i.e., music analytic and figurative) it is not unreasonable to expect that the characteristics of both performances would have enough similarities that they could be confused. In the cases where “Like a child playing” was confused with “Like a fierce thunderstorm” it is also not surprising that the open ended nature of the performance instructions led to confusion regarding which was being performed. Participant comments clearly indicated that they found “Like a child playing” most difficult to perform because it could mean such different things to different people. In the case studies that follow, I will discuss specific cases where mismatches occurred.

**Participant ability to perform with expression – Individual expressive elements.**

For the next task, each expert was asked to complete a performance evaluation for all 28 performances (four performances by each of seven participants). In the first part of the evaluation, experts were asked to individually rate each of four elements of
expression (articulation, *rubato*, phrasing, and dynamics; refer to Appendix G) on a scale of 1 to 5 where a score of “1” indicated a poor performance and a score of “5” indicated an excellent performance. The average ratings of expressive elements only by performance condition ranged from 2.33 to 2.67 and are shown in Table 8.
Table 8

*Expert Ratings of Expressive Elements by Participant and Performance Condition*

<table>
<thead>
<tr>
<th>Expressive Element</th>
<th>Performance Condition</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child</td>
<td>Storm</td>
<td>Quiet</td>
<td>Loud</td>
</tr>
<tr>
<td>Misayo</td>
<td>Articulation</td>
<td>4.2</td>
<td>2.4</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>1.0</td>
<td>1.8</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>3.2</td>
<td>3.6</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>2.6</td>
<td>3.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Ayse</td>
<td>Articulation</td>
<td>2.6</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>1.4</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>2.4</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>1.8</td>
<td>2.2</td>
<td>2.4</td>
</tr>
<tr>
<td>James</td>
<td>Articulation</td>
<td>2.8</td>
<td>3.2</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>1.0</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>2.4</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>2.4</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Sonya</td>
<td>Articulation</td>
<td>3.0</td>
<td>3.2</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>2.6</td>
<td>1.6</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>3.6</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>3.2</td>
<td>3.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Dirk</td>
<td>Articulation</td>
<td>3.4</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>1.2</td>
<td>1.8</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>3.8</td>
<td>2.2</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>3.6</td>
<td>3.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Ethan</td>
<td>Articulation</td>
<td>3.2</td>
<td>3.0</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>2.0</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>3.2</td>
<td>2.6</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>3.0</td>
<td>2.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Sevati</td>
<td>Articulation</td>
<td>1.8</td>
<td>2.0</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Rubato</td>
<td>1.2</td>
<td>2.6</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Phrasing</td>
<td>1.8</td>
<td>2.4</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Dynamics</td>
<td>2.2</td>
<td>2.2</td>
<td>2.4</td>
</tr>
</tbody>
</table>

**Group**

<table>
<thead>
<tr>
<th>Average Rating for Elements Only</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.56</td>
<td>2.46</td>
<td>2.67</td>
<td>2.33</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Bolded ratings are those which were “3” or above.
The bolded ratings in Table 8 indicate those ratings which were “3” or above. I chose to examine those more closely because a rating of “3” is clearly above average on a 5-point scale and I wanted to determine if any trends emerged among those ratings. When examined by performance condition, “Like a child playing” elicited the most above average performances as represented by individual expressive elements with 11 ratings of “3” or above. The other performance conditions (quiet, storm, and loud) elicited 10, 9, and 8 individual expressive elements with ratings of “3” or above, respectively. It is interesting to note that the group averages for expressive elements by performance condition does not follow the same order. The average rating for the “quiet” performances was highest followed in order by “child,” “storm,” and “loud” (see Table 8).

Among the individual expressive element ratings, “articulation” received the most ratings of “3” or above with 18 instances. “Phrasing” and “dynamics” followed with 12 and 8 instances (respectively) of a “3” or above rating. There was not a single instance where a participant’s performance of rubato resulted in a rating of “3” or above.

**Participant ability to perform with expression – Overall expressivity.**

In the second part of the performance evaluation, experts were asked to rate the overall expressivity of each performance on a scale of 1 to 10 where a score of “1” indicated a performance that was not expressive and a score of “10” indicated a very expressive performance. Although there were some individually stronger performances, the average ratings of overall expressivity by performance condition ranged from 4.28 to
5.02. In order to compare the overall expressivity ratings to the ratings of expressive elements, the overall ratings were converted to a 5-point scale. When the same criterion was applied as previously, whereby an overall rating of expression of “3” or above was determined to be clearly better than average, results showed that only one performance of each of the performance instructions elicited a rating that was 3 or above. These data along with average ratings for expressive elements only are reported in Table 9.
Table 9

*Average of Expert Ratings by Type of Measure and Condition*

<table>
<thead>
<tr>
<th>Type of Measure</th>
<th>Performance Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child</td>
</tr>
<tr>
<td>Misayo</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>2.8</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td><strong>2.6</strong></td>
</tr>
<tr>
<td>Ayse</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>2.1</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td>1.8</td>
</tr>
<tr>
<td>James</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>2.2</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td>1.8</td>
</tr>
<tr>
<td>Sonya</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>3.1</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td><strong>3.2</strong></td>
</tr>
<tr>
<td>Dirk</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>3.0</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td>2.8</td>
</tr>
<tr>
<td>Ethan</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>2.9</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td>1.9</td>
</tr>
<tr>
<td>Sevati</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>1.8</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td>1.4</td>
</tr>
<tr>
<td>Group</td>
<td></td>
</tr>
<tr>
<td>Average Rating for Elements Only</td>
<td>2.56</td>
</tr>
<tr>
<td>Average Overall Rating of Expression</td>
<td>2.21</td>
</tr>
</tbody>
</table>

*Note.* Average Overall Ratings represent a separate rating by experts on a scale of 1-10. For the purposes of this table, scores have been converted to a 5-point scale. Bolded scores represent Average Overall Ratings of Expression that were “3” or above.

The effect of type of language used in instructions on expressivity of performances.

A one-way ANOVA with repeated measures was used to determine if overall expressivity scores differed based on the performance instructions (i.e., Quiet, slow, connected; Loud, very fast, detached; Like a child playing; Like a fierce thunderstorm).
Results indicated that there was a significant difference between the expressivity scores for the four performance conditions \( (F(3, 102) = 2.9, p = .039) \). Post hoc comparisons using the Tukey HSD test revealed that the mean score for the “Quiet, slow, connected” performance condition \( (M = 5.11, SD = 2.35) \) was significantly higher than the mean score for the “Loud, very fast, detached” performance condition \( (M = 4.28, SD = 2.31) \). All other pairwise comparisons, however, showed no significant differences. These data are shown in Table 10.

Table 10

*Means and Standard Deviations of Overall Ratings by Performance Condition*

<table>
<thead>
<tr>
<th>Performance Condition</th>
<th>( M )</th>
<th>( SD )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet, slow, connected</td>
<td>( 5.11^* )</td>
<td>2.35</td>
</tr>
<tr>
<td>Loud, very fast, detached</td>
<td>( 4.29 )</td>
<td>2.31</td>
</tr>
<tr>
<td>Like a child playing</td>
<td>4.51</td>
<td>2.23</td>
</tr>
<tr>
<td>Like a fierce thunderstorm</td>
<td>4.40</td>
<td>2.03</td>
</tr>
</tbody>
</table>

*Note.* Experts rated these performances on a 10-point scale.

\( ^* p = .039 \)

Because the performance instructions were purposefully designed so that two instructions used music analytic language and two instructions used figurative language, additional analysis was undertaken to determine if the category of language in the performance instruction (music analytic versus figurative) affected the expressivity
communicated by the performer. Results indicated that there was no significant
difference in expert ratings of performances based on category of language used in the
performance instruction.

It is interesting to note, however, that the mean ratings based on the average of the
individual expressive elements ($M_{Ex} = 2.50$) was found to be significantly higher than the
mean of the overall expressivity ratings$^5$ ($M_{Ov} = 2.27$), $t(27) = 4.47, p < .001$. This
finding suggests that the two measures were not comparable as measures of expressivity
for the data presented in this study.

**Case studies.**

Because the second phase of the study involved just seven participants this
allowed me to look beyond the ratings of their performances and delve deeper into who
they were and what they actually did and said. I reported on tempo, dynamic, and
articulation/style of each performance since I had purposefully selected music analytic
language for the performance instructions that addressed each of those areas.
Characteristics of each of the participants, their performances, and any mismatches of
their performances by experts are presented as follows.

**Participant 1 – Misayo.**

Misayo was a 13 year old female at the end of her eighth-grade year. Although
piano was her principal instrument at the time, she had recently taken private violin

---

$^5$ Overall ratings were converted from a 10- to a 5-point scale for this comparison.
lessons and taught herself to play the ukulele. She reported that she had played piano for 5 or more years and had taken private piano lessons for 5 or more years. She also said that she practiced piano 5 or more days each week.

The first performance instruction that Misayo selected read, “Like a child playing.” The approximate tempo maintained in this performance was 132 bpm, however, she did speed up slightly on the repeat. The dynamics could be characterized as *mezzo forte* and stayed the same throughout the performance. Misayo tended to perform eighth-notes in a detached style and quarter-notes staccato. Measures which contained only quarter notes were noticeably more staccato. When asked how she would rate her performance of the prescribed instructions a scale of 1 to 10, Misayo gave herself a “7.” When asked why, Misayo replied, “Well, all children play differently, so…I performed it like I would have played as a kid which is basically loud and without much contrast.”

The next performance instructions read, “Loud, very fast, detached.” The approximate tempo maintained in this performance was much faster at approximately 224 bpm. The dynamics could again be characterized as *mezzo forte*, however, there was some perceptible phrase shaping which meant slight crescendos and decrescendos – particularly in measures 9 – 16. Misayo’s articulation in this performance was very similar to that which she employed in the “Like a child playing” performance in that it was detached overall. This time, when asked how she would rate her performance, Misayo gave herself an “8.” She felt that, “That one was easier.”

The third performance was to be “Like a fierce thunderstorm.” In this case her performance started at a brisk tempo – approximately 200 bpm – but accelerated at
measure 9 so that she reached upwards of 220 bpm. The dynamic range demonstrated in this performance was the greatest thus far. Although it could be characterized as beginning in a mezzo dynamic, there were obvious crescendos and decrescendos in the first 8 measures that occurred in every other measure (e.g., crescendo in measure 1, decrescendo in measure 2, crescendo in measure 3, decrescendo in measure 4, etc.). In the second section of the piece (the “B section”), however, Misayo employed an elongated crescendo the first time through whereby she paced it over nearly six measures before employing a slight decrescendo at the end of the phrase. On the repeat, the dynamic was clearly forte with a decrescendo and rallentando occurring in the last two measures. The other distinctive addition to this performance was that Misayo used the pedal throughout. For this performance, Misayo gave herself a “7.”

The final performance instructions were, “Quiet, slow, connected.” This performance was given at approximately 126 bpm, but contained perceivable phrase shaping and rubato that resulted in some tempo fluctuation. Although the two quarter notes in the first measure were detached, the rest of the performance was connected and Misayo again used the pedal throughout this performance. The dynamics were also similarly executed as in the previous performance except that the every other measure crescendo/decrescendo pattern she employed in the first eight measures continued through measures 9-16 the first time through. On the repeat, she augmented the crescendo/decrescendo over the entire eight measures. Misayo again used the pedal throughout this performance. Self-rating was an “8.”
At the conclusion of the final performance, I asked Misayo which of the performance instructions she liked best. Misayo replied, “These instructions (lifts up last instructions given) were easier because they told me exactly what to do. For the other ones – like a child playing, like a fierce thunderstorm – that could sound different to everyone.”

There were two instances where Misayo’s performance of “Like a fierce thunderstorm” was confused with her performance of “Like a child playing.” Detailed analysis of specific elements of Misayo’s performance shows differences between the two as they were actually performed; the tempos were different (132 bpm versus 220 bpm) as were the dynamics (generally one dynamic throughout versus many crescendos and decrescendos) and articulation (detached/staccato versus use of pedal throughout). Misayo’s average ratings for expressive elements and her average overall expressivity ratings for the mismatched conditions were her lowest ratings earned and in fact, Misayo stated that she found both conditions difficult to perform. It seems that Misayo’s performances of the “thunderstorm” and “child” instructions and experts’ confusion of those performances was due to directions that “could sound different to everyone.”

**Participant 2 – Ayse.**

Ayse was a 12 year old female at the end of her sixth-grade year. She had played the flute in band for two years and played piano for approximately four years. Although she had not taken private flute lessons, she reported that she had taken private piano lessons for 4 years. She also reported that she practiced piano 5 or more days each week and flute approximately two days each week.
The first performance instructions that Ayse selected read, “Like a child playing.” Ayse’s starting tempo was around 108 bpm, but she had a tendency to rush the eighth notes as well as measures that contained only quarter notes. By the end of the piece she was playing around 122 bpm. This performance maintained the same mezzo forte dynamic throughout with no perceivable phrase shaping. In general, the style used throughout was detached – particularly when she played eighth notes. The articulation of quarter notes, however, was occasionally more connected. When asked how she would rate her performance of the prescribed instructions a scale of 1 to 10, Ayse gave herself a “6” and said, “I tried to make it deliberate (played left hand deliberately) – like a child playing.”

The next performance instructions indicated that Ayse should perform “Like a fierce thunderstorm.” This performance began at a bright tempo of approximately 171 bpm. In the “B section” she again rushed and the tempo peaked at around 190 bpm, but ended back at approximately 173 bpm. A little bit louder overall, this performance could be characterized as forte. She maintained the same dynamic throughout. The style was again somewhat detached although measures containing only quarter note were slightly more connected. Also, the sustained notes were brought out a bit more – particularly in measures 13 and 14. For this performance, Ayse gave herself a “6.” When asked to elaborate on her rating, Ayse replied, “Well, I did okay. I mean I tried to bring out the left hand (plays left hand) and play (plays chords in a punctuated way) - like a storm. I still think I could do better.”
For her third performance, Ayse selected “Quiet, slow, connected.” This performance began quite slowly in comparison to that which had come before as she started at around 106 bpm. She generally maintained that tempo throughout the “A section” with a slight gradual increase to 110 bpm. In the B section, however, the tempo increased noticeably to approximately 126 bpm. My perception of the tempo change was that this was less about expressive intent and more a function of lack of control of evenness as the eighth notes in measures 9 and 11 were rushed and the four quarter notes in measures 10 and 12 were dragging. However, Ayse did appear to have purposefully performed a ritardando in the last two measures of the piece. The dynamic of this performance was maintained at mezzo piano throughout. Stylistically, every chord was connected to the next and eighth notes were generally connected. When repeated quarter notes appeared immediately following eighth notes (such as in measures 1-3), however, the quarter notes were consistently played in a short and separated manner. Overall, Ayse was pleased with this performance rating herself an “8” and stating, “I would say I did pretty well on this one.”

The final performance instructions were, “Loud, very fast, detached.” For this performance Ayse selected a bright tempo of approximately 192 bpm. The dynamic was in clear contrast to that which she presented in the previous performance as she performed at forte throughout. This time, there were noticeable events in the left hand when she was playing chords. On all but one occasion when there were two half-note chords in a measure, she played the second chord short. On one occasion, she also played the whole-note chord quite short. In her right hand, the notes were more obviously
detached in measures that contained faster note values. When there were measures that
contained four quarter-notes, the detached articulation was communicated more though
accents then separation with the exception of the fourth note in the measure which was
consistently played very short. When asked to rate this performance, Ayse gave herself a
“7” stating, “I don’t think I played it very detached.”

At the conclusion of the final performance, I asked Ayse which of the
performance instructions she enjoyed playing the most. Ayse replied, “Umm…I think I
like the slow, quiet, connected one best.” When asked why, Ayse said, “I don’t
know…(plays piano). It was very smooth…calm…relaxing…”

In Ayse’s case, her performance of “Like a fierce thunderstorm” was confused
with her performance of “Loud, very fast, detached.” A closer look at the specifics of her
performances shows many similarities. For example, the tempos were close (171 bpm
versus 192 bpm) as were the dynamics (both performed at forte) and articulation
(detached). Interestingly, Ayse’s average ratings for expressive elements and her average
overall expressivity ratings for the mismatched playing conditions were her highest
ratings earned. It is possible, then, that the experts’ confusion between performance
conditions in her case was due to performances that were simply too similar in overall
character.

**Participant 3 – James.**

James was a 13 year old male at the end of his seventh-grade year. He had played
the saxophone in band for three years and played piano for more than five years. James
reported that he had taken private saxophone lessons for less than one year and piano
lessons for 5 or more years. He also reported that he practiced saxophone an average of
two days each week and practiced piano approximately 4 days each week.

The first performance instruction that James selected read, “Like a child playing.”
James performed this at a very steady tempo of approximately 166 bpm. Even when he
made mistakes with pitches (in measures 9 and 14), he did not lose time. The dynamic
remained somewhat constant throughout at mezzo forte, however, there were subtle
crescendos and decrescendos perceptible once in the A section in bar 4 and again the first
time through the B section in measures 9 - 12. The last two notes of the performance
were louder and accented. The overall style of this piece could be characterized as
generally light – particularly the eighth notes – and somewhat separated. When asked to
rate his performance, James gave himself a “7.5-8.”

The second performance given was “Like a fierce thunderstorm.” This
performance began at approximately 154 bpm, but picked up tempo throughout and
ended at around 166 bpm. Although subtle, James attempted to employ a number of
crescendos and decrescendos throughout this performance. The dynamic at the beginning
was clearly forte and deliberate yet he gave the A section a nice overall phrasing arc with
perceivable 2 measure phrases that occurred regularly. He also played the half-note chord
that occurs on beat three in measures 3 and 6 short and accented each time in this section.
In the B section, the half-note chords did not receive the same treatment, however, when
the A section returned he played the second half-note chord in measure 15 with an accent.
Upon the repeat, all of the chords in both the B and the A sections were performed with a
perceptible accent. Regarding this performance, James stated, “Loud and tense...um...I think an 8.”

When James read the next performance instructions, “Loud, very fast, detached,” he exclaimed, “I can do that!” He did indeed perform this interpretation much faster than the last in that he started at approximately 220 bpm. This tempo appeared to be difficult for him to sustain with accuracy, however, as he had many mistakes. Unlike in the first performance where even when he made a small mistake he did not lose tempo, this time he dropped beats and then accelerated perhaps in an attempt to catch up. Overall, this performance was at a forte dynamic although there were some subtle decrescendos at the ends of phrases. Also in this performance the quarter notes were clearly separated and the half-note chords occurring on beat three in measures 3 and 6 were played short. For this performance, James gave himself a “9.”

The last instructions indicated “Quiet, slow, connected.” For this performance, James began at approximately 102 bpm and maintained close to that tempo throughout the A section. When he began the B section, he accelerated a bit on the eighth-notes and settled closer to 115 bpm, however, on the repeat he inched up to 124 bpm as he rushed the quarter notes. A notable event in this performance was when James played a rallentando over the last two measures. It was well paced and well done. In this performance, the connectedness was subtle. Eighth-notes were smoother in general as were quarter notes when they appeared with other quarters or half-notes (as in measures 4, 8, 12, and 16). When quarter-notes appeared in the melody in the left hand, however, they tended to be separated. Also, the second time through measure 15, as he began the
rallentando, the quarter notes were performed in a separated way. James rated this performance a “9.”

At the end of the session, I asked James which of the performances he enjoyed playing the most. James had asked if he could play it “his way” after the four playing conditions were recorded, so when asked this question, he indicated that the last performance, his own interpretation, was his favorite. When asked why, James said, “I…because I was able to do what I want with it.”

James’s performances also led to instances where two experts confused “Like a fierce thunderstorm” with “Loud, very fast, detached.” A closer examination of specific elements of James’s performances showed both similarities and differences between the two. For example, James performed the tempos differently (154 bpm versus 220 bpm). However, the dynamics of both were generally forte and the articulation was separated. James’s average ratings for expressive elements and his average overall expressivity ratings for both playing conditions were very similar and in fact almost exactly the same as the ratings for the other two playing conditions. In James’s case, then, it is possible that the experts’ mismatching was due in part to the similarities among both performances and in part due to the lack of clear dichotomy between the playing conditions.

**Participant 4 – Sonya.**

Sonya was a 12 year old female at the end of her seventh-grade year. She had played the trombone in band for three years and played piano for more than five years. Sonya reported that she had taken private piano lessons for 5 or more years, but had
never taken lessons on trombone. She also reported that she practiced trombone an
average of 2-3 days each week and practiced piano approximately four days each week.

Sonya’s first performance instructions read, “Loud, very fast, detached.”
Although she had a three spots where she made mistakes with pitches after which she
stopped and started, she generally did it within the tempo she had established which was
approximately 162 bpm. She also included a slight ritardando in the last measure. The
dynamic remained somewhat constant throughout at mezzo forte. The overall style of this
performance could be characterized as generally light and separated although there were
a few exceptions. For example, she connected the first two quarter notes in measure 4
and all three notes in measure 8. As she continued, however, the separation presented
itself as staccato and became much more consistent and it was only in measure 16 where
she connected the quarter-note on beat 2 with the half-note on beat three. When asked to
rate this performance, Sonya gave herself an “8.”

For the second performance, Sonya selected “Like a child playing.” The tempo
she chose to perform for this interpretation was much slower beginning at approximately
95 bpm and ending at approximately 101 bpm. The overall dynamic was generally soft
and in the mezzo piano range, however, there were several noticeable crescendos and
decrescendos. These were most obvious in measures 9, 11, and 15 where the dynamics
followed the contour of the melody. The style of her performance can be characterized as
generally light. More specifically, she tended to play the eighth-notes short and the
quarter-notes legato in the A section with the exception of measure 6 where she did the
opposite. Both times through measures 9-12, she played all of the notes connected, but
when the theme appeared in the left hand at measures 13 and 14, she played the eighth-notes connected and the quarter-notes short. This time Sonya gave herself a rating of “9” and stated, “I liked that one! There were lots of ways to interpret it and I was like playing through scenes in my head when I played it.”

Sonya’s third performance directions were, “Quiet, slow, connected.” For this performance she kept a steady tempo at approximately 80 bpm throughout. The dynamics with which she played were the softest yet, perhaps being a true piano. Similar to her last performance, Sonya made crescendos and decrescendos that followed the melodic contour in measures 9 and 11, however, they were more subtle this time. The style was connected most of the time with one notable exception. Each time she came to the left hand melody she performed the ascending eighth-notes staccato and the quarter-notes legato. As for her rating of this performance, Sonya gave herself a “7” and explained, “Because this piece is kinda hard to play slowly and I probably could have done better.”

The last instructions directed Sonya to perform “Like a fierce thunderstorm.” In this performance she maintained a tempo of approximately 153 bpm. The dynamic of this performance was the loudest yet and was generally forte. However, the dynamic contrasts employed in this performance were also the most obvious of all of her performances. This was particularly true in measures 9 – 16. Sonya once again used dynamics that followed the melodic contour in measures 9 and 11, but this time the statement at measure 9 was at a mezzo piano dynamic; measure 11 began at a mezzo forte dynamic; and measure 15 and 16 were played at forte. Stylistically, Sonya incorporated a variety of techniques, but with consistency. For example, she performed the melody in measure 1.
and 2 – which is repeated an octave down in the left hand in measures 5 and 6 as well as 13 and 14 – with separated eighth-notes and *staccato* quarter-notes. Each time she performed the melody that appeared in measures 3 and 4 as well as 15 and 16, Sonya used the pedal. The melodic material of measures 9 - 12 was played in a connected style both times. For this performance, Sonya gave herself a “7 or 8.” When asked why, she said, “It’s hard to play this like a storm because it’s in a major key and it was just harder.” At the end, Sonya remarked that her preferred performance condition was “like a child playing” because “it gave me some direction, but there are lots of different ways you could play it.” That was also the performance that experts gave the highest ratings (3.1 for expressive elements and 3.2 for overall expression).

Sonya’s performances led to only a single instance where one expert confused “Loud, very fast, detached” with “Like a child playing.” A closer examination of specific elements of the mismatched performances showed differences between tempos (162 bpm versus 101 bpm), however, the dynamics of both were generally in the *mezzo piano/mezzo forte* range and both performances were light and separated. It is a little surprising that these performances were confused given the contrasting tempos and explicit instructions in one case, however, the performances were obviously similar enough in character to confuse one expert.

**Participant 5 – Dirk.**

Dirk was a 13 year old male at the end of his seventh-grade year. He had played percussion in band for one year and played piano for five or more years. Dirk reported that he had taken private piano lessons for 5 or more years, but had taken percussion
lessons for less than one year. He also reported that he practiced percussion an average of one day each week and practiced piano approximately three days each week.

The first performance instruction that Dirk selected indicated that he should perform “Like a child playing.” Dirk gave this performance at a steady 163 bpm throughout and the dynamics were generally *mezzo forte*, however, there were some notable contrasts in a few places. For example, Dirk played dynamics that followed the direction of the melody in measure 4 and then did similar dynamic shaping across measures 9 and 10 and again across measures 11 and 12. On the repeat, he exaggerated those dynamics in the same places and then played *forte* for the last four measures. The most distinctive part of Dirk’s performance, however, was how he changed the rhythms so that all eighth-notes had a triplet feel. All of the notes in the melody were separated throughout the performance and the half-note chords in measures 3 and 7 were performed short followed by long. In measures 9 and 11, Dirk played whole-note chords rather than the half-note chords that were printed. And in measure 15, the half-note chords were performed connected the first time and short followed by long the second time. When asked to rate his performance, Dirk gave himself an “8.”

For the next performance, Dirk selected instructions which indicated he should play “Loud, very fast, detached.” His performance tempo was generally around 226 bpm, but he had a few occasions where he faltered and restarted at the spot where the mistake occurred. Overall, this performance was indeed *forte* with a little bit of dynamic shaping to follow the contour of the melody in measures 9 – 12. The articulation was *staccato* throughout in both the right and left hands. This meant that chords that were indicated as
half-notes or whole-notes were performed as quarter-notes. The only exception to this was when the chords were whole-notes in the right hand. In those instances, Dirk held the chords for the full value. For this performance, Dirk gave himself a “6.5.” When asked why, he said, “Because my fingers slipped and I messed up a little. Like in one spot I was supposed to do this (plays chord with left hand) and I played this (plays a different chord)… or something.” I then asked him if he would change that rating if he were just evaluating his interpretation without worrying about notes. In that case, Dirk thought “maybe a 7.”

The third playing condition selected was “Quiet, slow, connected.” Dirk gave this performance at approximately 80 bpm, but he seemed to purposefully slow down significantly at the ends of phrases. This performance was quite soft overall and in a couple of instances notes did not speak. Within the piano dynamic, however, Dirk again employed dynamic shaping that followed the contour of the melody in measures 9, 11, and 13-14 when they were performed the first time. On the repeat, the shaping was less obvious. The other choice Dirk made was to include the pedal, which he seemed to apply in each measure such that he lifted at the very end of each bar and depressed again at the very beginning of each bar. Even without regard for the pedaling, Dirk performed this piece very legato throughout.

Dirk gave himself an “8” for this performance. This time, I asked him why he didn’t give himself a higher rating. Dirk replied, “Because I would have to do more with it. Like change some notes or make it in minor or something.” I chided, “Sounds like
you’re not going to be able to get above an 8” and Dirk replied, “Maybe on this next one I can get a 9.”

The last performance condition Dirk selected instructed him to play “Like a fierce thunderstorm” to which he reacted, “Oooo…interesting.” With this performance, Dirk took tremendous liberties with the tempo and rhythms. For example, the opening six measures were performed at approximately 110 bpm, but then he inserted a drastic ritardando in measures 7 and 8. He performed the next section at approximately 140 bpm and again inserted a drastic ritardando, but only in measure 16 and only on the repeat.

With regard to rhythm, Dirk performed all of the eighth-note figures where there were four notes followed or preceded by two quarter-notes, as in measures 1 – 3, 5 – 7, and 13 – 15, in approximately the following way

![Original and Dirk’s performances of rhythms](image)

His performance of the rhythms in measures 9 and 11 were also changed so that they had a triplet feel as follows

![Original and Dirk’s performances of rhythms](image)
Dirk used stark dynamic contrasts in the performance as well. He began the performance at a *mezzo piano* dynamic and played suddenly *forte* when the new material was introduced at measure 9. A decrescendo in measure 12 led to a softer dynamic from measure 13 through 16 the first time it was performed. On the repeat, however, Dirk played suddenly *forte* in measure 15 and added a dramatic *ritardando* and decrescendo in the last bar.

The opening eight measures were performed in a very connected style with a lot of pedal. At the B section, however, he played the right hand more separated while continuing to use the pedal. The return of A’ brought the return of a connected style in measures 13 – 16. However, on the repeat measure 15 was played in a very detached manner.

Dirk once again gave himself an “8” for this performance. When I asked why he replied, “Okay, I’ll give number 3 a 9 and this one an 8…it was hard to make it sound like a storm without changing the key (plays an excerpt in minor).”

There were two instances where Dirk’s performance of “Like a child playing” was confused with his performance of “Like a fierce thunderstorm.” Although there were many differences in Dirk’s performances of these two instructions with regard to articulation, the tempos were similar (163 bpm and 140 bpm, respectively) and in both cases he used notable dynamic contrasts. More importantly, perhaps, is that both of these instructions elicited performances in which Dirk purposefully altered the rhythms with an underlying triplet feel. Coupled with the ambiguous nature of those instructions as
compared to those that were based upon explicit instructions, it is not difficult to see why these performances were confused by some experts.

**Participant 6 – Ethan.**

Ethan was a 13 year old male at the end of his seventh-grade year. He had played French horn in band for three years and played piano for five or more years. Ethan reported that he had taken private horn lessons for two years and had taken piano lessons for five or more years. He also reported that he practiced horn an average of one day each week and practiced piano approximately four days each week.

The first piece of paper that Ethan drew from the cup indicated that he should perform “Quiet, slow, connected.” He began the performance at approximately 113 bpm, but settled in around 124 bpm by the fifth measure. The dynamic stayed mostly constant at *mezzo piano* and the style, though generally performed *legato*, introduced short quarter-notes whenever they followed four eighth-notes (e.g., measures 1-2, 5-6, and 13-14). Ethan did have a few instances of minor technical errors in measures 11 and 15 as well as measure 9 on the repeat. When asked to rate his performance, Ethan gave himself a “7” and said, “Because I wasn’t really sure what to do with the top note…but it was okay.”

The second piece of paper directed Ethan to perform “Like a fierce thunderstorm.” He chose to perform this interpretation at approximately 168 bpm, although he again had some minor technical errors that caused him to loose tempo and the rush to catch up. Overall, the piece was performed at a nearly *forte* dynamic with little contrast within sections. He did, however, shape the end of the phrase at measure 8 with a
slight decrescendo and there was a subtle crescendo-decrescendo spread across measures 11 and 12. The style throughout was generally separated although not detached and all chords were played full value. When asked to rate this performance, Ethan gave himself an “8” and explained, “It was more natural for me to play that way.”

The next performance instructions read, “Like a child playing.” Again, Ethan had some technical problems which by this time I had attributed to nervousness. In fact I thought he might start over because he stumbled so much in the second measure. Ethan, however, kept going. The tempo he established for the A section was right around 166 bpm. As he continued, the tempo increased and peaked at more than 180 bpm in measures 15 and 16 and upon the repeat that followed, he maintained a tempo of approximately 178 bpm. It was difficult to tell if these changes in tempo were purposeful or more a function of trying to make up for lost time when he stumbled.

The dynamics he performed were mezzo forte at the beginning with subtle decrescendos at the ends of measures 4 and 8. The first time through the B section, Ethan subtly shaped two-measure phrases so that each subsequent phrase was slightly louder than the previous. On the repeat, the dynamic shaping was not as apparent except with the shaping of measures 13 and 14. The style of this performance bore resemblance to his previous performances in that he continued to play the quarter-notes short whenever they directly followed or preceded four eighth-notes. All other notes were generally more connected than not. Ethan’s self-rating for this performance was a “7.” When asked why he went back down with this rating, Ethan paused and replied, “Because I didn’t play what I envisioned.”
For his last performance, Ethan selected “Loud, fast, detached.” This time, Ethan’s performance was generally around 238 bpm. The dynamic was indeed *forte* throughout and the style was separated. This time, in measures that contained four descending eighth-notes followed by two quarter-notes he tended to slightly clip the quarter-note on beat 3 and play the following quarter-note staccato. Asked to rate this performance, Ethan gave himself a “9.” I asked what made him rate it so high and he said, “I think because I practiced differently. I practiced hands separately.” I questioned how that made a difference and he said, “I could control them better.” Although he again had some errors, they occurred late in the piece this time.

Like two other participants, Ethan’s performances also led to instances where two experts confused “Like a fierce thunderstorm” with “Loud, very fast, detached.” Ethan’s performances of the two conditions showed both similarities and differences. For example, Ethan performed the tempos differently (168 bpm versus 238 bpm), however, the dynamics of both were generally *forte* and the articulation was separated. The average ratings that Ethan received for both of the mismatched playing conditions were the lowest that he received with one exception, indicating that he failed to effectively control expressive elements. It is possible that the experts’ confusion between performance conditions in his case was due to performances that had too many similarities.

**Participant 7 – Sevati.**

Sevati was a 12 year old female at the end of her sixth-grade year. She had played the violin for two years and played piano for five or more years. Sevati reported that she had taken private piano lessons for four years, but had taken violin lessons for only one
year. She also reported that she practiced violin four days each week and practiced piano approximately five or more days each week.

The first performance instructions Sevati selected read, “Like a child playing.” Although she began the performance at approximately 152 bpm, Sevati’s performance settled at around 146 bpm. The dynamic with which she performed could be said to be \textit{forte} throughout with a slight decrescendo (and \textit{ritardando}) in the last 6 beats. The articulation was generally not detached nor was it connected, but all notes were generally sustained for full value with a quarter-note occasionally sounding shorter. When asked to rate herself, Sevati gave herself “8.5” and remarked, “I tried to play it bouncy – like a child.”

Next, Sevati selected a piece of paper that instructed her to perform “Quiet, slow, connected.” She began performing this piece rather fast at approximately 140 bpm, however, when she got to the second line – where the left hand had the melody – she slowed down to closer to 128 bpm and generally remained around that tempo. Both times she performed measures 15 and 16, Sevati slowed down significantly, but upon the repeat a distinct \textit{a tempo} could be detected. While her overall performance could be said to have been performed at \textit{mezzo} dynamic, she did \textit{diminuendo} slightly from measure 14 to the end the second time through. The articulation in this performance was quite similar to that which she used on her first performance except that there were no instances of short quarter-notes. Sevati confidently gave herself a “9” for this performance and stated, “I’ve been playing a lot of slow songs lately so it was not so hard.”
For her third performance, Sevati was instructed to perform “Loud, very fast, detached.” The tempo of this performance was generally around 186 bpm, but there was a peak at 205 bpm immediately following a technical mistake. The dynamic was indeed **forte** throughout with slight decrescendos perceptible at the ends of phrases. Again, the articulation, at least in the melody, was not particularly detached. The chords, however, were punctuated with accents which gave the illusion of separation. For this performance, Sevati gave herself an “8.” When asked why, she replied, “Because this one said loud and the last one said soft and I didn’t make that much of a difference…I didn’t play this one that loud compared to how I played the soft one.”

The final slip of paper Sevati drew from the cup read, “Like a fierce thunderstorm.” Sevati gave this performance at around 173 bpm with a subtle **ritardando** in measure 8 and an obvious one in measure 16. In general, the performance was given at a **forte** dynamic, but what was notable this time was that the left hand was consistently more prominent. This was true whether it was playing melody or accompaniment. The articulation in this performance was slightly different than in others in that it could perhaps be characterized as deliberate. When asked to rate this performance, Sevati gave herself an “8” and said, “I think I did okay considering.” I asked, “Considering what?” Sevati replied, “Well, this piece is kinda hard to play that way because it’s hard to make it sound fierce because it sounds happy (plays a little) and plus it’s high on the keyboard.”

Just as they were for two other participants, Sevati’s performance of “Like a fierce thunderstorm” was confused with her performance of “Like a child playing.”
In this case, however, there was only one expert who had this confusion. Sevati’s performances of the two conditions show more similarities than dissimilarities. The tempos were close (152 bpm versus 173 bpm) although she did include two *ritardandos* in the “storm” performance. The dynamics of both performances was essentially *forte* and the articulation in both was neither connected nor particularly detached. Sevati’s performances for conditions with explicit instructions, however, had few similarities when compared to one another and seemed to convey at least one distinctive expressive element consistent with the description. It seems that Sevati’s performances of the “thunderstorm” and “child” directions resulted in nondescript performances and thus expert confusion.

**Identifying Associations**

With only seven participants who completed both phases of the study, using statistical analysis to determine if there was an association among the participants’ ability to describe musical performances and their ability to perform with expression was not justified. However, I determined that identifying trends would provide meaningful insight to my final research question “Is there an association among young pianists’ ability to describe musical performances and their ability to perform with expression?”

**Summary of phase II participants’ ability to describe music.**

Participants in Phase II of the study (*n* = 7) were drawn from the larger group of those who also completed Phase I of the study (N = 60). Specifically, there were 4 girls
and 3 boys; two girls were in 6th grade, one girl was in 7th grade and one girl was in 8th grade. All three boys were in the 7th grade.

Analysis of Phase II participants’ ability to write descriptions such that they could be matched back to excerpt showed that this group was distributed throughout the entire range of all participants as shown previously in Table 5. Three of the Phase II participants (all 7th graders) were among the most successful at writing descriptions as experts could match their descriptions 36, 37, and 38 times out of 42 possible matches. Conversely, three of the participants (representing 6th, 7th, and 8th graders) were among the least successful at writing descriptions as experts could match their descriptions to excerpts 18, 22, and 24 times out of 42 possible matches. The average number of descriptions matched back to excerpt for those who participated in Phase II of the study (n = 7) was exactly 29 (69%). As reported earlier in Table 5, the average number of descriptions matched to excerpt for all participants that played piano in addition to a school instrument (n = 24) was 30.75. These results suggest that the sub-group that participated in Phase II is reasonably representative of the total population.

Summary of phase II participants’ use of language by category.

Next, I examined the categories of language used by the Phase II participants. As reported previously, participants were asked to describe six musical examples. I selected three a priori language categories for analysis (music analytic, metaphorical, and temporal) and identified the presence or absence of each of the categories in each of the descriptions. The results for each description, then, ranged from indicating that only one
language category was used or all that all three categories were used. Since there were six
descriptions, each language category could have appeared zero to six times.

As reported previously in Table 4, the average number of appearances of each
language category for all participants who played piano in addition to a school instrument
\(n = 24\) were as follows: music analytical, 5.29 appearances (88.17% of the
descriptions); metaphorical, 4.5 appearances (75% of the descriptions); and temporal,
2.75 appearances (45.83% of the descriptions).

The Phase II participants used music analytical language in a similar number of
descriptions (5.43 or 90.5%), however they used metaphorical language in fewer
descriptions (4 or 66.67%), and temporal language in even fewer descriptions (2.14 or
35.67%). Although there were differences, Phase II participants’ use of language
followed a similar contour to that of their Phase I counterparts. This data is presented in
Figure 1.
Associations among Phase II Participants’ Ability to Describe Music and Perform with Expression

Characteristics of and ratings for each performance of each participant in Phase II of the study were presented in detail earlier in the chapter. In general, each performer was successful at communicating the essence of the performance instructions as was demonstrated by the experts’ ability to match their performances to the correct instruction between 80% and 90% of the time (see Table 7). However, the average of the overall
expressivity ratings earned by performance instruction was not remarkable as only one performance instruction elicited an above average rating (see Table 10). I also reported that their ability to write descriptions such that they could be matched back to the appropriate musical excerpt was representative of the entire population in that their scores ranged from 18 to 38 with an average of 29. These data are presented in relationship to one another in Table 11.

Table 11

*Performance Ratings and Descriptions Matched by Participant*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Average Ratinga</th>
<th>Descriptions Matchedb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elements Only</td>
<td>Overall Expression</td>
</tr>
<tr>
<td>Misayou</td>
<td>3.02</td>
<td>3.12</td>
</tr>
<tr>
<td>Ayse</td>
<td>2.37</td>
<td>2.12</td>
</tr>
<tr>
<td>James</td>
<td>2.17</td>
<td>1.87</td>
</tr>
<tr>
<td>Sonya</td>
<td>2.80</td>
<td>2.82</td>
</tr>
<tr>
<td>Dirk</td>
<td>2.75</td>
<td>2.45</td>
</tr>
<tr>
<td>Ethan</td>
<td>2.45</td>
<td>1.90</td>
</tr>
<tr>
<td>Sevati</td>
<td>1.95</td>
<td>1.57</td>
</tr>
</tbody>
</table>

*Note. Both ratings are included because as discussed previously, the mean rating based on the average of the individual expressive elements was found to be significantly higher than the mean of the overall ratings of expression (M<sub>ee</sub> = 2.51), (M<sub>oe</sub> = 2.27), t(27) = 4.47, p < .01.*

aAverage Ratings are represented on a 5-point scale. bThere were 42 possible matches of descriptions to excerpts.
It is interesting to note that Misayo clearly had the highest performance ratings yet she also had the fewest number of descriptions matched to excerpts. Misayo used music analytic language in all six of her descriptions, metaphorical language in three, and temporal language in three descriptions. The total number of words she used to describe the excerpts was 108, slightly below the Phase II participants’ group average of 129.43 words.

Conversely, Ethan, who had among the lowest scores for his performances had the greatest number of descriptions matched to excerpts. Like Misayo, Ethan used music analytic language in all six of his descriptions, but he used metaphorical language in one, and temporal language in three descriptions. It is particularly interesting to note, however, that Ethan used just 53 total words to describe all six excerpts, which were by far the fewest of the Phase II participants.

Sonya and Dirk, on the other hand, had performance scores that were among the highest as were the number of descriptions matched to excerpt. Both of these participants used an above average number of words to describe the music (155 and 204 respectively). All other participants, however, had ratings and number of correctly matched descriptions that seemed to bear no relationship to one another. If this small group of participants is at all indicative of the general population of middle-school instrumentalists who also study piano, it would appear that there is a high degree of variation across performance vocabulary and written vocabulary.
Chapter 5

Summary, Discussion, Implications and Recommendations

The summary statement from the National Standards for Arts Education (1994), “What Every Student Should Know and Be Able to Do in the Arts,” proposes that in order for students to become competent in the arts they should use a variety of skills and knowledge including that which is drawn from experiences with “creation, performance, production, history, culture, perception, analysis, criticism, aesthetics, technology, and appreciation.”

The purpose of this mixed-methodology study was to investigate how middle-school instrumentalists understand expression in music by examining the language they use to describe music and then comparing it to their performances. The research questions included:

1. How do middle-school instrumentalists use written language to describe music? More specifically, what kinds of terminology do they use – music analytical, metaphor/imagery, and/or temporal? Does grade level or piano study in addition to another instrument affect type of language used?
2. Do middle-school instrumentalists’ written descriptions convey sufficient meaning that they can be matched back to stimulus recordings by experts? Does grade level or piano study in addition to another instrument affect the matchability of their descriptions?

3. How effectively do middle-school pianists apply expressive elements in performing a short piece of music given performance instructions described by music analytic or figurative language? More specifically, do their performances convey each of the intended performance instructions so they can be matched by experts? Does the type of language used in the performance instruction affect the expressivity of the performance? Is any one of the performance instructions more likely to elicit an expressive performance? What are the qualitative characteristics of the students’ performances?

4. Is there an association between young pianists’ ability to describe musical performances and their ability to perform with expression?

**Summary**

**Participants and setting.**

Participants were 6th, 7th, and 8th grade students (N = 60) from a middle school (n = 46) and a community music school in southeast Ohio (n = 14). All students played an instrument in their school band and/or took private lessons on another instrument such as violin or piano at the community music school. The majority of students in the school
district were white, non-Hispanic (87.1%) and 34.1% were considered economically disadvantaged. Additionally, 18% of students in the district were considered to have a disability. All students participated in Phase I of the study and a sub-set of 7 students from Phase I participated in Phase II of the study.

**Instrumentation.**

Based on responses to a pilot test and feedback from school music teachers, six music excerpts were selected for use as the stimuli for Phase I of the study. All of the pieces were written for and performed on piano by renowned artists and selected from commercially available recordings. The selections included works from the late Classical period through the early 20th century. Expert musicians agreed that the six selections contained a range of expressive features such as dynamic contrast, a variety of articulation, and moments of *rubato* that could be considered obvious.

The music selected for Phase II of the study was taken from the *Suzuki Book I* for piano. Expert teachers of piano agreed that this selection could be sight-read by young pianists who had studied for at least 4 years. Additionally, four performance instructions were selected and/or developed in order to elicit varied performances from the participants. Two of the instructions used music analytic language to describe the desired performance and contained directions that referred to tempo, articulation, and dynamic. The other two performance instructions used figurative language to describe the desired performance and were taken from a study by Sheldon (2004) that also sought to determine the influence of type of language used on a resultant performance.
**Procedures.**

Phase I of the study was implemented in a middle school during a regularly scheduled band class for the majority of participants \((n = 46)\) and in a classroom in a university school of music for the other participants \((n = 14)\). All participants were asked to listen to the six stimulus recordings and write descriptions of what they heard. More specifically, participants were encouraged to write their descriptions in such a way that if their descriptions were re-ordered they could still be matched to the correct recordings by experts. Participant success with writing descriptions was determined by the rate at which experts could accurately match their descriptions to the appropriate stimulus recordings. Descriptions were also content-analyzed for type of language used based on three *a priori* categories (music analytic, metaphor/imagery, temporal).

A subset of seven participants from Phase I who played piano in addition to their school instrument was selected for participation in Phase II of the study. Participants came to a piano studio at a university school of music for participation in this portion. Each participant was given the notated music and 12-15 minutes to practice it. They then randomly selected a piece of paper containing one of four performance instructions (two using music analytic language, two using figurative language), read it aloud, and were given an additional 3-5 minutes to practice according to the instructions on the paper. Participants were then asked to perform the piece according to the instructions on the piece of paper they selected and self-evaluate how well they performed according to the instructions. The performance was recorded and this procedure was repeated for each of the four performance instructions for each participant.
The resultant performances were evaluated by experts based on the communication of expressivity. Each performance was rated two ways; for each of four expressive elements (articulation, *rubato*, phrasing, dynamics) and then a separate overall rating of expression. In addition, experts were asked to match each of the participant’s four performances to the performance instruction they believed to be represented. The participant’s performance ratings from Phase II were compared to their success with writing descriptions and type of language used in Phase I. Lastly, I also conducted an in depth analysis of each performance with focus on tempo, articulation, dynamics, and phrasing.

**Results.**

Results of this study are summarized under each research question.

1. **How do middle-school instrumentalists use written language to describe music?**

   More specifically, what kinds of terminology do they use – music analytical, metaphor/imagery, and/or temporal? Does grade level or piano study in addition to another instrument affect type of language used?

   Middle-school instrumentalists used a variety of terminology to describe music. In particular, music analytic language was used for at least one description by 98.3% of participants, followed by metaphorical language which was used by 93.3% of participants at least once, and temporal language which was used by 85% of participants at least once across all grade levels. Participants did not use all categories for all descriptions. Overall, music analytical language was used in 41.5% of descriptions, metaphorical language was used in 36.1% of descriptions, and temporal language was
used in 22.4% of all descriptions. A three-way analysis of variance with repeated measures was used to determine if there was a significant difference in the categories of language (music analytic, metaphorical, temporal) used at the grade levels (6th, 7th, 8th) and by instrumental experience (school-instrument only versus school-instrument plus piano). Results indicated that there was a significant difference among the types of language used. Music analytic terms were the most common type of description, followed by metaphor/imagery. Temporal language was used significantly less frequently than the other types of language. There were no significant interactions and no main effect for grade level or instrumental experience.

2. Do middle-school instrumentalists’ written descriptions convey sufficient meaning that they can be matched back to stimulus recordings by experts? Does grade level or piano study in addition to another instrument affect the matchability of their descriptions?

Middle-school instrumentalists wrote descriptions such that they could be matched back to the stimulus recordings by experts 67.4% of the time. Seventh graders descriptions resulted in the highest match rate (69.94%), eighth graders descriptions resulted in a 66.67% match rate, and sixth graders descriptions resulted in a 62.4% match rate. The overall characteristics of these descriptions showed that word count ranged from 45 to 204 with an average of 125.3 words used by an individual participant to describe the six excerpts. The most successful descriptions used the three categories of descriptions with similar frequency to the entire group overall. The use of music
analytic language in the most successful descriptions was 41%, almost exactly the same as the group average. However, the use of metaphorical language in the most successful descriptions was 33%, slightly lower than the group average of 36.1%, and the use of temporal language was 26%, which is slightly higher than the group average of 22.4%.

A univariate analysis of variance indicated that there was no significant difference in the match rate based on grade level, $F(2, 54) = 1.011, p = .371$, or whether the participant studied piano in addition to their school instrument, $F(1, 54) = 2.330, p = .133$, nor was there an interaction, $F(2, 54) = .697, p = .502$.

3. How effectively do middle-school pianists apply expressive elements in performing a short piece of music given performance instructions described by music analytic or figurative language? More specifically, do their performances convey each of the intended performance instructions so they can be matched by experts? Does the type of language used in the performance instruction affect the expressivity of the performance? Is any one of the performance instructions more likely to elicit an expressive performance? What are the qualitative characteristics of the students’ performances?

Middle-school pianists could perform in such a way that their performances could be matched to the performance instructions by experts 82.86% of the time. Among those performances that were mismatched, there was no clear explanation for the confusion. Half of the mismatches were based on performance instructions from different language categories. In other words, a performance based on music analytical
language was mismatched with a performance based on figurative language. With one exception, the other instances of mismatches were of performances that were based on instructions from the same language category; in these cases mismatched performances were both based on figurative language.

When examined by category of language, results indicated that there was no difference in expert ratings of performances. Findings did indicate, however, that the “Quite, slow, connected” performance condition elicited overall expressivity ratings that were significantly higher than the “Loud, very fast, detached” performance condition \((F(3, 102) = 2.9, p = .039)\).

While the cases studies showed that performers used a variety of tempi and articulation across all performances, the expert ratings of individual expressive elements found articulation to be the most salient, followed by phrasing and dynamics. No performer received an above average score for use of rubato.

4. Is there an association among young pianists’ ability to describe musical performances and their ability to perform with expression?

The seven participants were successful at communicating the essence of the performance instructions. Overall, experts were able to match participant performances to the correct performance instruction at rates that ranged from 78.6% to 92.8%. However, the participants garnered overall expressivity ratings that ranged (on a 5-point scale) from 1.58 to 3.12. The participant with the highest overall expressivity rating had the fewest
number of written descriptions matched to music by experts. Overall, Phase II participants wrote descriptions that could be matched back to excerpt an average of 29 times (out of 42 possible) which was consistent with the entire Phase I population average of 28.32. Since the number of students who participated in Phase II was so small, applying any statistical analysis to the relationship between expressive performance and written descriptions was not appropriate. However, it appears that there is little if any relationship between written vocabularies used to describe musical performances and expressive performances by middle-school instrumentalists.

Discussion

Describing music and matching descriptions to music.

By the time students reach the instrumental music classroom, they have both passively and actively listened to music for years. They have memorized children’s songs and parts of, if not entire, popular tunes that are played on the radio. Upon hearing just a few notes or words, they recognize these songs instantly. Like language, children acquire the ability to recognize music and discriminate its basic properties, such as high and low or fast and slow, through exposure in their everyday environment (Darrow, 1990). For children to learn to identify and label what they hear, and then be able to make critical judgments about such things as structure and harmony, however, the expertise of the music educator is required (Darrow, 1990). When students can identify and make judgments about what they hear, they will “listen more closely and perform more expressively” (Haack, 1990). Further, when students verbalize what they hear, music
educators can get a clearer picture of their understanding of music (Flowers, 1990). The MENC Task Force on National Standards affirmed those positions in 1994 with the publication of the National Standards for Music Education which encourage teachers to ensure that students have experiences “Listening to, analyzing, and describing music” and “Evaluating music and music performances,” among others. As Flowers (2002) notes, however, the specific achievement standards which fall under both Content Standards 6 and 7 for students in grades 5-8 have a notable difference from the achievement standards recommended for students in grades K-4. The achievement standards for grades 5-8 provide examples of describing that “specify attention to temporal aspects of music” (p. 45).

There have been several studies that used the frequency with which an expert can match a student’s description back to the appropriate excerpt as a determinant of success in communicating about music (Flowers, 1996, 2000; Flowers & Wang, 2002). In those studies, the match rates increased with age and ranged from 38% in the second grade, 41% in the fifth grade, 70% for college-age education majors, and 92% for college music majors. Participants in the present study wrote descriptions which provided sufficient detail to be matched back to excerpt 67.4% of the time. Because the participants in this study were middle-school students, a group that has received no prior attention in this context, these findings fill a gap in the previous research which has shown that the ability to successfully write descriptions that could be matched to excerpt increased with age and experience (Flowers, 1996, 2000; Flowers & Wang, 2002).
Categories of language.

Previous studies with younger children have shown that they tend to focus on musical elements such as timbre or tempo, employ extramusical (metaphorical) language, or pass judgment when describing music (Flowers, 1984, 1996, 2000). The students in the present study were in grades 6-8 and also used music analytic and metaphorical language with great frequency, but these students also incorporated temporal language into their descriptions. In fact, 85% of participants used temporal language in at least one of the six descriptions they wrote and temporal language appeared in 22.4% of descriptions overall. This frequency is similar to what Flowers (2000) found with 6th graders who had not received daily instruction in writing about music, which was about 19%. This finding is also consistent with other research that has shown that use of temporal language increases with age and experience (Flowers & Wang, 2002) and contributes to success in describing music (Flowers, 1984, 1996).

The least and most successful descriptions in the present study used all three categories (music analytic, metaphorical, temporal) with about the same frequency as the overall group averages. However, the most successful descriptions used metaphorical language slightly less and temporal language slightly more than the group. The findings suggest that the increased use of temporal language may be associated with both a heightened awareness of changes in sound over time and, thus, an increased ability to effectively represent music verbally.
**Word count.**

Word count is another variable that has been examined when investigating how subjects communicate about music and in fact early research suggested a possible association between word count and matchability (Flowers, 1996). However, further investigation showed this to be only a low correlation (Flowers, 2002) with caveats that increased word count does not necessarily result in more effective descriptions (Flowers, 2000).

In the present study word count seemed to bear no relationship to success with writing descriptions. In this case, the least successful descriptions had an average word count of about 93, which was very close to the group average of 97.8. The most successful descriptions in the present study used an average of about 125 words, but two of the ten most successful used only 45 words. These findings are more in line with other research that showed there was little or no relationship between word count and success in describing music.

**Performing music.**

An expressive performance is highly personalized from performer to performer, yet it is actually “rule-governed” and “not arbitrary” (Sloboda and Davidson, 1996). Woody (2002b) found that “subjects’ ability to identify features in an expressive performance was related to general contextual expectations” (p. 59). Woody also found that “musicians mental representations of performance are influenced by certain ‘rules of expressivity’” (2003). The results of the present study corroborate all of those findings in that students generally conceived of “Like a child playing” in a similar way; mostly fast,
mezzo forte, and detached in some way. Likewise, they conceived of “Like a fierce thunderstorm” in a somewhat similar way; again fast, generally loud but with noticeable dynamic contrasts, and often detached.

One of the methods used in this study to determine the success of middle-school musicians’ ability to perform expressively was how well expert evaluators could match student performances to playing conditions. Students were able to communicate the essence of the performance instructions 80% to 90% of the time. There is evidence to show that elementary-aged children and middle-school musicians are capable of producing performances which convey a single emotion (Adachi & Trehub, 1998; Ebie, 2004; Wang, 2001) or performances that are expressive in general (Rodriquez, 1998; Rohwer, 2001). However, given that there were four different performance instructions in the present study where half were based on figurative language statements while the other half were based on music analytic language, this result is remarkable. In other words, it would have been reasonable to expect the students in this study to be able to effectively represent the performance conditions which used music analytic language because they were clearly dichotomous (“loud, very fast, detached” versus “quiet, slow, connected”). The other performance conditions were not dichotomous emotions rather, they represented two different expressive categories as classified by Sheldon (2004): “swift, light, detached” and “heavy and dark.”

Although Sheldon (2004) found that the specific analytic terminology appeared to be easier to match with performances than figurative statements, the findings of this study did not corroborate her findings as neither category of language elicited significantly
more matches than the other. Also, in Sheldon match rates never exceeded about 60%; in the present study performances were matched to instructions 80 to 90% of the time.

This is also interesting because it seems to dispute Sheldon’s findings and Gabrielsson and Juslin (1996) who suggested that instrument timbre has the potential to affect the communication of expressive ideas because of techniques such as vibrato and pitch bending that are idiosyncratic to specific instruments such as flute, saxophone, and guitar. They imply that those idiosyncrasies should make the communication of expression both easier to produce and easier to apprehend. In the present study, however, timbre was not a variable as all performances were rendered on piano and yet the results were higher.

The category of language used in the performance instruction (music analytic versus figurative) did not affect the expressivity communicated by the performers as rated by experts, however, the “quiet, slow, connected” condition was rated significantly higher than the “loud, very fast, detached.” This is similar to what Woody (2006) found in a study designed to compare the efficacy of three instructional approaches to teaching expression (metaphor/imagery, aural modeling, and concrete musical) in that the musicians could perform expressively regardless of the type of instruction. Woody’s concrete musical approach differed from the music analytic language used in the present study in that he used specific expressive markings on the score. However, he stated that concrete musical instruction could be indicated “either verbally or symbolically” and occur when a “teacher addresses the sound properties of a performance, including variations in loudness, tempo, and articulation” (p. 22).
The seven participants in the performance phase of this study gave responses to and comments about the performance instructions that were somewhat consistent. Generally speaking, participants responded better to instructions containing music analytic language than figurative language. One participant read “Loud, very fast, detached” and exclaimed “I can do that!” Another participant said that the music analytic instructions were “easier because they told me exactly what to do.” On the other hand, perhaps because the instructions were so specific, some participants were especially self-critical of those performances saying things like “my fingers slipped and I messed up a little” or “I don’t think I played it very detached.”

Instructions that used figurative language elicited strong views from the participants. For example, three participants made similar observations about the “Like a fierce thunderstorm” condition stating it was “hard to play (that way) because it was in a major key” and it was “hard to make it sound fierce because it sounded happy and was high on the keyboard.” One of those same students commented about the “Like a child playing” condition that she liked it a lot because “There were lots of ways to interpret it and I was like playing through scenes in my head when I played it.” Clearly, for Sonya figurative language worked because she also received the highest overall rating of expression from the experts for her performance of “Like a child playing.” Misayo, the participant who verbalized her preference for the music analytic instructions and said that they were “easier,” received the highest overall ratings for the performances that used music analytic language as the stimulus. Interestingly, it was these two participants, who
clearly preferred opposite types of language in the performance instructions, who also received the highest overall ratings for all four performances.

The contrast in instructional language preferred by Misayo and Sonya reinforces the argument that excellent students respond to different types of instruction and corroborates research that suggests that a broad palette of instructional approaches is advisable when teaching expression (Sheldon, 2004; Stollack & Alexander, 1998; Woody, 2003, 2006a, 2006b). Also relevant is the fact that, based on their high self-ratings, all of the students in this study believed that they followed performance instructions well no matter what type of instructional language was used. Although the actual performances may have been received quite differently by the expert evaluators, their self-ratings indicate a confidence in and/or awareness of communicating expression. Given that Woody (2000) found that 30% of college-aged musicians indicated that it was during their middle school years when they first became concerned with making expressive performances, teaching expression to middle school musicians, and when doing so using both types of instructional language, is warranted.

What is puzzling, however, is how Misayo’s performances were rated as the most expressive yet her written descriptions that could be matched to music by experts were the least successful in the group; she had only 18 of 42 possible descriptions matched. Sonya, on the other hand, whose performances rivaled Misayo’s in expressivity, wrote 36 descriptions that could be matched, which is twice as many as Misayo. Both girls used the three language categories the exact same number of times; they used music analytic in 6 descriptions, metaphor/imagery in 3, and temporal language in 3 descriptions. The
number of words used by both girls for their descriptions exceeded the group norms. The average number of words used by those who wrote the least successful descriptions was about 93 words. Misayo, who was among the least successful at writing descriptions, used 108 words. The average number of words used in the most successful descriptions was 125 words. Sonya used a total of 155 words in her descriptions. This apparent contradiction suggests that there may be no relationship between how one writes about music and how one performs music.

**Implications and Recommendations**

Findings from this study show that middle-school aged musicians can effectively describe music. There are general developmental reasons for this success such as size of vocabulary and ability to write thoughts by that age. However, it is not known whether the incorporation of temporal language at this age is reflective of normal cognitive development or a function of exposure to and/or participation in music making. A replication of Phase I of the study could include using middle-school aged non-musicians as a control group to determine how much of the success could be attributed to music participation.

Those who studied piano in addition to their school instrument were selected as performers for the present study because it was determined that the technical, physical, and mechanical barriers to performance on a school instrument at this age would hinder an expressive performance. Using the piano eliminated typical difficulties that students of the same age would have with most school instruments such as problems with intonation,
range, articulation, and dynamic control. Based on some early pilot testing and my years of experience teaching instrumental music in the public schools, I felt it was unlikely that these students could have produced the same level of performances with their school instruments as they did with piano. In other words, if they had instead tested using their school instrument, it is likely that the expert matching scores and expression ratings would not have been as high. This then raises the question whether the findings of this study or others like it are generalizable beyond middle-school pianists. It could be that the findings are generalizable across all middle-school instrumentalists because the students’ ability to communicate musical expression is limited by but not contingent upon the instrument. To explore this, future researchers might replicate Phase II of this study with a research focus that examines if there is an effect for performance medium on middle-school musicians expressive performances.

On the other hand, perhaps studies that explore expressive performance capabilities should not group subjects based on age and/or grade as has so often been done. It is possible that, at a certain point, a person’s capacity to create an expressive performance with a musical instrument may be more closely linked to number of years studying or technique gained on an instrument rather than biological age. Future studies could attempt to explore when and under what conditions the expressive performance emerges.

Other possible related studies include those that focus on listening, analyzing, and describing and their relationship to expressive performance. The results of my study showed little or no relationship. But perhaps there would be an effect for instruction in analyzing and describing on expressive performance. Perhaps the instrument listened to...
and analyzed affects the success with which middle-school musicians can describe music because the timbres of instruments vary as do the specialized expressive techniques that each instrument is capable of producing. It is also quite possible that strength or weakness in self-assessment plays a vital role in the ability of a middle-school musician to create an expressive performance. All of these areas merit further inquiry.

The New Harvard Dictionary of Music (1986) defines expression as that which “does not necessarily imply that anything in particular is being expressed, though some connection with emotion, even if undefined, is usually presumed” (p. 295). This definition also includes an emphasis on the performer’s ability to derive qualities that are distinct from pitches and rhythm and include dynamics, tempos, and articulation. Each of these expressive elements can be suggested by the composer through indications in the score, but how they are realized is truly in the hands and minds of the performers and thus presents a challenge for both the learner and teacher. The practice of teaching music so often falls within the boundaries of traditional educational models in that the received tradition places the teacher as the focal point of the class and the students as the receptors. Rao (Shand, 1996) stated, “I think it’s the teacher’s responsibility to empower the children to teach themselves and to take responsibility for their own education, in partnership with the teacher. …[the new model] is the teacher teaching in a way that gives the children themselves the opportunity to make decisions and to respond, to take responsibility for that knowledge.” This is especially true if students are to learn to perform expressively. Although some answers may be “more right” than others based on historical conventions and our experiences as performers and perceivers, expression in
music is very personal. By encouraging student involvement in the process of learning to perform expressively, whether it is through movement, observation, imitation, evaluation, or initiation, they will develop a deeper understanding and the confidence to express themselves musically.
References


Flowers, P. J. (2011). *Sustained attention in music listening: K-12 music education.* Unpublished manuscript, School of Music, The Ohio State University, Columbus, OH.


Huron, D. (2002). *An ear for music*. Unpublished manuscript, The Ohio State University, Columbus, OH.


Appendix A: Background Data Questionnaire
BACKGROUND DATA QUESTIONNAIRE

Please circle the ONE answer that best represents your situation.

1. What is your gender? (Circle one)
   Boy  Girl

2. What is your age? (Circle one)
   10  11  12  13  14

3. What grade are you in? ________

4. What instrument(s) do you play regularly? (Circle all that apply)
   Flute  Oboe  Bassoon  Clarinet  Bass Clarinet
   Alto Saxophone  Tenor Saxophone  Baritone Saxophone
   Trumpet or Cornet  French Horn  Trombone  Baritone  Tuba
   Percussion
   Violin  Viola  Cello  Bass  Guitar  Banjo
   Piano

5. How many years (including this one) have you played each instrument? (Write the instrument in the space provided then circle one number for the number of years you have been playing it.)

   Instrument: __________________________
   Less than 1 year  1 year  2 years  3 years  4 years  5 or more years

   Instrument: __________________________
   Less than 1 year  1 year  2 years  3 years  4 years  5 or more years

   Instrument: __________________________
   Less than 1 year  1 year  2 years  3 years  4 years  5 or more years

128
6. Have you taken private lessons on any of these instruments?
   (Circle one)   Yes   No

7. How many years (including this one) have you taken private lessons on each instrument?
   (Write the instrument in the space provided then circle one number for the number of years you have studying privately on that instrument.)

   Instrument: _________________________
   Less than 1 year   1 year   2 years   3 years   4 years   5 or more years

   Instrument: _________________________
   Less than 1 year   1 year   2 years   3 years   4 years   5 or more years

   Instrument: _________________________
   Less than 1 year   1 year   2 years   3 years   4 years   5 or more years

8. How many days each week do you usually practice each instrument?
   (Write the instrument in the space provided then circle one number for the number of days per week you usually practice that instrument.)

   Instrument: _________________________
   1 day   2 days   3 days   4 days   5 or more days

   Instrument: _________________________
   1 day   2 days   3 days   4 days   5 or more days

   Instrument: _________________________
   1 day   2 days   3 days   4 days   5 or more days

129
Appendix B: Listening and Describing
Listening and Describing

For each of the musical examples presented, please describe (in words) how the music sounds. Provide enough information so that someone who reads your description could match it with the appropriate performance. You will hear 6 different performances.

1. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

2. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

3. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

4. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

5. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

6. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
Appendix C: Matching Descriptions to Excerpts
Student #1
___ lots of notes
___ nice, soft music
___ low and high notes going from quiet to loud; very, very fast
___ high notes and medium and fast tempo; gets soft and loud
___ loud; high and medium notes; gets softer; gets louder; very fast
___ quiet and very low notes; medium notes; gets very fast and slow

Student #2
___ loud, high pitched, very fast, bubbly
___ staccato and loud, then legato and quiet; peaceful then aggressive
___ sounds like thunder rolling low pitched crescendo and then the thunder sound stops
___ slow and quiet, relaxing, calm, toward the middle it gets sharp, and then it becomes quiet again. During the sharp part it sounds like the player is trying to sound unsure of themselves.
___ broken up, loud, then not loud. Different tempos and different volumes throughout the whole thing.
___ very quiet then a rapid crescendo; sounds like mouse feet climbing stairs sounds in movies

Student #3
___ The music is very fast paced; frequently accented; crescendos and decrescendos often
___ Starts piano then quickly crescendos staccato then sink back to piano.
___ The music is slow and piano then picks up and slows back down then up again to the end.
___ Fast paced and forte; flowing quickly; frequent crescendos and decrescendos.
___ Slow and forte but begins to pick up speed throughout lots of crescendos.
___ Quick and staccato at mezzo forte with crescendos.

Student #4
___ soft, light, smooth, piano
___ dark, shadowy, mysterious
___ moving tempo, fade out
___ Jumping, forte, sharp, fast
___ sunny, quick, lively
___ bright, happy, loud, fast
Student #5
_____ elegant, serene, has a melodic flow. Many notes overlapping in the rhythm. Piece sounds relieved like something good has happened or something will. Beginning is somewhat like church music but end sounds like a modern ballad.

_____ mezzo piano dynamic with mezzo forte staccato. Tempo is very fast, like something is speeding through the sky. Note patterns make it curious.

_____ sounds like it is from the jazz period. Sharp, melodious. Sounds sneaky or like some sort of ultimate fight/encounter is occurring.

_____ intro is piano. Tempo is very fast. A lot of alternating notes. Sounds like something mysterious is happening and is pondering questions. Middle is slow and somewhat somber. In a way it's like a tragedy story.

_____ sounds ominous. Notes are very (dramatic) low on keys in the left (bass) hand. Sounds somewhat sinister, as if it were anticipating misfortune. Crescendo. Damper pedal of piano makes it sound somewhat stormy. Could maybe be at sea when a tidal wave is occurring.

_____ sounds as if it were from the 1600s (classical period). Tempo is allegro. Notes are very high on keys and they change quickly. Left hand has a (somewhat) repeating pattern. Piece could be royal as if it were performed for a king or recital.

Student #6
_____ Blues-like, lively, combination of loud and soft phrases

_____ Lots of chords; Allegretto; switches between two notes very quickly; country-like; staccato

_____ Low, dark, constant bassline; jumps up an octave or two later in segment

_____ Begins low, increases tempo, slides up and down notes; changes from staccato to legato and back; rallentando; speeds up

_____ Very much like Beethoven or Mozart; classical feel; changes key signatures I think; varies volume

_____ soft, reminiscent of perhaps a bird in flight; syncopation; changes octaves throughout
Student #7
___ excited, fast, piano, jumping, exciting, getting louder at parts; always something playing fast; hopeful, fun
___ Low, gradually rising, sad, depressing, very legato, slow; going from soft to loud; not exciting; almost what would be in a horror movie
___ changing exciting; a little slow at parts and returning to loud, jumping
___ slow, quiet, boring, sad; makes me feel like I am walking through a friendly city at night; calm
___ gradual from soft getting louder and faster; very fast; sort of excited; sounds like you are running from something in a movie; changing from slow to fast to slow to fast; crazy interruptions in the beginning by fast notes
___ loud, fast, staccato, exciting; sounds like it's by Mozart guy or Bach man; Always consistent speed (fast) and loud; jumping, exciting

Student #8
___ fast, light, lively, soft, bubbly
___ happy, celebrating, loud and soft, gets more lively
___ smooth, graceful, light, up and down, back and forth, mostly high, happy, peaceful, then more energetic
___ heavier at first, then lighter; some smooth; mostly low; some higher
___ soft then loud then soft, energetic, crazy, then slow, up then down
___ dark, spooky, exciting, heavy, strong

Student #9
___ It's faster and has stickier, staccato notes that join to create a "jumpy" sound. The notes remain high throughout the piece.
___ It has a melodic rhythm, never straying off tempo. It has a defined course of action. It remains at piano throughout the segment.
___ This creates a full piece, with altering notes, tempos, and sounds to create a melody that which the listener can follow.
___ Very upbeat, the tempo isn't very consistent. It could describe someone's actions; it tells sort of a story. The notes are very accented.
___ The notes are more dreary, the notes being on the lower side of the scale. It's inconsistent with the melody and very unpredictable.
___ The tempo is very fast and upbeat, the notes faltering back and forth between forte and piano. The notes are very connected and pieced together.
Student #10

- contrasting, sounds loud, heavy
- light, soft, majestic, quiet, empty, cold, sad
- jolly, bright, happy, quick, skipping, upraising, yellow
- strong, clear, loud-soft, quick
- neutral, boring, straight, square, gray, same, redundant
- mysterious, odd, outcast, off, scary, different

Student #11

- Deep, full keys; using sustained pedal; bottom hand growing louder while top hand becomes more accented. Scales ascending and descending run throughout
- jazz piano; first notes forte and accented, second set of notes piano; the piece goes into forte and accented and back not legato and piano; ends with descending chords
- legato, smooth piano; accented upper hand laid over; staccato sets and drops towards middle of piece; ends abruptly
- Low staccato notes; high legato and accented notes in upper hand. Flurries of chords and arpeggios in top hand with underlying harmony in bottom hand. End of piece with sustained pedal?
- High accented, staccato chords; one pattern is repeated three times; mostly sixteenth notes with some more accented eighth notes
- classical piano; ascending melody towards the beginning; forte to piano; slurred but accented set of descending and ascending notes. Patterns repeat several times. Also ends abruptly

Student #12

- Sounds like its mezzo forte in parts then fortissimo in others. It has a fast tempo.
- It sounds like it starts off forte and crescendos to fortissimo. It sounds like its played by a piano in a jazz tone.
- If sound piano at first and crescendos to mezzo forte then to forte. It has low tones and some higher tones.
- It starts piano then to mezzo forte. It is very fast and louder at points.
- It starts off mezzo piano with a slow tempo. Then it gets faster. As it gets faster it gets louder.
- The notes are staccato; it has crescendos from piano to forte then back down again and then back up then down and so on.
Student #13
_____ dark, described as someone's anger boiling up. Low soft and slow.
_____ mezzo forte to piano the crescendo to eventually forte
_____ Upbeat fast notes very up and down the entire segment.
_____ Piano-forte-piano-forte-piano; starts low then sounds like someone in distress
then they make it to their destination.
_____ happy. Sounds like something exciting has or is happening; fast, light

Student #14
_____ dark and slow; reminds of Halloween
_____ started slow and flowing then became staccato and then it sped up right before it
ended
_____ sharp, fast; starts intense becomes light then intensifies; forte
_____ forte and accented and staccato and very fast; loud, quick
_____ light and quick and joyful then very light; crescendo and repeat
_____ flowing, light, airy, soft; become staccato then goes back to flowing and then
repeats that sequence

Student #15
gets happier.
Suddenly changes.
jump back and forth.
_____ Slow. Sounds like moonlight. Reminds me of civil war era love songs. Less chords.
High notes. Minor. Seems like it could have words.
Railroad tracks.
_____ Might be dance music. Quick. Could be from a movie. Not especially sad or happy.
Seems European.
Student #16

[1] Though slurs are employed often, especially in the second half, for the most part the piece is detached or staccato. Not as much dynamic diversity.
[2] Calming, for the most part legato, moves through clear sections.
[3] Very light and clean; the melody is not always clear; in some parts it is almost dissonant.
[4] A great amount of diversity in the dynamics, staccato
[5] The melody line is legato and very distinct, while the left hand remains quiet, before moving cleanly into another section.
[6] The two hands both get a piece of the melody - in this way it is very much like a conversation; a great deal of dynamic diversity.

Student #17

[1] jazz-ish; many crescendos/decrescendos; very spaced; different ideas to form one
[2] broken up at first, then plays closer together; loud, soft, loud, softer...(bipolar)
[3] loud; high pitched; allegro; goes up and down scales; sharp then flat
[4] soft (quiet) but low; low - high continues; very fast; almost like a looney tunes chase scene
[5] piano; legato; very soft then changes slightly; pace changes rapidly
[6] dark sounding; played in a lower register; two different parts being played at once; one part uses scales

Student #18

[1] Right hand doing many scales. Left hand doing arpeggios and alberti bass pattern. Right hand staying near the top of the piano.
[2] Left hand doing blocked chords at the beginning while right hand does little accented notes at the top of the keyboard. Then right hand does some scales while the left does chords. At the end, both hands are legato.
[3] Minor key. Left hand doing scales up and down the bottom of the keys. Right hand doing very basic single notes around middle C.
[4] Upbeat and happy sounding. Left hand after a few moments gets to a set pattern while the right hand does some scale variants and a few chords.
[5] Andante. Legato. Some bouncy, light chords in the right hand near the end. Left hand seems to have a pattern most of the time.
Student #19
____ Flowing, smooth song. Legato and often uses pedal. Piano. Right hand sings over top of the left and there is a point when it plays a little more rapidly than the beginning.
____ Starts with left hand playing low repeated notes softly (piano). Right hand comes in playing 16th notes fast and higher up. Staccato in right hand. End has more of a flowing sound.
____ Piano. Staccato at first. Fingers "jump" around the keys. Pedal used sometimes. Often in a lower key. Right hand sometimes plays higher.
____ Sonatina (left hand rotates) right hand is usually staccato. Major key. Faster pace. Right hand uses a lot of trills and scales. Piano.
____ Starts by playing chords. Higher up on the piano often there are chords in either right or left hand. Energetic. Loud chords and then softer right hand notes.
____ Left hand has a low up and down, soft to loud and back notes. Right hand usually plays one key at a time. Right hand is very audible over the left hand.

Student #20
____ evil, crescendoed, accented, low becomes clear and pure
____ uses many scales, uses whole piano, sounds classical
____ mysterious, something that comes out of the dark. Reminds me of a mouse running.
____ flat, accented, changes in loudness, staccato, gives me a picture of someone running up and down stairs
____ legato, delicate, piano, "romantic", fast tempo, gives the impression of a slow dance
____ like something played in church, becomes louder and softer, cheery, fast notes

Student #21
____ Ballroom dancing; slow dancing; legato changes to staccato by the end.
____ Oldies; silent films; Charlie Chaplin; different moods
____ Dark, horror, depression; Low key, suspense
____ Bach, Baroque era, joy, fast paced
____ bouncy, lots of notes in a row; happy
____ high vs low sound "fighting" over melody
Student #22
___ Piano; light in some parts but heavy in others; crescendoing and decrescendoing; out of tune somewhat; slowish tempo
___ fast, light and heavy, crescendoing and decrescendoing like a bee; changes a lot
___ bright, light, happy comfortable tempo then speeds up then decrescendos; sounds like Mozart or Bach or Beethoven at first; played on piano
___ piano; quiet; soft and almost harp-like; slight crescendoing in tempo and loudness; peaceful; speeds up a lot at the end.
___ low, sad, mad, slow then speeds up in background; depressing; like a thunderstorm or a big storm; played on piano
___ light, happy, feels like it should be for a party; Allegro, repetitive; played on piano

Student #23
___ A soft entrance with the speed increasing and the sound increasing and decreasing.
___ A soft deep tones entrance keeping the deep tone throughout the piece, with it getting louder.
___ A soft rhythm at the start of the piece, then at the end it starts to speed up.
___ A fast beginning with the sound changing from soft to loud.
___ A loud and fast entrance then it goes loud to soft keeping the fast tempo.
___ A piano is playing soft then hard in the beginning then at the end it goes soft.

Student #24
___ repetitive lower voice in beginning, higher voice going up and down quickly in middle
___ sonatina-like, fast, ornaments, scale based, ostinato accompaniment in beginning
___ Blues, fluctuating tempo, chordal
___ starts low, gliss-like accompaniment, ends with one part
___ higher register, bouncy, sounds urgent, fast paced
___ slow, syncopation, quiet beginning, faster at ending, melody in high register

Student #25
___ Mozart or Bach. Fast, calm & exciting, happy
___ jazzy, jumpy, proud near the end
___ gradual, creepy, sad, lonely, rainy walking along the streets of New York
___ happy bunnies, festival celebration, feast
___ gradual, proud, firm, constantly changing mood
___ smooth, happy and sad, calm mostly, mostly relaxing
Student #26
_____ low notes mostly contrasted with a few high notes - seems to stop and start again; almost teasing effect because of moving notes that accelerate and decelerate; quick for the most part; seems to have 2 contrasting parts - fighting or arguing; good crescendos and decrescendos
_____ lively-quick fingers; once again played on piano; sounds like the 2 hands are playing completely different things; notes move quickly up and down; staccato notes; small crescendos
_____ dark; slow; sad music; bass line - slow moving notes seem to take the song over; crescendo then a decrescendo; music in background repeats goes up and down give an almost eerie effect contrasted with slow notes
_____ Piano playing staccato to begin then moves on to more syncopated rhythms - different volumes with crescendos and decrescendos - end with decrescendo
_____ cheerful staccato; accented notes; cool crescendo and there are many changes in volume - loud to soft; upbeat; happy fast - sixteenth notes
_____ soft piano music - more smooth than others - gentle, soft, round; move on to a more moving part and then returns to the soft music; another upbeat part; unexpected cut off; played quietly for most of the song

Student #27
_____ deep background sound that picks up; high main sound; slows down near end
_____ high pitched; fast; mainly 16th notes
_____ staccato; cheery; moving back and forth
_____ deep; background gets louder then softer; main sound slows down then picks up; background stops near end
_____ Repeats 2 in beginning; jazzy; sounds like something falling; swing to it
_____ slow paced; waltz; picks up in middle then gets higher; sad in beginning; soft

Student #28
_____ too hyper - that is my job!
_____ dark, scary
_____ sounds like a opera
_____ sad as if mourning for a death
_____ too happy
_____ sounds like the Marx brothers
**Student #29**

___ An upbeat tune with another happy feel. Like the feel of cherry-picking in a meadow.
___ It sounds like a rather jolly adventure through some of the most surreal atmospheres.
___ Another cheery tune that calls out to probably a montage sounding song that would go with children playing.
___ A suspenseful tune with an evil feeling towards it. Usually meant for a jump scare.
___ A sweet, melodic wave meant for a nice pleasant time.
___ A hyper song demonstrating fast movement.

**Student #30**

___ Begins almost triumphantly, sounds gleefully meandering, dialogue-like
___ Played on piano; sounds like the sound track to a Tom and Jerry cartoon!
   Lighthearted; varying tempo
___ Ominous, heavy, minor, pulsating, throbbing, increasing dynamic level, the rapid decrescendo, dark
___ Foreboding, at first somewhat ominously, but quickly a hint of something close to merriment can be detected, then then becomes more apparent before the piece becomes sadder again. Fast paced, energetic.
___ fast, lively, rather back-and-forth; played on piano...though by this point I'm guessing they all are...towards very end changes
___ Softer, slower to begin with; tempo increases, sounds rather melancholy to begin with; almost jovial at end

**Student #31**

___ An exciting song persuades you to keep listening; a quick song; doesn't stop moving
___ A light, peppy, happy, joyful song.
___ A low dark angry song sounds like a thunderstorm. Creepy.
___ This is a smooth flowing song just slides into the next note.
___ A fast paced quick moving song; short choppy notes
___ It's a short beat staccato sharp song
**Student #32**

- high, fast, staccato, annoying
- chords at beginning; played on piano; harmonized
- dark, deep, creeperish, depressing
- starts low and moderate tempo; ends moderately high and fast
- quick, upbeat, happy
- quiet, sad, piano; speeds up at the end; repetitive

**Student #33**

- A piece that makes me envision a game of cat and mouse
- A bright and cheery tune fastly paced and played with high notes.
- A fast tempo piece that is most likely played at forte
- A dark eerie piece of music that could foretell bad comings.
- An ominous piece of music in the beginning but around the end it's a bit more calm and less creepy
- Tranquil music played at mezzo piano; has a calm vibe

**Student #34**

- snoopyish; coming to a revelation; party music; the recollection of someone's life with ups and downs
- happy, sounds like everything is all right; sort of like Batman at parts; either someone is getting married, in trouble; piano
- fast, piano, Mozart, sounds like da da da bla bla bla-ing; gets softer near the end
- slow, piano, light & airy, decrescendo at the beginning then a crescendo; movie background in the country when they remember something
- sounds like a storm; evil sounding or if they lost the love of their life; running away from something bad they did; piano
- jazzyish, played by a piano, crescendos a lot; high & low alternate a lot.

**Student #35**

- It sounds like people are dancing in the rain and just running up the street. Fast and loud.
- It sounds like one of those songs in a silent movie with people chatting, walking in a park and celebrating the end. Fast and loud.
- It sounds like a drama sound. Like someone just died and their walking alone to their house. Soft and mellow.
- It sounds like an upjoy sound. You can just dance to it. Fast but not that loud.
- It is fast and it goes to mezzo piano to forte then back down; it sounds like a mystery song.
- It sounds like a horror movie and people are about to kill someone. Slow but loud.
Student #36
   ___ f - ff, staccato, fast speed
   ___ p - mf - f, slow speed, low sound
   ___ mp - mf, medium speed
   ___ p - mp, slow, legato; crescendos then decrescendos twice
   ___ mf - f, medium speed, legato
   ___ p - mp - mf, fast speed, medium sound

Student #37
   ___ piano; slow-paced; drops to pp then swells <>; legato; staccato in some parts
   ___ piano, then crescendo, piano, crescendo, fast, not as smooth as number 2
   ___ piano (instrument); forte at first but piano at the very end; fast paced
   ___ forte, fast-paced, staccato in some places
   ___ low-pitched, piano, gradual crescendo, smooth
   ___ staccato, mezzo piano, fast-paced, crescendos the drops to a softer pace

Student #38
   ___ light, sunny, joyful, quick and amazing
   ___ quick, happy, joyous and loud
   ___ deep, fast, stealthy
   ___ sharp and scary, forte, fast, jumpy
   ___ beautiful, piano and flowing, soft
   ___ Halloweeny, scary, sharp and hard

Student #39
   ___ starts with low notes; heavy, slow
   ___ light, upbeat, playful; notes change quickly; mostly high notes
   ___ calm; mostly quiet; sometimes loud; flowing
   ___ up and down; fades; loud-soft-loud-soft..., happy
   ___ rapid, short light notes, starts soft but gets louder; like running
   ___ quick, bright, circus
Student #40

___ Mostly legato; calm tempo; makes you feel like you are in a forest
___ very increasing dynamics; hands repeat pattern; sounds like a prototype airplane lifting off
___ one hand plays low and other plays medium level. Sounds like the kind of music you would play at the end of the world
___ mostly fast paced; again mostly mf dynamics; sounds like Mozart or Bach
___ very light, changing dynamics, and sound like spring in the 1980’s!
___ The first two measures it repeats but with a modification. Sounds very grand and old time; different types of dynamics

Student #41

___ very happy and loud; also fast and could make you feel like the world is perfect
___ light and free; happy, fast; reminds me of spring and kind of loud
___ dark and evil; could be also in a horror movie; very scary, sounds like a storm
___ dark and very quiet but then gets loud and then has much suspense; very fast
___ sad but happy with decrescendos and crescendos; it sounds bittersweet and could be played at a wedding or a funeral
___ It sounds jazzy then scary, like in a horror movie but then quieter and kind of happy

Student #42

___ staccato notes loud then soft; allegro; happy feeling; gets faster and louder then quiet the loud, etc. Fast notes!
___ It has a jazzy swing theme in the beginning; it goes from "f" to "p" to "f" and quiet at the end; the chords lead into each other; some staccatos
___ loud; lots of slurred notes; 16th notes; legato; "ff"; allegro; the notes get higher
___ quiet and fast rolling high notes gets faster and louder; really fast quiet notes gets louder still faster and louder. Then quiet and slows down then gets quiet and speeds up a little.
___ rolling notes in the background; it has an evil feeling. Quarter notes on top of rolling notes gets louder and the rolling stops then it gets quiet again
___ It’s quiet in the beginning the notes are legato, smooth, and soft. Then it starts to speed up to 8th notes and 16th notes
Student #43
_____ There are many crescendos and decrescendo. Fast moving notes.
_____ Fast moving high notes with some longer low notes. Louder and has shorter notes.
_____ Beginning sounds like bell tones. There is a trill with an accidental in it. Sounds like a happy song.
_____ Sounds like someone pounding on the piano but quietly for the bass line. The song starts off fast but then slows down towards the end. Quiet hints of high notes at the beginning.
_____ Quiet and flowing together. Some short staccato sections.
_____ Starts with quiet, somewhat fast moving low notes. Longer, louder notes come in. A big crescendo throughout it.

Student #44
_____ It has a very bright, upbeat beginning. It sounds like it is using a lot of cadences in the right hand.
_____ It is quiet and gentle. It is played at volume levels between piano and mezzo piano. It uses staccato chords in the right hand close to the end of the piece.
_____ The left hand is going up and down the piano. It gradually gets louder. The right repeats itself at the beginning.
_____ It uses crescendos and decrescendos. It uses quick notes in the right hand.
_____ It starts out quiet and then gets louder. It uses quick notes in the right hand.
_____ It has a kind of jazzy feel to it. It is note played with a lot of expression. It sounds kind of like Gershwin’s Rhapsody in Blue

Student #45
_____ quiet; sounds like something played in the part of a movie when their remembering something; background music; soft; played by a piano; guacamole
_____ sounds like they got a bit bored in the middle; happy; sounds like music played by a piano
_____ sounds like the beginning of Dennis the Menace; yet again played by a PIANO; a bit uplifting but kinda boring
_____ played by a piano; crescendos and decrescendos a lot; sounds almost like jazz but not quite; played well
_____ sounds like Mozart; still played by a piano; uplifting; loud at first
_____ sounds like a thunder storm from Bambi; a part of a movie when someone is shot; scary; poopy; played by a piano
Student #46

___ A jazzy start and kind of high piano then low piano. Not too fast. Sounds almost like something is running up and the keyboard. Ends on one note.
___ Starts low and almost sounds like Jaws - very menacing. You would hear this music if you went into a haunted house. Crescendo leading into a higher part with end.
___ Starts off with a soft music crescendoing into a heavy rhythm with a higher fast piano part. It sounds like Bumblebee (the piece, not the animal).
___ Classical tune start with a light piano over the background then more rhythm, and then a faster tempo. And ends quite abruptly.
___ Starts out with a fast tempo with very fast fingering on the piano going up and down, over and over again. Happy quick tune with an abrupt ending.
___ A happy fast tempo with cool rhythm. Almost sounds like two people arguing. A catchy tune. Ends abruptly.

Student #47

___ It sounds as if someone is running away from reality. It reminds me of the person who wrote the music for "Tom and Jerry"
___ It reminds me of a part of a sonatina by Clementi that I have played. It makes me feel like I'm floating with all the slurs and chords.
___ The right hand sounds cheerful, it reminds of a piece I learned by Attawood. It sounds happy, as if nothing can go wrong.
___ It reminds me of a piece I want to learn by Clementi and the piece I recently learned from Kuhulau (I think that’s how you spell his name)
___ It reminds me of a Bach piece I heard from a friend of mine. It sounds very romantic with the scales and the steady left hand.
___ It reminds me of when I play my Chopin pieces. The left hand scales make it sound mysterious, the right hand make it sound in a way relieving

Student #48

___ Cheery, piano; crescendos/decrescendos; use of chords; several notes at a time; escalating up the scale (A, B, C, D, etc)
___ swaying; soft tone; gracefully moving; chords and several different notes played separately; decrescendo; happy
___ High notes; very cheery; fast tempo; mf < f; soft in the beginning; same ideas/phrases repeated with different notes/volume
___ fast tempo; crescendo; gliding up and down the piano; bouncy feel; classical; soft and then suddenly loud
___ very soft in the beginning; slight crescendos throughout; skipping feel; feels like a story; bouncy
___ dark, low notes. Starts as a blending of low, soft, dark notes; suspenseful; awaiting of something
Student #49
____ bass clef; slow but gradually gets fast then slow again
____ bouncy at some parts; fast; short pauses
____ medium speed; gets softer; bouncy at the end. Makes me think of dancing fairies
____ bass clef sometimes hits a few treble clef notes; fast and bouncy; it end in the treble clef
____ happy sounding song; very bouncy; fast (very)
____ fast at most of the parts; incorporates a lot of scales

Student #50
____ staccato, very fast, repetitive bass, becomes smooth
____ gloomy, dark, low, mysterious, sneaky
____ legato, smooth, soft, staccato
____ happy, joyful, staccato, fast
____ fast, happy, quick, "bouncy"
____ lively, fast, staccato

Student #51
____ The music starts out lower and has lots of rests; it still stays low but has no rest and sounds like it's pulling something before fading out.
____ Starts high switching between soft and loud playing. It sounds happy.
____ It starts low and slow (but gets faster) with a slow but slightly higher right hand. The left hand stops but the right keeps playing.
____ Starts with low left hand and high right hand. Left hand plays a chord a lot of the time very quickly. Then the right plays, without the left hand, slower than before.
____ Starts high and gets lower and keeps going up and down the scale. It sounded fluttery.
____ Starts out higher and is played lightly and sounds like it is flowing. Then it gets more dynamic, then it flows, then it gets dynamic again.
Student #52
_____ a couple practices an exciting, light-footed waltz in a very big, empty room, with long windows and a lot of sunlight.
_____ a mother horse and foal are in a meadow in waving grass, the foal starts leaping around and they eat fallen apples in a patch of sunflowers. Mother horse-baby horse love!
_____ someone knocks on the door. Little girls don't know whether to open door or not, they just prance in front of it. Person knocks harder, angrily. Little girls run around in a frenzy, running up and down stairs and knocking things down. Finally mother comes down stairs gracefully and opens door.
_____ a family of cats falling down the stairs and tumbling on a grand piano (heaviest cat falling last)
_____ a cat is following a field mouse through a tempest. The mouse starts going a tiny bit faster...but it gets caught.
_____ a ballet play in the mid-1800's that depicts a frilly little girl on a nice spring day (while she dodges carts in old NYC)

Student #53
_____ romantic, slow, classic, happy, changes opinion, first slow then fast piano, 1860's
_____ dark, sad, piano, on a ship, violent storm, then ship sinks, 70's
_____ piano, fast, jazz, cartoon action, 80's
_____ run fast, more for kids then adults, sounds like from 60's
_____ fast, happy
_____ holiday, fast, sudden

Student #54
_____ soft, smooth, higher pitched notes at the end, solemn mood
_____ repeating the same note again, crescendo louder, sound rises
_____ lots of chords
_____ fast, higher pitch, happy mood, lots of trills (I think that's the word)
_____ happy mood, accented beginning, fast playing, higher pitch, occasional trill
_____ lots of trills, lower pitch, very low notes, fast playing
Student #55

____ It sounds like something that would be played at the end of a movie which would be like a tune that could go along with a scene reviewing the life of a character with ups and downs and it has fluctuating in decibel level.
____ This piece depicts something that sounds similar to almost a chase or a pursuit. Speeding up and slowing down. Growing softer and louder.
____ A dark, almost evil theme with a low piano rhythm that repeats over and over and finally releases at the end like a long intro.
____ A rapid piano harmony with a quick beat and fast pace. Growing louder and softer in waves.
____ A lively piano melody that zooms by and sound like it could accompany a folksy dance. It has a generally high pitch.
____ A song with two voices that unite and split off over and over that is mostly fast paced with slow parts and an odd eeriness to it with it's happy yet heart-racing feel.

Student #56

____ It reminds me of ballet, we used to dance to this kind of music. It would represent a swordfight (maybe) in a skit.
____ This is cool. It's got the perfect mesh of cheery and sad, it's dramatic, like Lindsey Stirling and Chameleon Circuit. It's very cool.
____ Dark and gloomy: like life if the Gallifreyans came and took over. It is like a haunted house back music, dramatic. Ups and downs.
____ Cheerful and light, would be fun to dance to. A fairy would enjoy this, a Vampire wouldn't. I'm on the Vamps side. Too cheery.
____ Soft and dreamlike, like flying over a magic land or seeing Iceland from high up. It gets faster paced, like swooping over the mountains and maybe the Glens of Scotland.
____ Piano; sort of loud and obnoxious, dramatic, sounds like a clown routine for the circus, it's fast and transitions loudness.
Student #57

____ Starts suddenly, powerful, staccato piano, stays piano (instrument) the whole time, then stops suddenly and fades.

____ A very low bass intro, fast and staccato, then launches into more cheerful part, only to be replaced shortly after by a more foreboding sense.

____ Also piano (instrument), starts with a soft, classical-like intro, then becomes more lively and faster, almost bouncy. Sounds almost like an electric guitar accompaniment, and stays like that until the end.

____ The style of this music stays the same throughout the sample, it has many up and down "slides" and has a very large range.

____ Starts with extremely low bass piano part, has a menacing tone, the bass part is interrupted by short bursts of higher piano. Then, toward the middle, the bass part fades and stops. The higher piano becomes a little more cheerful.

____ Begins with a fanfare like intro, then "bounces" until the end with many ups and downs, and every once in a while a more dissonant set of chords.

Student #58

____ The music uses mostly piano and the tempo stays the same throughout.

____ The music uses a wide range of notes and sound level.

____ The music goes up and down the same scale for most of the piece.

____ The music stays piano for most of the piece but moves to mezzo piano at the end.

____ The music stays at a low range of notes and moves from mezzo piano to mezzo forte.

____ The music has a fast tempo and moves very quickly from note to note.
Student #59

___ It is really low piano. It starts soft with no melody then gets a little bit louder and has a lot of semi-random notes then it gets really loud with a melody the quiets down because the bottom part stops.

___ It has medium speed notes that are low with a little bit of high in the beginning then there is a pause and there get to be more high notes with a lot of scales throughout the whole piece.

___ It sounds like jazz a little bit. It gets louder and softer a lot. It's a piano. It pauses a lot then repeats in a lower octave sometimes.

___ It sounds calming. It's a piano. It gets louder and softer. It gets higher and lower but it mostly stays the same note speed.

___ It has medium speed notes with middle pitches. It starts loud then is quiet a lot. It sounds like having fun and dancing.

___ It has fast notes. It is a piano. It is mostly high notes and has a lot of scales and arpeggios. It gets louder and softer and the loud parts are usually lower.

Student #60

___ This song is fast and happy during the whole song; it has a Mozart style to it.

___ This song has a jolly feeling to it like a christmas; it is pretty fast; it only uses higher notes.

___ This song is neither fast or slow. It's a bad or evil feeling to it; most notes are pretty low and some are a little bit higher which contrast with the lower notes.

___ This song is slow and later gets faster; during the song is switches from slow to fast. It is a little jolly in the slow part and a little happier in the fast part.

___ This song is played by a piano in a little fast speed; has a happy feeling and plays more than one note at the same time for almost the whole song and a little like an old ragtime song.

___ This is a fast song; it is low and quiet in the beginning and gets louder with a little bit higher notes. It has a happy feeling like a song you would hear in an opera.
Appendix D: Instructions for Content Analysis
Instructions for Content Analysis

Your task is to indicate whether you see the presence of any of 3 types of responses (analytical/music terminology; metaphorical/imagery; temporal - meaning references an unfolding of sound over time) in students written descriptions of what they heard in 6 musical examples.

For example, each box below contains a description for a different musical excerpt:

<table>
<thead>
<tr>
<th>trouble, thrills, tension, excitement</th>
<th>peaceful, accelerates in the middle of the piece. It almost makes me think of a garden, or a street musician</th>
<th>something older like Bach or Vivaldi, happy, normal</th>
<th>Its loud then soft it sounds like a mystery</th>
<th>haunted house, a scary movie, tornado, sadness, death, running away</th>
</tr>
</thead>
</table>

I would likely evaluate them in the following way:

|------------------|---------------------------|-----------------------------|--------------------------------------|------------------|

Please use a colored pen or pencil and put your notations in each box. The categories again are:

Metaphor/Imagery - you can use "M/I"
Analytical/Music Terminology - you can use "A"
Temporal - you can use "T"

Temporal is perhaps the trickiest. Students may use terms like beginning, after, next, then, suddenly, etc. The idea is that you think they are communicating the "unfolding of sound over time."
Appendix E: Music for Study
Appendix F: Matching Performances to Prescribed Playing Conditions
Matching Performances to Prescribed Playing Conditions

Each performer was asked to play the same piece four different ways based on the following directions (which they selected at random):

Perform the music in the following way:  **loud**, very fast, detached
Perform the music in the following way:  **quiet**, slow, connected
Perform the music in the following way:  Like a fierce thunderstorm
Perform the music in the following way:  Like a child playing

For each performance you hear, please indicate which interpretation you think the student was trying to represent. You may use the bold word from the list above as your response.

<table>
<thead>
<tr>
<th>Performer #1</th>
<th>Performer #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st performance: ____________</td>
<td>1st performance: ____________</td>
</tr>
<tr>
<td>(Track 1)</td>
<td>(Track 9)</td>
</tr>
<tr>
<td>2nd performance: ____________</td>
<td>2nd performance: ____________</td>
</tr>
<tr>
<td>(Track 2)</td>
<td>(Track 10)</td>
</tr>
<tr>
<td>3rd performance: ____________</td>
<td>3rd performance: ____________</td>
</tr>
<tr>
<td>(Track 3)</td>
<td>(Track 11)</td>
</tr>
<tr>
<td>4th performance: ____________</td>
<td>4th performance: ____________</td>
</tr>
<tr>
<td>(Track 4)</td>
<td>(Track 12)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performer #2</th>
<th>Performer #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st performance: ____________</td>
<td>1st performance: ____________</td>
</tr>
<tr>
<td>(Track 5)</td>
<td>(Track 13)</td>
</tr>
<tr>
<td>2nd performance: ____________</td>
<td>2nd performance: ____________</td>
</tr>
<tr>
<td>(Track 6)</td>
<td>(Track 14)</td>
</tr>
<tr>
<td>3rd performance: ____________</td>
<td>3rd performance: ____________</td>
</tr>
<tr>
<td>(Track 7)</td>
<td>(Track 15)</td>
</tr>
<tr>
<td>4th performance: ____________</td>
<td>4th performance: ____________</td>
</tr>
<tr>
<td>(Track 8)</td>
<td>(Track 16)</td>
</tr>
</tbody>
</table>
Performer #5
1st performance: ______________
(Track 17)

2nd performance: ______________
(Track 18)

3rd performance: ______________
(Track 19)

4th performance: ______________
(Track 20)

Performer #6
1st performance: ______________
(Track 21)

2nd performance: ______________
(Track 22)

3rd performance: ______________
(Track 23)

4th performance: ______________
(Track 24)

Performer #7
1st performance: ______________
(Track 25)

2nd performance: ______________
(Track 26)

3rd performance: ______________
(Track 27)

4th performance: ______________
(Track 28)
Appendix G: Rating Sheets
I. Performance Evaluation – Expression Only

Please use the rubric below to evaluate only the expressive (e.g., interpretive) elements of the audio examples provided. You should circle one box for each expressive element resulting in a total of 4 boxes circled. For example, if you found that the performance employed “consistent use of phrasing,” “artistic use of dynamics,” “consistent use of tempo,” and “inconsistent use of style,” you should circle each of the boxes that contain such language.

<table>
<thead>
<tr>
<th>Element of Expression</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>No observable use of articulation</td>
<td>Lacks meaningful use of articulation most of the time</td>
<td>Inconsistent use of articulation</td>
<td>Consistent/appropriate use of articulation</td>
<td>Artistic use of articulation</td>
<td></td>
</tr>
<tr>
<td>Rubato</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>No observable use of rubato</td>
<td>Lacks meaningful use of rubato most of the time</td>
<td>Inconsistent use of rubato</td>
<td>Consistent/appropriate use of rubato</td>
<td>Artistic use of rubato</td>
<td></td>
</tr>
<tr>
<td>Phrasing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>No observable use of phrasing</td>
<td>Lacks meaningful use of phrasing most of the time</td>
<td>Inconsistent use of phrasing</td>
<td>Consistent/appropriate use of phrasing</td>
<td>Artistic use of phrasing</td>
<td></td>
</tr>
<tr>
<td>Dynamics</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>No observable use of dynamics</td>
<td>Lacks meaningful use of dynamics most of the time</td>
<td>Inconsistent use of dynamics</td>
<td>Consistent/appropriate use of dynamics</td>
<td>Artistic use of dynamics</td>
<td></td>
</tr>
</tbody>
</table>
II. Overall Rating of Expression

Circle the number below that best represents your rating of the overall expressivity of the performance.

Not Expressive

| 1 |  2 |  3 |  4 |  5 |  6 |  7 |  8 |  9 | 10 |

Very Expressive

Comments:
____________________________________________________________________________________________________________
____________________________________________________________________________________________________________
____________________________________________________________________________________________________________