Intrapersonal, interpersonal, and cultural influences in collaborative composition

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Dissertation

INTRAPERSONAL, INTERPERSONAL, AND CULTURAL INFLUENCES
IN COLLABORATIVE COMPOSITION

by

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This dissertation is dedicated to my four children: Hannah, Alexander, Annmarie, and Andrew. May this work serve as an example that motivation, effort, and perseverance will lead to great accomplishments.
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INTRAPERSONAL, INTERPERSONAL, AND CULTURAL INFLUENCES IN COLLABORATIVE COMPOSITION

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ABSTRACT

The purpose of this multiple case study was to observe sociocultural influences in collaborative music composition. The research questions of the study examined sociocultural influences through three perspectives: the intrapersonal–interpersonal influence, the interpersonal–cultural influence, and the intrapersonal–cultural influence. Eight participants were selected to take part in five unstructured composition activities during which they were instructed to compose and perform an original piece of music. Three of the activities were completed in collaborative groups. Two were completed individually. Data were collected over a two-month period through observations, interviews, focus groups, and video recall. Five cases were then selected for within-case analysis: two of the cases examined the individual compositional activity of two target composers and the other three cases studied collaborative groups. A cross-case analysis revealed ten salient themes: influence of external cultures (family, peers, teachers, and intended audience), perceptions of acceptable work, persistence in task completion, emergence of musical voice, compatibility, assumed roles within the group, guidance of holistic perception, task structure and flow, extended breaks, and inclusion.

The final
chapter discusses the study's implications for music educators and makes suggestions for further research.
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Chapter 1: Introduction

Background

Prelude. Imagine if Johann Sebastian Bach, Joseph Haydn, and Ludwig van Beethoven are commissioned to compose a piece of music collaboratively. Each individual composer has clearly established, through his own work, the musical knowledge and experience necessary to complete the commission. However, when grouped together to complete the task collaboratively, various sociocultural issues may arise to influence the compositional process and final musical product of the collaboration.

Each of the three composers has a unique background of musical experiences, inspirations, and preferences. Such intrapersonal influences will shape the musical choices they make while exercising their creativity. An extended contrapuntal passage of sixteenth notes, which Bach skillfully meanders through the circle of fifths, may be rejected by Haydn for its busyness or by Beethoven for a lack of harmonic interest. Perhaps Bach and Haydn would find the emotional depth of Beethoven’s phrases to be too extreme. On the other hand, the confluence of intrapersonal influences may combine to allow for the discovery of new musical ideas that each of the three composers finds favorable.

In addition to these differences in personal musical preference and experience, the three composers may have drastically different assumptions regarding the expectations of the intended audience. Whereas the church employed Bach, and Haydn wrote to please
the wealthy Esterházy family, Beethoven enjoyed a greater degree of independence in his work, and often exposed more personal connections through the inclusion of honorary dedications. Suppositions of the musical ideas that would be acceptable to the intended audience, or cultural influences, would likely dictate many of the musical decisions made by each composer within the collaborative group.

The compositional process and final musical product would also be affected by interpersonal influences within the collaborative group. Each composer may take on a different role within the group. These adopted roles may influence musical contributions. How might a natural leader in the group assist others in having their contributions heard? How would the musical ideas of an over-achiever surface in the final compositional product, and furthermore, how would that be contrasted by those of a naysayer? If the names, "J.S. Bach," "Joseph Haydn," and "L. van Beethoven," from this exaggerated scenario are substituted with the names of fourth-grade students, "Johnny," "Timmy," and "Sue," the central question of this study begins to emerge: How are the collaborative compositions of Johnny, Timmy, and Sue affected by intrapersonal, interpersonal, and cultural influences?

The topic of study. To exercise musical creativity through the composition of original works is a goal of many music educators and a suggestion of the national standards for the arts (Consortium of National Arts Education Associations, 1994). However, the implementation of such activities in the music classroom remains an area of concern (Byo, 1999; Hopkins, 2013; Orman, 2002; Phelps, 2008; Schmidt, Baker, Hayes, & Kwan, 2006; Wang & Sogin, 1997). Perhaps some pedagogical practices and
assumptions of the past have prompted an avoidance of composition activities in the music classroom. For example, it was often assumed that musical composition required great instrumental facility (Beckstead, 2001; Pope et al., 1995). Consequently, educators may have been hesitant to include composition activities due to a student’s inability to physically explore and develop their musical ideas on an instrument. As another example, educators may have held assumptions regarding the students’ required level of prerequisite knowledge that discouraged the frequent inclusion of composition activity.

Relationships between musical aptitude and compositional creativity have been researched thoroughly. Laycock (1992) found that rhythmic aptitude was positively correlated with metric strength, and tonal aptitude was positively correlated with tonality, originality, meter, phrasing, replication, and complexity. Kratus (1994) suggested that tonal and rhythmic audiation scores indicate one’s degree of tonal and metric sense. Such logic is supported by prominent researchers such as Webster (1979), who concluded that the relationship between music aptitude and creativity necessitate a “firm grounding in the basic skills of aural discrimination” (p. 240). It is conceivable that such findings, which emphasize the relationship between aptitude and composition, could be misinterpreted, leading educators to reserve composition activities for students who have exhibited a certain level of musical understanding.

Perhaps a specific, traditional, Western model, in which composition is viewed as a pinnacle activity reserved for the accomplished artist has also served as a basis for past pedagogical practices and music education research. However, beyond any technical aspects associated with music composition, such as notational issues, instrumental
facility, and a comprehension of music's constituent elements, one must consider the significance of social influences in the shaping an original piece of music. Many prominent researchers may have failed to consider the important influence of informal learning (Auh, 1997). With a better understanding of the importance of authentic music-making in public school music programs, educators may be able to reverse the steady waning student interest in school music (Bowles, 1998). In light of the importance of social context in school music composition, several questions arise that must be considered to better understand how children might negotiate the social influences present in collaborative composition. How are the musical ideas of collaborative composers influenced by the musical preferences and experiences of its individual members? How does an awareness of the expectations of an intended audience impact the musical decision-making of the collaborative group? Collaborative composers must negotiate a social relationship in addition to the sameness and difference of their individual preferences and imagined expectations of the intended audience. To what degree is the compositional process and final musical product of a collaborative group the consequence of group interaction?

The inclusion of composition in public school general music programs often necessitates the grouping of students (Wiggins, 2007). Although the grouping of students undoubtedly has educational benefits (e.g., Green, 2008a; Miell & MacDonald, 2000; St. John, 2006), it conceivably creates an intricate social web; individual preferences, group interactions, and the presumed reactions of the intended audience may greatly impact the compositional process and final musical product. The research problems that inspired this
study stemmed from the intersection of these social influences within a collaborative
group of composers. To precede the study of these research problems, it is necessary to
provide background information to serve as a foundation of understanding in two areas:
the compositional process of children and group dynamics.

**Historical overview of compositional process research.** In this section, an
historical overview of compositional process research is presented through two sub-
topics: A presentation of compositional process research in general is followed by a
discussion of the compositional process research that specifically focuses on an
investigation of social influences. The main impetus is a presentation of how this vast
body of literature evolved, and is most recently focused upon the importance of
sociocultural influence.

**The evolution of compositional process research.** A large body of literature
addresses the compositional processes of children. There is an evident increase in
research regarding composition in the public schools after the publication of the nine
national standards for the arts (Consortium of National Arts Education Associations,
1994). Research regarding child composers might be divided into two categories based
upon two differing assumptions regarding pedagogical approach: technical–scientific and
non–technical, non–scientific (Ornstein & Hunkins, 1998). At first, research of child
composers sought the promotion of traditional, technical approaches to composition. For
example, Salaman (1988) found that musical thinking may be inspired by technical
composition objectives. At the same time, several researchers had the foresight to
establish a foundation of research regarding the curricular concerns of including a less
technical, and more creative approach to composition (Wiggins, 1990). These emerging approaches to composition advocated "structured exploratory experiences" (DeLorenzo, 1989, p. 197) that engage students in higher order thinking skills.

Although the frequency of empirical studies about student composition did not change after the publication of the national standards (Kruse, Oare, & Norman, 2008), a marked need to better understand the compositional processes of children is evident in the increase of qualitative studies conducted after the publication of the national standards in 1994. From this period on, a large body of research began to emerge that investigated the compositional processes of individual children (e.g., Freed-Garrod, 1999; Freed Carlin, 1998; Gromko, 1996; Kennedy, 2001; Kratus, 1985, 1989, 1994, 1995, 2001; Parry-Jamieson, 2006; Van Antwerp, 1995; Walker & Auh, 1999; S. J. Wilson & Wales, 1995). In response to a call for more research in the area of composition (Reimer & Wright, 1992), major contributions to this field of research were also initiated through doctoral dissertations from Northwestern University (Carter, 2008; Daignault, 1996; Hickey, 1995; Kaschub, 1999; McCoy, 1999; Smith, 2004; Strand, 2003; Younker, 1997). The considerable body of research that emerged had much to do with leading the perception of music educators from that of skepticism toward a creative approach to composition (Jones, 1986) to the acceptance of exploratory curricular models that encourage creativity by getting the teacher "out of the way" (Wiggins, 1999b, p. 32). This body of research highlighted the importance of a student-centered approach to music composition. Through the collective analysis of the lived experiences of individual child composers, researchers have been able to establish patterns of cognition that may assist
educators in their understanding of compositional process. The extensive research that has been conducted has contributed to the emergence of literature that includes theoretical models that generalize the compositional process (e.g., Kennedy, 2002; Wiggins, 2003, 2007) and developmental stages of compositional behavior (Parry-Jamieson, 2006).

The investigation of social influences on compositional process. Concurrent with the increased output of student-centered child composition research, academic music journals displayed vigorous debate that put the music education as aesthetic education (MEAE) philosophy (Reimer, 1970, 1989, 2003) on the defense in light of a newly emerging praxial philosophy of music education (Alperson, 1991; Elliott, 1991, 1995). This debate significantly shaped the growing body of research on compositional process in two ways. The literature expanded to include studies that considered the interaction of collaborative composers (e.g., Bergee & Cecconi-Roberts, 2002; Faulkner, 2003; Fautley, 2005; Kaschub, 1999; Savage & Challis, 2001; Wiggins, 1994, 1999a), and the literature studies that considered issues of identity (e.g., Carter, 2008; Green, 1999; Hargreaves & Marshall, 2003; MacDonald, Hargreaves, & Miell, 2002; Mellor, 2008). The praxial philosophy prompted an emphasis on the context in which music is listened to, created, and performed. Praxial perspectives compelled the body of research to expand by investigating relationships beyond the processes and behaviors of individual composers and their isolated works, to include the composer's relationship within sociocultural contexts. Such developments are not exclusive to praxialism as they are also explored in the writing of several (MEAE) researchers, including the most recent version of Reimer's
philosophy of music education (Reimer, 2003).

Whereas the compositional process literature has been most often approached from the perspective of the individual composer, the practical application of composition assignments in the public school may often require students to work in groups. The praxial perspective—that music is created with consideration of the context of its surroundings—calls for the understanding of the social connection between composers and their intended audience. To date, there is a lack of research that investigates such connections. Although the social dimension has thus far been addressed through the study of collaborative composition, the proposed study will add to this body of research by examining (a) the emergence of musical identities throughout the compositional process, (b) the influence of the social interaction on the compositional process, and (c) how perceptions of the intended audience affect the compositional process. The present study will build upon the past visual models of the collaborative compositional process (Faulkner, 2003; Fautley, 2005; Wiggins, 2007) by expanding the emphasis on sociocultural influences.

**Group dynamics.** Group dynamics, a large field of inquiry that began to emerge in the 1930s, may be approached through a number of differing theoretical orientations. Of the eight orientations mentioned by Cartwright and Zander (1968), interaction theory and systems theory are most relevant for the present study. As such, the understanding of group behavior in this study will be approached through analysis of the relationship between activity, interaction, and sentiment (interaction theory), as well as the description of group roles, group input, and group output (systems theory). With these theoretical
perspectives in mind, the focus of this study relies heavily on the understanding of the participants' interaction within the context of their social environments. Shaw (1976) discussed the different environments that act to influence the interaction process within a group. These environments may be categorized within the aforementioned influences that are the central focus of the present study: the intrapersonal influences are represented in Shaw’s discussion of the personal environment of groups, the interpersonal influences are detailed in his discussion of group composition, and cultural influences are addressed by Shaw’s chapters on the physical environment of groups and the task environment. A brief overview of each of Shaw’s environments is presented here to provide the necessary background for this study.

The intrapersonal influence under investigation in this study relates to Shaw’s (1976) description of the personal environment of groups. Shaw concluded that an individual’s behavior within a group was clearly impacted by the personality characteristics of group members. Shaw elaborated on the personal environment of groups through a discussion of 29 research-driven hypotheses. It was suggested in the first six of these hypotheses that individual participation within the group decreased with an increase of group size. He suggested that larger groups might have a greater tendency for a leader to emerge, and that this tendency was due to a reduction in communication opportunities for all group members. The emergent leader was usually the most active member. The next four hypotheses discussed the impact of age on group dynamics. Shaw found that as children grew older, they became more likely to participate in the group. Often the oldest child of the group emerged as the leader. This trend seemed to end, and
even reverse, after the age of 12. With regard to gender, Shaw’s next three hypotheses found girls to be less assertive, to utilize eye contact as a means of communication, and to conform to majority opinion more than boys. The next group of hypotheses referred to the impact of individual abilities. Shaw found that the more intelligent individuals were more active, more popular, less conforming, and usually emerged as group leaders. In the final group of hypotheses, Shaw considered the importance of the individual personality traits of group members. Most notably, interaction, cohesiveness, and morale within the group were improved by individuals that were positively oriented toward people, and deterred by individuals who were positively oriented toward things. Furthermore, dependable, socially sensitive, or self-assertive individuals often emerged as leaders. Unconventional or anxious individuals deterred group progress.

Whereas individual personality traits impact the collaboration within a group, the degree to which a person becomes active within each group is due in large part to what Shaw referred to as group composition. Group composition is related to the interpersonal influence under investigation in the present study. The first of Shaw’s 12 hypotheses on group composition highlighted the fact that individuals participated differently in response to the particular others in the group. The next five hypotheses emphasized the positive influence of cohesiveness. Highly cohesive groups were found to exhibit greater communication, promote integration of individual ideas, and provide a greater degree of overall satisfaction amongst its members. Shaw found similar positive traits in compatible groups. In the final three hypotheses regarding group composition, Shaw discussed issues of heterogeneity; mixed-gender groups displayed higher levels of
conformity, groups comprised of heterogeneous personalities performed more effectively, and groups of racial heterogeneity led to increased interpersonal tension.

Finally, the cultural influence investigated in the present study is closely related to Shaw's discussions of both the physical environment of groups and the task environment. The physical environment of groups was addressed through 14 hypotheses. Issues of personal space and territoriality were found to impact group behavior, and discussed in his first five hypotheses. Individuals within groups were found to establish individual territory, and react negatively to invasions of personal space. Shaw also discussed how issues of status, satisfaction, and performance could be influenced by spatial arrangements within the group in the rest of his hypotheses. Seating arrangements contributed to patterns of communication, and to the quality of interaction within the group. Also it was found that centralized networks of communication aided better organizational development, the emergence of a leader, and great efficiency in solving simple problems. However, decentralized networks of communication yielded higher morale amongst group members, and greater efficiency in solving complex problems.

Shaw addressed the task environment with 23 hypotheses. The first three discussed the tensions that were stimulated by the introduction of goals. The mere introduction of a goal is met by individuals' aims for goal completion or incompletion, which in turn impacted their "reactions to movement relative to the group goal" (p. 329). The next 11 hypotheses were dedicated to the influence of task difficulty. To highlight the most relevant points, Shaw suggested the following with regard to difficult tasks: The choice of a difficult task led to group success, groups that held higher desires for success
chose intermediate level tasks, more difficult tasks prompt group leadership, there was a curvilinear relationship between conformity and self-esteem, and group progress within difficult tasks was assisted to the degree that its individual members could freely express their satisfaction with group progress. The next group of hypotheses discussed how the kind of task introduced to the group warranted variations in leadership abilities and style. Finally, the clarity of goals was found to be related to motivation and efficiency.

Rationale for the Study

In the background of this study I introduced the topic of collaborative composition, and more specifically, addressed the importance of investigating social influences on the compositional process. The historical overview of compositional process research then traced the development of scholarly investigation and identified a recent expansion into the consideration of the impact of social and cultural relationships. The rationale supports the need for the present study through reference to the current environment in public school music education. The topics presented here represent pedagogical practices that allow educators to establish classroom environments that nurture the importance of social context in collaborative composition.

The social constructivist approach. Compositional process literature has advanced with an increased exploration of the importance of sociocultural influence. This study, which emphasizes the investigation of social influence on collaborative composition, builds upon this growing body of research. Therefore, it seems prudent to provide some background information regarding the manner in which children interact and construct meaning within a social context.
The work of Vygotsky (1978) served as the basis for social constructivism. Unlike theorists before him, Vygotsky, who was not formally trained in psychological inquiry, found inspiration for a “semiotic emphasis" in his work through his devotion to literature and the arts (Moll, 2013, p. 15). The concept of constructivism itself, the human capacity to construct meaning through new experiences, existed in the work of earlier theorists, most notably Piaget. However, whereas Piaget’s constructivism formulated an “inside-out" perspective, Vygotsky’s social constructivism was characterized by its “outside-in" approach (Garton, 2008, p. 18). Essentially, this means that for social constructivists, learners first construct meaning within a social context before it is internalized.

The fostering of a social constructivist approach in the classroom may address many issues in the current education environment. Kozulin et al. (2003) stated, “it is only now that we have started posing questions that make Vygotsky’s ‘answers’ relevant” (p. 15). Kozulin et al. went on to discuss the three pertinent questions at length: multiculturalism, mediation, and learning potential. To summarize, they stated that Vygotsky’s theory (a) addresses multiculturalism through its basis on sociocultural perspective, (b) emphasizes the importance of mediating agents (formal education, other humans, scaffolding, apprenticeship) in the learner’s interaction with the environment, and (c) introduces the zone of proximal development (ZPD) as a representation of a learner’s potential.

These “answers" may likewise be appropriate for addressing the demands of teaching collaborative composition. The social constructivist model’s potential for
collaborative composition has been previously advocated (Barker, 2003; Wiggins, 1999a, 2001). Such research proposed benefits from adopting a pedagogical model that allowed both teacher and peer interaction and learning that is based upon cooperative activity. A social constructivist approach to collaborative composition may benefit children because, “their ideas are born and reside within understanding developed through experience with the music of their lives and also experience with teachers and peers in music classrooms” (Wiggins, 1999a, p. 87).

**Reinforcing the relationship between music composition and creative development.** Abril and Gault (2006) found the need for music educators to better address the connection between the development of creativity and music composition. In their study of principals’ perceptions of elementary school music curricula, the researchers found that administrators viewed the development of creativity as the most important goal. Although school principals recognized the importance of the development of creativity through composition, composition was regarded as the least important objective. Such findings suggest that the relationship between music composition and the development of creativity are misunderstood.

Although music educators may now have an improved understanding of the link between composition and the development of creativeness, a practical application of composition activities may necessitate a shift in pedagogy. A persistent interest in composition amongst researchers can be evidenced through the perusal of practitioner journals (Colgrass, 2004; Ginocchio, 2003; Hickey, 1999, 2001a, 2001b; Hickey & Webster, 2001; Kassner, 2001; Kratus, 1990; Priest, 2002; Ruthmann, 2007; Wiggins,
Although many educators appreciated its importance, they often considered the teaching of composition to be the most difficult of the nine standards to implement (Byo, 1999). Orman (2002) observed that music educators spent an average of 1.03% of classroom time addressing the fourth national standard (composing and arranging music within specific guidelines). This finding corroborates the research of Wang & Sogin (1997), who reported an average of 1.33% of classroom time dedicated to creativity. Such a conflict between apparent interest and actual implementation of developing creativity through compositional activities in the public schools could be attributed to several factors. The catalyst for such problems lies in the accepted definition of musical creativity and music composition. This leads to pedagogical issues regarding the assessment of one’s creative output and the development of creativity through composition activities.

The development of creativeness may be a valued component of a well-balanced music education. In addition to its importance to music, creative ability would serve students well in other subject areas and contexts. But what exactly is creativity? Elliott (1995) stated:

In the domain of MUSIC, then, the words creative and creating [original emphasis] apply to achievements of musical composing, improvising, and arranging that are original and significant within the context of a particular musical practice, including instances of musicing that depart in highly original and important ways from existing traditions. (p. 219)

The central concept of this point of view is that creativity, although partially defined as the production of original work, emerges only from the context of past musical practices. Therefore, it seems that a student composer should be expected to understand the essence
of a musical culture through a process of immersion. Consequently, performance is embedded in the creative process. By adapting such a view of creativity, music educators may better recognize that the understanding of a musical culture is not achieved through the technical mastery of its constituent elements; rather, performance within a cultural context serves as the departure point for compositional activities from which students can creatively explore. A misuse of composition as an exercise in the formal elements of a culture (most often Western classical) could lead to false views on the true merits of musical composition as development in creativity. A praxial definition of creativity may encourage educators to focus on the creative emphasis of composition.

By reconsidering the definition of creativity, compositional pedagogy is clarified. The need for exploration and experimentation within the context of a musical culture warrants a considerable change from a traditional pencil and paper approach. Bosch (2008) posited that composition in the music classroom might best be addressed in a manner similar to the creative exploration central to visual arts learning. The discomfort expressed by many music educators regarding the implementation of compositional activities may arise from misguided perceptions and approaches. The traditional approach, based upon the teaching of the elements of music, “obscures the holism of musical experience” and consequently “fails to impress students with what music is ‘good for’ in their lives” (Regelski, 2004, p. 64). Extreme modifications in teacher roles and pedagogical strategies may be necessary to accommodate such a classroom environment.
Advancements in technology. Music educators have noted the potential impact of electronic instruments on the composition program (e.g., Daignault, 1996; Ladanyi, 1995; Mellor, 2007, 2008). The opportunity to nurture creative growth through musical composition is greatly improved with computers and electronic keyboards because they “enable us to bypass the burden of musical notation and engage ourselves directly and richly in artistic creation” (Reimer, 1989, p. 71). In the past, the establishment of an electronic music composition program in the public schools was made challenging by the high cost of equipment and a lack of available space (e.g., Hagemann, 1969). By contrast, the cost for the necessary equipment today is minimal. MIDI compatible keyboards are affordable and they easily communicate with the computers already available in most classrooms. Even the simplest setup could accommodate groups of students in a collaborative composition project.

Many music classrooms are already equipped with powerful technologies, which in most cases are utilized by the educators for practical purposes rather than by the students for a basis of musical instruction (Dorfman, 2008). However, with an adoption of a philosophical foundation that embraces sociocultural contexts (e.g., Elliott, 1995; Reimer, 2003), technology-based music instruction (Dorfman, 2013) could provide the impetus for superior musical experiences in collaborative composition. The notion of using technology to support sociological contexts in music classrooms has been supported by several researchers. Airy & Parr (2001) found that the use of MIDI keyboards gave students a “musical voice” and furthermore helped to “legitimate their preferred forms of music” (p. 41). Crow (2006) concluded that the use of technology in
music classrooms would bring educators “tantalisingly close to the musical language of their pupils’ worlds” (p. 128) and thereby motivate students through the inclusion of culturally relevant activities.

**Summary.** Several issues address why this study bears importance within the current music education environment. First, the social constructivist approach to education is appropriate for collaborative composition. This pedagogical approach, which allows for more peer collaboration and a focus on discovery through process, is well suited for composition activities. Next, there is a need within the current music education environment to better address the connection between composition activity and creativity. Finally, the advent of technology in the typical classroom is a tool that can enable the effective facilitation of collaborative composition activities.

**Research Purpose and Questions**

In the background section of this dissertation, I emphasized an increase in research that considered the importance of social influence in the compositional process. In the rationale I justified the study by discussing topics that accentuate the public schools’ need and readiness for the inclusion of such collaborative composition activities. In the section that follows, the concept of social influence in composition is framed within three subcategories: intrapersonal, interpersonal, and cultural. These subcategories serve as the impetus for the research questions of the study.

**Framing and defining the research purpose.** The “content of compositions can be seen to reflect cultural and social relationships” (Elliott, 1995, p. 163). Therefore, although composers often work alone, they are not working in isolation (Carter, 2008;
Miell & MacDonald, 2000). Although individuals may author musical decisions, these decisions are guided by the sociocultural influence of others. To examine the role of sociocultural influence on collaborative composition, these relationships require investigation at multiple levels: intrapersonal, interpersonal, and cultural. The three sociocultural influences upon which this study was based were introduced by Wiggins (2007):

Sociocultural influences are active whether a composer is working alone or engaged in collaborative work. These include knowledge of music constructed in formal and informal settings, perceived expectations of adults and peers who may hear the music, and social issues arising among peers working together. (p. 462)

First there is the relationship of self to music. As Wiggins described it, the presence of this relationship is made manifest through the knowledge gained in formal and informal musical experiences. However, in defining a broader concept of musical identity, there may be more factors that serve as powerful components of this relationship. In the book, Musical Identities, MacDonald et al. (2002) extended previous investigations of individual differences in musical behavior by focusing “from the inside” (p. 7) on the cause of such differences. Specifically, the authors’ attempted to “explain some of the processes and mechanisms by which individuals monitor and conceptualize their own musical development” (p. 7). This was accomplished by separating the concept of musical identity into two categories: identities in music (IIM) and music in identities (MII). Whereas the former is defined by the relationship, or identification, of the self to a particular musical role, the latter explains the adoption of music in the formation of self-image (Hargreaves & Marshall, 2003). For the purposes of this dissertation, any element
of a composer's own musical background, experience, influence, preference, or relationship of self to music, that has demonstrated the capacity to guide the production of musical ideas will be referred to as an intrapersonal influence.

Social and cultural relationships also exist between the composer and their intended audience. The way that a particular audience listens to music is formed by their past experiences (Keane, 1982). The sum of past musical experiences within a particular musical style leads the listener to imply patterns of expectation, or stylistic norms. Meyer (1956) based his theory of emotion and meaning in music on Gestalt psychology, and posited, "a stimulus or gesture which does not point to or arouse expectations of a subsequent musical event or consequent is meaningless" (p. 35). As composers generate musical ideas, they may utilize an awareness of these musical expectations to satisfy, shock, please, or disappoint their intended audience. Composers may choose to find middle ground between their own musical identity, and that of their audience. Barrett (2006) found significance in the balancing of "inward focus on individual composer voice and identity with an outward focus through referencing to the tradition" (p. 213). Kaschub and Smith (2009), in defining a composer's "intention," explained that composers, "make choices that predict and even shape audience reaction to their work" (p. 30). For the purposes of this research, the composer's presumptions regarding the expectations of the intended audience that have demonstrated the capacity to guide the production of musical ideas will be referred to as a cultural influence.

Finally, in the case of collaborative composition, there exists a social relationship amongst members of the group that may influence the compositional process and musical
McGillen (2004) coined the term “sociomusical engagement” (p. 290) to illustrate that in collaborative composition, the social environment and resultant musical product are one in the same. Visual models of collaborative compositional process (Faulkner, 2003; Fautley, 2005; Wiggins, 2007) have all supported the importance of group interaction on the production of musical ideas. Studies have shown that groups of collaborative composers are often guided by a shared musical understanding (Wiggins, 1999a), joint ownership (Fautley, 2005), or a holistic conception of the work (Faulkner, 2003; Wiggins, 2007). For the purposes of this paper, any aspect of the interrelationship within the collaborative group that has demonstrated the capacity to guide the production of musical ideas will be referred to as an **interpersonal influence**.

**Purpose of the study.** The purpose of this study is to better understand how the confluence or divergence of intrapersonal, interpersonal, and cultural influences guide the compositional process and final musical products of fourth grade children working in collaborative groups. Three topics are implicit in this exploration; that is, the study of collaborative compositional processes are better understood through (a) observing the emergence of individual musical identities throughout the compositional process and in the end products, (b) examining the collaborative composers’ perceptions of the work with respect to the intended audience, and (c) investigating the influence that social interaction has on the compositional process and products. These topics are represented in Figure 1. The figure illustrates three social influences that are present in the case of collaborative composition: the intrapersonal, the interpersonal, and the cultural. The goals of this study are focused on the understanding of how the social interactions represented
by the areas of overlap (Areas A, B, C, and D) influence musical decisions made by a collaborative group. Whereas the first overlapping area (Area A) represents the interaction between the intended audience (cultural) and the collaborative group (interpersonal), Area B considers the interaction between the intended audience (cultural) and the musical identity of each individual composer (intrapersonal). The third area (Area C) highlights the interaction between individuals (intrapersonal) and the collaborative group (interpersonal). The main focus of this dissertation is the fourth overlapping area (Area D) in which the interaction of all three social influences guides musical decisions.
Figure 1. Areas of interaction in the study with relevance to each of the sociocultural influences. The purpose of this study is to better understand how the compositional process of a collaborative group is influenced by the social interactions represented by Areas A, B, C, and D of this figure.
**Research questions.** The following research questions guided this study:

1. How is the compositional process influenced by the sociocultural relationship between the composers and any perceived intended audiences (intrapersonal–cultural)?

2. How is the compositional process influenced by the interaction between individuals within a collaborative group (intrapersonal–interpersonal)?

3. How is the compositional process influenced by the sociocultural relationship between the collaborative group and their intended audience (interpersonal–cultural)?

4. How do collaborative composers negotiate differences among intrapersonal, interpersonal, and cultural identities?

**Overview of Design**

In this section, I will introduce a general overview of the research design, methods of data collection, and limitations of the study. This section foreshadows a more detailed methodology presented in Chapter 3.

**Research design.** To best address the research questions, an explanatory embedded multiple-case study design was employed. In an intermediate school in a suburban neighborhood outside of New York City, eight 4th grade students were selected through a maximum variation sampling to participate in the study. Each participant completed five composition activities using Casio PX-310 electronic keyboards. Two composition activities were completed independently, and three were completed in collaborative groups. The individual composition activities were completed within a
single 30-60 minute session. For the collaborative composition activities, three 30-60 minute sessions were allowed. In order to maximize the opportunity for observing participant interaction, the composition activities were designed to be as unstructured and open-ended as possible. The only instruction given to the participants was to compose and perform an original piece of music.

Five cases were then selected for the purpose of data analysis. Three of the six collaborative composition activities and two of the eight individual composition activities were included for within-case analysis. The justification for the selection of these cases was based upon a maximum-variation sampling. For the selected collaborative activities, one of the groups was highly productive, and another was highly unproductive. A third collaborative group, an all-female group, was selected to highlight comparisons between homogeneous and heterogeneous gender groupings. Furthermore, the two selected individual composers each displayed fundamentally different approaches to the compositional process.

Methods of data collection. During the composition sessions, the researcher kept reflective notes. Additionally, a minute-by-minute account of compositional activity was recorded to indicate whether the participants were engaged in exploration, repetition, development, or silence. These compositional stages were adapted from Kratus (1989). Each composition session was also video recorded to enable in-depth observation at a later date. Following the completion of each composition activity, an interview was conducted. The interview protocols each contained five general questions that were directly related to the research questions. The inquiry aimed to initiate discussion in
relation to the social and cultural influences that guided the compositional process. The final question of each interview asked students to “think out loud” while they watched the video recording of the composition sessions. This recounting of events helped to address potential “inaccuracies due to poor recall” (Yin, 2009, p. 102). Several devices were also employed to ensure consistency during the data collection process; the guidance of theoretical propositions, a preconceived case description, and a priori codes were essential for maintaining focus on the collection of data that best addressed the research questions of the study.

**Limitations of the study.** Although a great deal of planning and preparation preceded this study, several inherent limitations exist that may have affected the transparency of the results. First, because volunteers may not be representative of the larger population (Borg & Gall, 1989), it is understood that a true maximum variation sampling may not have been achieved. Secondly, because each of the eight participants completed the same activity in three different collaborative groups, it is assumed that a decrease in enthusiasm may have accompanied each successive composition activity. Finally, due to the small participant group, results of this study are not generalizable to a larger population.

**Overview of the Dissertation**

Chapter 1 presented the topic of study. A brief history of compositional process research revealed increased attention to the sociocultural influences on the compositional process. The rationale highlighted the relevance of a more thorough examination of these sociocultural influences through reference to current issues in public education: the need
to reconnect music education's role in the development of creativity, and recent
advancements in technology. Such issues advocate changes from the traditional
classroom environment that foster an increased sensitivity to the impact of social
relationships, and consequently, justify the need for the current study. The specific social
relationships to be studied (intrapersonal, interpersonal, and cultural) were then defined
and grounded to previous research. The specific research purposes and questions were
then presented.

Chapter 2 contains a review of related literature. Research regarding the
compositional process of children is covered. Then the three sociocultural influences
(intrapersonal, interpersonal, and cultural) that serve as the foundation of this study are
explored. Chapter 3 contains details about the methodology. A explanatory, embedded
multiple-case study design is presented in which a maximum-variation sampling of eight
participants is utilized in six collaborative composition groups. Methods of data
collection and data analysis are discussed. In Chapter 4, results of the data collection
process are presented through within-case analyses of five selected cases. In chapter 5,
the emergence of important themes is made manifest through a cross-case analysis. In the
final chapter, a discussion of the findings takes place and implications for music
educators and suggestions for further research are made.
Chapter 2: Literature Review

The chapter is divided into four sections. The discussion begins with an examination of the compositional process. This examination includes research regarding creativity and the child composer, and the general step-by-step process of composition. The second section considers the intrapersonal influence that affects the musical choices of a composer through a discussion of musical identity. In the third section, the interpersonal influence is investigated. This discussion covers literature regarding the music-making processes within collaborative groups. In the final section of the chapter, the cultural influence is explored. This exploration includes the effect that composers' assumptions of the intended audience may have on the compositional process.

Establishing the Context for Child Composers

The premise of this study warrants an understanding of children's compositional process. In this section of the literature review I investigate the abilities, environment, circumstances, and routines of child composers. The synthesis of such topics embodies the context in which child composers must function. There are two main subdivisions within this section: The investigation of factors that influence the creative abilities of child composers is followed by an overview of the compositional process.

Creativity and the child composer. This section examines factors that may initiate, stimulate, or obstruct the creative thought process of child composers. According to Gibson (as cited in Folkestad, 2004), creativity in the making of music represents an interaction of several elements—"the musical experience and competence of the
participant, cultural practices, the instruments utilized, and the given instructions’ (p. 87). These elements, with a specific focus on the child composer, serve as the impetus of the following sub-topics of discussion.

**The structuring of musical composition with respect to age.** A substantial part of this study is the analysis of student compositions through the perspectives of both the students and the researcher. Such analysis is dependent upon the understanding of how children structure music compositions with respect to their age. Kaschub and Smith (2009) suggested three “compositional capacities” (intention, expressivity, artistic craftsmanship) with respect to experience level (novice, intermediate, advanced). For the novice composer, intention—which is defined as the feeling enacted in the composition—is experienced simultaneously with the creation of the piece. Expressivity, “the relationship between sound and feeling,” begins when novice composers “notice the feelingful impact of sound as they enact (or possibly imagine) music” (p. 31). Artistic craftsmanship is guided by the aforementioned compositional capacities, intention and expressivity. Through a process of experimentation, novice composers discover musically satisfying sounds through “fortuitous accidents” (p. 32). Although the work of an advanced composer may be highly crafted, the composition of a novice may seem quite improvisational in nature.

A three-year longitudinal study of musical improvisations of children ages seven through nine was conducted to observe developments in rhythmic and melodic motivic development, pulse adherence, and phrasing (Brophy, 2005). Findings revealed that as students got older they tended to use less repetition in melodic motives. At the same time,
the older students utilized more repetition in rhythmic motives, and exhibited a stronger adherence to the pulse. A global overview of the findings of Brophy’s research indicated that children experience a significant development between the ages of seven and nine, particularly in the areas of rhythm and phrase structure. Kiehn (2003) corroborated these findings stating that children experience a stage of growth between the grades two and four (ages seven and nine); however, Kiehn further concluded that a developmental plateau from grades four through six follows. Kiehn speculated that this plateau may arise from psychological and sociological factors and on an increased focus on activities that emphasize convergent thinking skills, such as performance.

Barker (2003) also noted children’s stabilization of development after age nine. In this study, the creativity scores given by three judges increased in relation to age from ages six through nine. After age nine, the creativity scores leveled off. The creative strategies of 40 children ages eight through twelve while composing were investigated. Both quantitative and qualitative data were collected in this exploratory study. Barker had three judges assess creativity using an adaptation of Amabile’s consensual assessment technique (1983, 1996). Many factors were found to influence the creativity of student compositions including age, grade level, and involvement in family musical activities. Barker discussed the importance of environmental factors, such as family music making activities, in the shaping of compositional decisions. Children ages six to nine approached composition in an exploratory manor, and often derived musical material from the influence of structural, rhythmic, and melodic characteristics of their culture. Barker also noted that for children the compositional process and the end product are connected.
The developmental plateau at this age is compounded by a narrowing of music listening preferences. Through the application of the concept of “open-earedness” (Hargreaves, 1982), Leblanc (1991) developed a hypothesis regarding stages of music listening preference with respect to various age groups. He found that open-earedness peaks through early childhood and high school, and exhibits decline in adolescence and old age. The hypothesis was later confirmed through empirical research (LeBlanc, Sims, Siivola, & Obert, 1996). It was concluded that the elementary years are favorable for the presentation of music listening activities. With such an openness and acceptance of various styles, it seems that the elementary years, before the age of ten, may also be well-suited for collaborative composition.

**Creativity and music aptitude.** Several researchers have found that compositional creativity is positively correlated with music aptitude. In the broadest sense, the level of musical creativity is often rooted in the student’s level of music achievement (Webster, 1979). This is a logical conclusion considering that a greater musical understanding will provide a larger musical toolbox with which to make creative decisions. This principle overrides the factors of age, grade level, and performance medium (Webster, 1979).

Chang (2003) investigated the effects of incorporating sequential composition activities with music notation software on music aptitude and compositional creativity. Music aptitude was measured through a pretest/posttest comparison of the *Primary Measures of Music Audiation* (PMMA, Gordon, 1986b). The experimental group scored significantly higher than the control group in the tonal \( p = .001 \) and composite \( p = \)
.001) subtests. Differences were found in favor of the experimental group for the tonal, but not the rhythmic, subtest. However, because the PMMA is intended to measure one’s aptitude, not achievement, it seems likely that other variables may have influenced the results of this study. Development in creativity was also measured for the experimental groups through two evaluations with the compositional rating scale established by Kratus (1994). The categories included tonal and metric cohesiveness, repeated and developed melodic motives, and repeated and developed rhythmic patterns. Statistically significant findings ($p = .001$) indicated improvement in all six compositional categories. Chang cited the positive correlations found by other researchers (Auh, 1996; Henry, 1995; Kratus, 1994; Laycock, 1995) between creativity and music aptitude, and then concluded that PMMA posttest scores were affected by sequential composition experience. However, Chang also cautioned that despite the training provided in the areas of composition, tonal and rhythmic patterns, and the use of notation software, it is “impossible to say that whatever improvement took place was due to one of those” (p. 90). A second conclusion was that creativity improves with the provision of repeated composition opportunities.

The relationship between audiation and the creativity of compositional products has been one such measure of aptitude explored by researchers. Audiation is a term coined by Gordon that represents “the ability to hear and to understand [emphasis in original] music for which the sound is not physically present or may never have been physically present” (Gordon, 2001, p. 3). Findings have indicated that both the compositional process and the end products are influenced by audiation development.
Nine-year-old children who scored higher in the tonal and rhythmic subsets of the Intermediate Measures of Music Audiation (IMMA; Gordon, 1986a) spent less time in exploration and more time in development (Kratus, 1994). Kratus also found that tonal and metric cohesiveness was positively correlated to audiation scores. Kratus's findings have been corroborated by Chang (2003) who found that scores on the Primary Measures of Music Audiation (PMMA) were positively correlated with the development of melodic and rhythmic patterns and metric cohesiveness for Korean children in the third grade. Furthermore, Chang concluded that continued composition experiences increased student scores on the PMMA. It seems that children not only possess the ability to compose, but also may improve tonal and rhythmic audiation ability as a result of continued exposure to composition.

Instructional approaches to composition. It should be noted that not all aesthetic decision-making warrants the label “creativity.” Humphreys (2006) cautioned educators to look beyond the common misconception that equates creativity and composition; rather, it was suggested that creativity may be conceived as a social construct that encompasses intelligence and musical ability. Most importantly, this point of view contradicts the misguided notion that only talented people are creative, and sets the foundation for a concept of creativity as a teachable skill.

Goals and instructional approaches to composition activities have changed over the last quarter century. A reflection of past research has shown that composition was a viable method for instilling an understanding of the basic elements of music in children. A creative-comprehensive approach to learning, which encouraged students to learn
musical concepts through the composition and evaluation of their own works, was encouraged and has been found to yield more student confidence than a performance-based approach (Dodson, 1980). This point of view promoted incorporating composition as a tool for acquiring knowledge in the music elements. Researchers then turned their efforts toward understanding how to sequence compositional activities (Kratus, 1983).

Facilitating self-exploration may be an effective component of the music composition classroom. A recent curricular model contrasts the creative writing model commonly found in an English class with music students’ need to “write their ideas” and “develop their own craft” (Parry-Jamieson, 2006, p. 296). Indeed, children possess a natural ability to compose music. Wilson & Wales (1995) found that even without the aid of formal training, young children have exhibited characteristics of melodic contour and the use of figural rhythms in their music compositions. Students have been found to naturally create works with form and structure through their own influence (Nilsson & Folkestad, 2005). Such findings suggest that an educator may nurture the children’s creative abilities by allowing them to use what they know, and by identifying deficiencies in their knowledge base. In short, educators may be more likely to encourage creativity when they “get out of the way” in order to not impede the natural creative process of children (Wiggins, 1999b, p.32). Perconti (1996) discovered that when teaching composition to children, it is more effective to provide support for a student-centered learning experience than to give teacher-led instruction.

Strand (2005) advocated a process of instructional transfer that encourages students to become composers rather than merely being directed through the
compositional process. Such instructional techniques include the amalgamation of direct instruction, “guided discovery,” peer teaching, and collaborative decision-making (p. 33). These teaching techniques, which are distinct from the traditional approach, are apparently essential to the facilitation of instruction in compositional creativity. Smith (2004) also supported this instructional approach by finding that teacher encouragement and following student preference have been found to be more influential in the compositional products than the actual structuring of composition tasks.

Barrett (2000) conducted a qualitative study of 10 seven-year-old children as critics of both their own compositions and of adult compositions. The research found that children this age could make judgments about the aesthetic quality of a musical work. With proper prompting, the children offered additional comments, such as expressive descriptions, about the works. Barrett suggested that the aesthetic decision-making process of children might be improved through a greater exposure to composition activities with subsequent reflection and analysis of the work.

**Feedback and assessment.** The implementation of compositional activities should contain frequent opportunities for feedback or assessment (Hickey, 1999; Kaschub & Smith, 2009; Leung, 2004; Webster, 2003; Wiggins, 2005). This feedback may come from teachers, mentors, peers, or the self. Through sharing and articulating understanding, children may come to recognize what, why, and how they are creating, and consequently, learning is advanced (Burnard, 2000). These reflective activities are essential to the motivation and development of student composers, and the guiding mechanism of the student-centered educator.
A study of 12-year-old children’s reflections on their own compositions revealed a high level of insight into their work (Burnard, 1999). As a result of this finding, Burnard suggested that educators design instruction that encompasses an aspect of self-reflection. Perconti (1996) also observed the importance of providing opportunities for reflection for young composers, and cited the importance of interaction. Reflection and interaction helps students internalize concepts.

In addressing the approach to feedback on student composition within an educational setting, Kennedy (2001) concluded that an evaluation model that includes teacher, peer, and self-assessments is beneficial. The two professional composers utilized for the evaluation of student works both rejected the Swanwick (1988) rating system because it favors “structural” composers, and fails to recognize the “promise” of a student composer. Kennedy noted that although such rating scales may be necessary for standardized testing, other forms of assessment were clearly beneficial: self-assessments enabled students to be “perceptive and insightful,” the “tell me more about that” method of teacher assessment led to affirmation and empathy, and peer assessments were characterized as affirming and precise (p. 142). MacDonald, Byrne, and Carlton (2006) found that such assessments not only led to a greater depth of understanding, and that the provision of spontaneous feedback may also serve to motivate student composers.

Some researchers have addressed the importance of extension and revision within the feedback domain of composition. Webster (2003) called attention to four rationales for an increased focus on revision: (a) revision has been found to exist as a natural component of creative thinking, (b) revision is a natural behavior of children, (c) revision
can serve as an impetus for instruction, and (d) revision may establish a foundation for assessment. Webster addressed concerns regarding the potential imposition of educators on the creative decision-making of children. Such concerns are alleviated by comparisons with both written composition in English classes, and the model of the balanced role that has been established by instrumental music teachers. Compositional frameworks, such as may be provided by assessment guidelines, are a pedagogical necessity (Folkestad, 2004). Folkestad asserted that such a framework would be far more productive in nurturing the compositional process than the limitations and restrictions inherent in a traditional detailed step-by-step instructional approach; however, assessments that are based upon parts and details may be debilitating to the creative thought process. Hickey (1999) suggested that such assessment rubrics also include several creative and aesthetic measures because they encourage holistic conception.

**Compositional process.** A large body of compositional process literature has enabled researchers to identify commonalities in the approaches of child composers. Despite the idiosyncrasies that are evident throughout the observed experiences of child composers, patterns and similarities have emerged across the literature that allow for a more general application. This section of the literature review examines the characteristics that have been found to be generally applicable to the compositional process of child composers. A discussion of the compositional stages is followed by a review of the theoretical visual models of compositional process. The section concludes with a discussion of the importance of a holistic vision as an impetus for creativity.
**Compositional stages.** In an experimental study, Kratus (1989) randomly selected 60 children ages 7, 9, and 11 who were each given 10 minutes to compose a melody on an electronic keyboard. Throughout the 10-minute session, Kratus investigated the stages of the compositional process by recording the duration of time spent in each of several proposed categories. Exploration was defined as music that bears no resemblance to music played earlier. Development was evidenced by the presence of music that resembles music played earlier, but contains alterations. Music that sounds the same as music played earlier is labeled repetition. When no music is heard, the process is labeled as silence. Findings indicated that older children tend move beyond the exploration stage and spend more time in the development and repetition stages of composing than the younger students do. The children who were able to replicate their compositions used more repetition and were generally more “product oriented” (p. 18).

The exploratory phase of the compositional process is essential to creative development. This aspect of the process may often be misunderstood within an educational setting due to its unstructured nature. However, discussions that follow exploratory experiences yield a greater depth of understanding (DeLorenzo, 1989). Many researchers have undertaken investigations to provide further detail regarding the exploration and development processes (Stauffer, 2001).

Hickey (1995) conducted a mixed-methods study that recorded the compositional processes of 21 fourth and fifth grade students via MIDI keyboards and computer software. The final products of the compositions were rated for their level of creativity, craftsmanship, and aesthetic appeal. Hickey revealed differences between the
compositional processes of child composers that exhibited final products exhibiting both high and low creativity. High creativity groups were found to more frequently "vacillate" between the exploration, development, and repetition stages (p. 197). Furthermore, these groups were able to enter the convergent stage of composition by rehearsing the final product.

Van Antwerp (1995) conducted further investigation into the exploration, development, repetition, and silence stages of the compositional process. Thirty-seven eighth-grade students took part in an experimental study in which the results of a problem-solving style inventory, the Kirton Adaptation-Innovation Inventory, were compared with the duration of time spent in each stage of the compositional process. Findings indicated that the compositional processes differed for participants with an innovator problem-solving style and those with an adaptor problem-solving style.

Younker (1997) examined the thought processes and procedures that guided children through the composition of a musical work. A multiple case study design was adapted in which three 8-year-olds, three 11-year-olds, and three 14-year-olds used computer software to compose music during seven one-hour sessions. Data were collected through unstructured and semi-structured interviews, observations, and through verbalizations provided by the students who were asked to think aloud while composing. Findings indicated that there was little difference between age groups in how musical materials were manipulated. All age groups made use of melodic motives. The differences that did emerge between age groups were the importance of pulse and the tonal relationships between parts. Rhythmically, the fourteen-year-olds made use of a
metronome, eleven-year-olds composed with a steady pulse, and the eight-year-olds displayed less rhythmic coherence. Tonally, the concern to make separate lines fit increased with age. Due to the fact that the participants in the study did not have previous composition training, Younker concluded that children may possess “different ‘entry levels’ when beginning to compose” (p. 360). As for the compositional process, Younker found that all participants followed the same recursive stages of exploring, decision-making, practicing, performing observed by others. However, these stages were utilized more often by the composers who exhibited expert behaviors. Younker also observed a development across the age groups in the use of previous material in and out of context.

Freed Carlin (1998) conducted an ethnographic study within the naturalistic setting of an intact third-grade class. Data were collected through a flexible, emergent design that emphasized the perspective of the students, and included the use of three target composers. It was observed that most students, particularly the more mature ones, displayed the greatest interested in moving beyond the exploration and development phases and into the performance preparation. Maturity was noted as a key factor that directed the compositional process.

In a multiple case study of four high school composers, Ladanyi (1995) discovered the emergence of four composer personalities. The “archetypal composer” possesses natural musical talent. The “style emulator” does not have this natural gift, but rather absorbs the facets of a musical culture through direct immersion. For the “technician” the lack of musical skills leads to a focus on the exposure to technical and manipulative musical experiences. Finally, the “super composer” possesses the natural
musical ability of the archetypal composer, but has additionally had the opportunity to
develop this gift to its potential. Despite the difference of approaches to the
compositional process these varied personalities would need to take, Ladanyi found that
several traits were common to all participants. All participants first took time to explore
the available sound palette. All participants had attempted to replicate the musical
cultures that they were immersed in outside of school. Finally, all participants were
clearly inspired by the freedom the electronic keyboards provided for them to direct their
own compositional experience.

**Visual models of compositional process.** The repeated study of the
compositional process of children has allowed for the establishment of several models
that generalize the sequence events (Kennedy, 2001, 2002; Perconti, 1996; Wiggins,
2003, 2007). Furthermore, it appears that models of compositional process transcend age
(Kennedy, 1999; Kratus, 1989).

Wiggins (2003, 2007) has constructed several models of compositional process. These models contain the stages of exploration, development, and repetition as found by
other researchers; however, Wiggins’ models significantly contribute to the
understanding of compositional process by accounting for the importance of context and
external influences in guiding these stages. Context is viewed from two viewpoints,
internal and external. Whereas the internal context refers to the holistic perception of the
work in progress, the external context refers to sociocultural influences and personal
agency. Other external forces are also present that guide the compositional process.

The exploration or experimentation stage is viewed as the initiation of the
compositional process. Musical ideas are brought into being, or “enacted,” through the influences of timbre, text, and intended musical role (p. 458). These musical ideas are then developed through a recursive process of repetition, rehearsal, and performance. The decision-making within this recursive process is founded upon the holistic perception, or, the internal context of the work; that is, the understanding of the character, structure, and meaning of the work in progress will guide the development of musical material. Several external forces are also present that influence musical decisions. These forces include the compositional problem, or the structure of the given task, and the energy or momentum of the composer. All of these processes and influences are also dependent upon external sociocultural contexts and personal agency. Sociocultural influences such as the environment, the provision of ample time without interruption, formal and informal learning experiences, and social dynamics of a peer group all play an important role in composition. Personal agency refers to “how much control an individual feels over his or her own circumstances and ability to act” (p. 462).

Through a collective case study of four high school composers, Kennedy (2002) established a model of compositional process. The essence of Kennedy’s model is listening. Listening not only sets the context of the work, but also acts as the impetus for the process. In this six stage model, the process begins with listening as preparation (Stage one). This stage, takes into account the informal learning and previous musical experiences of the composer. Thinking (Stage two) occurs after the assignment has been given, and consists of the mental working out of ideas. A second listening stage follows (Stage three) in which the music most recently experienced by the composer serves as a
direct inspiration for the new work. It is important to note that these three stages precede the exploration, development, and repetition of musical ideas. In Kennedy's model, these commonly observed processes do not occur until the fourth experimental stage in which composers rely on improvisation and listening to find musical ideas for their work. These ideas are then further developed in stage five through crafting, revision, and self-reflective listening. As a result the final product, Stage six, is more composed than improvised. Kennedy noted that some composers end the process at stage five before development takes place.

Despite the apparent similarities found throughout the models of compositional process proposed by several researchers, many have also noted the idiosyncratic nature of composition (Burnard & Younker, 2002, 2004; Kaschub, 1999; Kennedy, 2001; Ladanyi, 1995; Moore, 1986; Tsisserev, 1998). Such idiosyncrasies support the need for teacher sensitivity, opportunities for reflection, and a student-centered approach to composition (Burnard & Younker, 2002, 2004), but do not supersede the exploration, development, and repetition components of the compositional process.

Holistic conception.

It is evident in composers’ descriptions of their initial conceptions and in researchers observations that in initial stages of the work, composers generally work from a preconceived image of where they are headed and accept or reject ideas based on how they fit that image. (Wiggins, 2007, p. 460)

One of the most important findings in the compositional process literature is that children are guided by a holistic conception of the musical work. Green (2002), a prominent researcher in the field of informal music learning, identified the holistic nature
of composition as one of the five characteristics prevalent in informal music practices. Green (2008a) adopted these characteristics as a pedagogical approach to music composition in a secondary school classroom, and found that 95% of participants, “preferred the project’s approach to the ‘normal’ curriculum” (p. 185).

The two target students from a study of group compositions within a fifth grade class explain that their initial concerns were with global aspects of the work such as affect and structure (Wiggins, 1994). The initial holistic conception was then broken into parts as students within the groups developed their ideas independently. The group then reassembled the parts into a musical whole.

Freed Carlin (1998) conducted an ethnography that compared the musical and literary compositional processes of three children from an intact class of twenty-one. Students were found to possess holistic ideas about their compositions. This prevalent focus on the end product gives rise to a coexistence of process and product. Freed Carlin concluded that, despite an effort to separate the two, the process and product are “intertwined,” and go “hand-in-hand” for the children (p. 268). Not only is a clear conception of the end product a necessary component of the compositional process, it also seems that children may produce more creative music when they focus more strongly upon their holistic conceptions. Hickey (1995) conducted a mixed-methods study of the relationship between creativity level and the resulting compositional products. Children labeled highly creative more frequently engaged in the exploration and development of “whole musical ideas” (p. 193).
The Intrapersonal Influence

“Identity exists as a dialectic between an individual and society” (Dabback, 2008, p. 282). In other words, one’s identity emerges through the give and take between one’s self-projected image to society, and society’s shaping of that image. As Dabback concluded, “Although identity feels self-authored, others must respond to and confirm this sense of self” (p. 283). Music, particularly for youth groups, is a key component that allows for such identity development (Davis, 2005).

Music serves many purposes in life. Boer and Fischer (2011) found seven functions of music in their cross-cultural study of music listening. Whereas some of these functions (background music, music as diversion, emotion in music, music as self-regulation) serve purposes of self-management, other functions (memories through music, music as a reflection of the self, and social bond through music) emphasize social-management. It is these social functions of music that are the root of musical identity. In defining musical identity, Hargreaves, Miell, and MacDonald (2002) stated, “We use [music] not only to regulate our own everyday moods and behaviours, but also to present ourselves to others in the way we prefer.” (p. 1).

The formation of musical identity. Researchers have found that the formation of musical identity may go through several developmental stages. Such identity stages may explain the “open-earedness” discussed by Boal-Palheiros and Hargreaves (2001, p. 104), which shows increased openness to musical styles in early childhood and late adolescence, and a decreased tolerance in early adolescence and adulthood. Lamont (2002) began her chapter on musical identities in the school environment by introducing
an important shift in identity perspective for school-aged children; namely the concept of *self understanding*, which is how we define ourselves, and *self-other understanding*, which is how we define others. She noted that musical identity cannot be developed until the shift around the age of 7 from the early childhood perspective of self to the self–other understanding of middle childhood. During this phase of middle childhood, musical identity will be based on external observable factors such as belonging to a musical group. This contrasts the peer comparison based musical identity of adolescence. Lamont (1998a, 1998b) elaborated the differences in musical identity amongst primary students (age 5-11) and secondary students (age 11-16). Primary students more readily considered themselves “playing musicians” because of the experiences they had in school. Secondary students identified themselves more often as either a “non-musician” or a “trained musician.” Due to the increase in opportunity to be part of a musical group in secondary school, adolescents begin to develop negative musical identities if they do not belong to a group due to their group comparisons.

Working in conjunction with the developmental stages of identity development are the social environments in which the individual takes part. “Children’s development of musical identities, which have their origins in biological predispositions towards musicality, are shaped by the individual groups and social institutions that they encounter in their everyday lives” (Hargreaves et al., 2002, p. 7). Consequently, the negative musical identities acknowledged in Lamont’s (1998a, 1998b, 2002) research arose from combining the developmental stage, *self-other awareness*, and a school environment that provides instrumental instruction to some, not all, students. O’Neill (2002) found that
children who have no instrumental training hold a fixed view of musical ability, contrasting the view of those who have begun instrumental training. This holds “implications for the ways in which individuals make self-evaluations about their own and others’ ability” (p. 82). In this regard, schools play a vital role in the formation of an individual’s musical identity. School is “an important social context where messages about the value of music, and who music should be for, are transmitted effectively” (Lamont, 2002, p. 56).

The family environment is also vital to the development of musical identity. Borthwick and Davidson (2002) conducted a case study investigating the family interactions of children who had been labeled musical. They found that in some cases, an effort was made to preserve the ‘family identity’ of families who had a musical history. Interestingly, the drive to maintain the “heirloom of the collective musical identity of the wider family” (p. 64) overshadowed any financial, physical, or emotional hardships associated with the study of music. The case study also found that musical influence was not only in the direction of parent to child. The child’s musical tastes influenced listening patterns of others in the household. Some parents even began to play an instrument as a result of their child’s influence. Parents often noted that they were not “dictating their children’s identity” (p. 69).

Not only is the environment of the household a factor that affects the formation of musical identity, but a child’s place within the order of birth has been found to be an issue as well. Borthwick and Davidson (2002) found that in the case of two-sibling families, the older sibling was the one labeled musical. They concluded that resentment
and rivalry resulted from praise of the elder sibling's abilities, and thus resulted in the development of a negative musical identity for the younger sibling. This phenomenon was not found in households with more than two siblings, likely due to parents’ tendency to treat the abilities of each child more independently. In light of these findings, it is evident that one’s birth order, particularly in a two-child family, has an impact on the formation of their musical identity, and intrapersonal point of view.

In addition to the significance of the opportunities and interactions of peers, schools, and family in the formation of musical identity, the perception of one’s self will also act to enhance or restrain their identity. O’Neill (2002) adopted the terminology of Dweck’s social-cognitive model of achievement motivation and prior research (O’Neill & McPherson, 2001; O’Neill & Sloboda, 1997) to illustrate that individuals with a helpless achievement pattern will deteriorate after failure, and those who enact patterns that are mastery-oriented are persistent and furthermore enjoy the challenge. An individual’s predisposition to either of these achievement patterns will have a great effect on their ability and desire to identify themselves as being musical. O’Niell (2002) emphasized that children’s confidence level will instigate a variation between the skills an individual “can” use and what they “actually display” (p. 81) in future musical performances.

Although the school and home environments seem to play a major role in the establishment of a musical identity, other less prominent social influences exist. One such social influence is the social connection musical memories may provide. Cross-cultural findings indicated that songs are capable of surfacing memories of loved ones, events, relationships, emotions, and life stages (Boer & Fischer, 2011).
The communication of self. In what ways then do we utilize music as a representation of our self? In their discussion of music as a reflection of the self, Boer and Fischer (2011) recognized three divisions of musical identity: individual, social, and cultural. The individual identity was found to be representative of, "a person’s individuality and lifestyle" (p. 10). Musical preferences also allowed individuals to indicate membership within a particular group, thus representing a social identity. Finally, the history and values of a culture may be adopted through cultural identification. Through these three forms of musical identity, individuals may communicate to others information about who they are.

Trevarthen (2002) found that the utilization of music as a tool for the communication of self begins at infancy: "When a 6-month-old smiles with recognition of a favourite song, and bounces with the beat, it is like knowing his or her name, displaying a social ‘me’ within the family’s affectionate pleasure of sharing" (p. 22). Conversely, Trevarthen posited that when a stranger does not understand the infant’s musical activity, the infant exhibits feelings of fear and shame. For infants, musical games provide a sense of social belongingness.

Listening to music was reported to be an important leisure activity for children (Boal-Palheiros & Hargreaves, 2001). Hargreaves, North, & O’Neill (2000) concluded that one reason music is so important to adolescents is that it “portray[s] an ‘image’ to the outside world” (p. 255). In light of the fact that informal learning plays an important role in the creative decision-making process of children, it would be valuable to consider the stylistic characteristics of their listening preference, and furthermore, the role that these
listening preferences play in the formation of their identity. North & Hargreaves (1999), through a four-stage study, observed that music is such a powerful influence in identity formation that adolescents wear musical preferences as a “badge” to be viewed and judged by others (p. 85). The first two stages of this study investigated the presence of normative expectations in association with various musical styles. The older adolescents (ages 18-19) responded to questionnaires about their opinions of the fans of selected pop, indie, and classical artists. The younger adolescents answered open-ended questions in response to vignettes of children their age with classical and pop preferences. In both cases, findings indicated that the label of a musical style preference on an individual communicates particular assumptions regarding demographics and characteristics. In the third stage of the study, participants of differing adolescent age responded to twelve statements by stating their agreement or disagreement with the people described in several vignettes of individuals who were fans of various musical genres. The purpose was to determine whether musical preference carried positive and negative connotations. MANOVA results indicated that musical preferences do indeed have “social consequences” (p. 82). Stage four of the study built upon the results of stage three through an investigation of self-to-prototype matching. The self-to-prototype matching hypothesis is defined as “the assumption that individuals are motivated to reinforce their current self-image” through the “badge” represented by their musical preference (p. 85). Findings indicated that a higher correspondence between responses of self and typical pop fans was evident for those who prefer pop music. However, the correspondence between responses of self and typical rap fans did not exist for either group. The
researchers concluded by stating that identification with a musical culture had positive consequences. Negative consequences of non-group members were not present.

Green (1999) also recognized that music may function to communicate characteristics of one’s identity. Particularly for adolescents, music may be “worn rather like a piece of clothing, to indicate something about your class, ethnicity, gender, your sexuality, religion, subculture, political values, and so on” (p. 167). Green asserted that the “delineated meaning” (p. 167) ascribed to musical works are a reflection of one’s perception of self, and supersede the intentions of educators. Considering that music plays such a prominent role in the portrayal of image, it is apparent why students often hold negative views of classical music; that is, “it presents a poor image of oneself to others” (Hargreaves et al., 2000, p. 269).

Seddon & O’Neill (2003) compared the compositional processes of individuals with formal instrumental music training to those without such training. Findings indicated that students with formal instrumental music training spent less time in the exploratory phase of composition. The researchers interpreted this finding as a reflection of the composers’ attempts to protect their self-image as a musician. It seems that students who have had formal instrumental music training spend less time in exploration in order to create an “appropriate” work to maintain their “musician status” (p. 132). Folkestad (2004) found that, “creative music making and music identity are two sides of the same coin, in that the former provides an arena on which the latter can be explored and expressed” (p.88).
The emergence of compositional “identity” and “voice.” Clearly, music plays a role in the perceptions of an individual’s identity. Choices regarding musical preferences reflect in part the characteristics an individual may wish to portray. But, just how do individuals represent their identity in the original music they compose? Do child composers even possess a musical voice?

Stauffer (2003) defined a composer’s identity as the “unique qualities of a musical sound that allow the informed listener to associate a work with its composer” (p. 91). This “sameness” may be present in the composer’s collective work over time. Stauffer then defined “voice” as an associated trait that is more specific to “matters of expression and meaning” (p. 92). Stauffer concluded that children do, indeed, possess a musical voice in that they create, “what is meaningful to them on their own terms” (p. 95).

Although the compositional voice of prominent composers has been a common source of investigation, researchers have noted a lack of similar research focusing on children or inexperienced composers (Carter 2008; Stauffer, 2003). Such a neglect of the child as a subject for this type of research stems from the “powerful traditions in western art music” (Stauffer, 2003, p. 92). After examining the computer-based compositions of four selected participants, Stauffer cautiously confirmed the trademarks of compositional identity and voice. She concluded that identifiable reflections of each individual’s life and state of being were present. Carter (2008) examined the shaping of childrens’ compositional voice through daily influences and past experiences. Furthermore, this study allowed each participant to verbalize their conceptions of their compositional voice. It was concluded that compositional identity is “dynamic and fluid” (p. 284). Although
Carter (2008) utilized undergraduate college students as participants, and Stauffer (2003) studied composers aged 5 to 11, the studies are supportive of one another in that they recognized the existence of compositional voice in young, less-experienced composers, and, that the compositional voice was reflective of the individuals’ current status.

McMillan (1999) examined the formation of musical voice for jazz improvisers. The musical voice of a composer, which was defined as a “revelation of self through an expressive act” (p. 267), was found to motivate the entire compositional process. Data were collected from 22 college students over a period of three years in the form of interviews, journals, audio documentation. McMillan observed the prevalence of three factors that shaped the musical voice of each participant. These factors included stylistic independence, risk-taking, and the musical relationship between players.

The Cultural Influence: Expectations of the Intended Audience

“Ultimately, society, right or wrong, rewards or rejects the creative person only for the products that emerge from the creative process” (Balkin, 1990, p. 30). Musical decisions made by composers must be measured against some culturally established norm to determine a level of creativity. For example, the use of chromaticism in the work of Mozart may be deemed as a creative deviation from the standard conventions of the Viennese tradition at the time. The external culture that may motivate the creative decision-making process could be derived from the stylistic norms of a particular genre, a need for acceptance by a particular individual or group, or even the structure of the task at hand.
Formal and informal learning. Informal music experience plays a vital role in the shaping of music compositions. In fact, informal experiences may be the strongest predictor of compositional creativity (Auh, 1997). Freed Carlin (1998) found that musical ideas were often generated through the borrowing and adaptation of pop culture elements. Because of this, sociocultural factors played an important role in the process of music composition. Consequently, the successful implementation of composition activities in the music classroom requires the educators’ understanding and acceptance of the influence informal experiences have on child composers.

Through philosophical inquiry, Folkestad (2005) addressed this issue first by setting aside the notion that formal and informal learning are dichotomous, then, by proposing a Hegelian point of view. From this perspective, formal learning (thesis) and informal learning (antithesis) are brought together to inspire a new learning (synthesis). This new learning could consequently inform both practices. Temmerman (2005) supported this point of view, concluding that educators must follow the few examples of “school and community music links that are building bridges between young people’s in- and out-of-school music experiences” (p. 122).

Several studies have been conducted that expose the presence of informal learning. Through studying the structure of improvisation of untrained children, Baldi & Tafuri (2000) concluded that the ability of untrained composers to construct logical beginnings and endings to their work must be the result of sociocultural assimilation.

In a case study of 6 sixth-grade students, Stauffer (2002) examined musical, cultural, and social influences on music composition. Data collection took place in the
form of interviews, observations, and analysis of the participant’s music compositions. Analysis revealed the emergence of four themes: instrumental influences; familiar melodies; media, school, and home referents; and ensemble experiences. It seems that children who have already accomplished some level of competence on an instrument will often incorporate stylistic elements of the instrument into their compositions. The use of familiar melodies to initiate the compositional process was abundant in Stauffer’s analysis. Although familiar melodies often inspired the composition, the original tune was not always represented in the final product. The development from origin to end product varied with each participant. Home, school, and media cultures also had a large influence on the music being composed. The case study revealed that influence from television, books, art, and family listening preferences were present. As the school year progressed, students began to compose less for a single instrument in favor of experimentation with multiple lines. Stauffer posited that this was a result of the student’s immersion within instrumental ensembles. It is clear from this study that culture plays an essential role in shaping the creative decision-making process of children.

The use of traditional and non-traditional notation systems “transform musical thinking” by shifting focus from music ideas to the “think[ing] about the representation” of musical ideas (Barrett, 2004, p. 26). The representation of music, a cultural establishment, influences the aesthetic decision-making of the composer. As an example of this, Barrett (2004) cited Bamberger (1991) to show how competency in traditional notation led to an altered approach to rhythm construction from those who lack such knowledge. Walker & Auh (1999) conducted an experimental study on 38 seventh-grade
students to examine the effect of traditional notation on compositional creativity. Subjects were divided into groups of contrasting notation style: traditional (control) and non-traditional (experimental). Findings indicated that the non-traditional group utilized more compositional strategies, and exhibited higher levels of creativity than the traditional group. The researchers concluded that “the use of graphic notations seemed to provide a more open-ended task that did not inhibit the subjects in their composing” (p. 5).

**Task structure and “flow.”** The mere presentation of a task may serve as inspiration for composers. In a meta-analysis of creativity and composition, Folkestad (2004) reported that studies on creativity in composition have sought comparisons between age groups, experience levels, gender, formal and informal environments, and traditional/computer instruments. It was found that across all categories, the provision of a framework was a commonality that existed with regard to the initiation of the creative thought process. A teacher-assigned task for a student was akin to the commissioned work of a professional composer in that both were forms of “external demands” (p. 88). For both age groups, such demands served to initiate the composition process, and provide the framework necessary to begin the creative thought process.

The demands set by the given task also influence progress. Csikszentmihalyi (1975) developed a theoretical model of enjoyment in which *flow* represents the intersection of challenge and skill. Essentially, when the level of challenge inherent in an activity is too high in comparison to the skill level possessed by an individual, the individual will experience feelings of anxiety in the form of worry. On the other hand, if the challenge level of an activity is too low in comparison with the individual’s skill
level, the individual will experience anxiety in the form of boredom. The relevance of this theoretical model to the proposed study is that when placing children in collaborative groups, the variety of skill levels of the individuals within the groups create considerable potential of over and under challenging them; anxiety in the forms of both worry and boredom are likely to exist.

Several recent studies have attempted to quantify flow in the music classroom through the *Flow Indicators in Musical Activities* (FIMA) coding form (Custodero, 1997; St. John, 2004, 2006). St. John (2006) examined how young children (ages 4-5) collaborate musically, and how such collaborations influence the learning experience. The framework for this study was founded on scaffolding, an adaptation of Vygotskian theory, and the concept of Csikszentmihalyi's optimal flow experience (Csikszentmihalyi, 1990, 1997; Csikszentmihalyi & Csikszentmihalyi, 1988). In discussion of these two concepts, St. John (2004) made explicit the distinction between the intrinsic and extrinsic motivation that motivate each. In the scaffolding model, learning occurred within a social context as a result of interaction with others. This model was based upon Vygotsky's zone of proximal development (ZPD), which he defines as, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky in Wertsch, 1999, p. 67). Learning is the outcome of external forces. Other researchers have also supported this Vygotskian concept as a force in collaborative composition (e.g., Fautley, 2005). On the other hand, flow is the result of an internally motivating process in
which an appropriate challenge increases the skill level of the individual. This in turn increases the level of the subsequent challenge.

St. John (2006) collected data from 12 participants in the form of video through fifteen 75-minute sessions in which children engaged in various musical activities. The activities were grouped into 10 separate events, which were independently evaluated through the lens of collaboration. Through the analysis of the video, peer interactions were monitored and recorded, then evaluated for their role in facilitating engagement and intensifying the experience. St. John noted the emergence of three themes. The first theme was the power of social influence. Children possessed an astute awareness of where others were and what they were doing. Second, St. John observed the presence of three transformative behaviors. All of the participant’s activities were anticipations, expansions, or extensions of teacher directives. Finally, the provision of time afforded the scaffolding of ideas through “rich, imaginative episodes” (p. 249). St. John concluded that children were “natural collaborators” (p. 255) who enhanced the quality of the learning experience for one another through the scaffolding of ideas. St. John’s study (2006) was an extension of the researcher’s doctoral dissertation (2004), which also investigated the facilitation of flow through the Vygotskian concept of scaffolding, which in turn was based in large part upon the work of Custodero (1997) on flow in the music classroom.

Green (2008a) emphasized the effectiveness of peer groups in learning through scaffolding in concluding that peers are better able to get into the Vygotskian “zone of proximal development.” Furthermore, Green observed that students in informal, student-
directed learning groups experienced a high level of flow. Green’s findings (2008a) corroborate the research of St. John (2004, 2006)

**Collaborative Music Making: The Interpersonal Influence**

**Peer interaction.** Peer interaction plays an essential role in collaborative music-making. McGillen (2004) conducted a study of 21 collaborative composers to examine the creative and cooperative processes. Analysis revealed that the compositional product and the social environment were indivisible—a phenomenon he termed, “sociomusical engagement” (p. 290). Students exhibited a close relationship with both the music being created and the other members of the group. Consequently a high degree of “positive interdependence” (p. 291) developed that functioned as the main element of success.

Students frequently reported that their motivation and desire for success were significantly impacted by the feedback of their peers (Draves, 2008). Although peer input is important, it is particularly effective for inspiring creativity when children are grouped with friends. In an experimental study of 40 children aged 11 and 12, Miell and MacDonald (2000) studied the effect of working in pairs with a friend on interaction and the resultant compositional products. Student composers were videotaped. The video recordings were used to analyze interactions and code the data. Compositional products were evaluated using a previously validated assessment tool. Findings indicated that collaboration was most successful amongst pairs of friends, as represented by higher levels of musical and verbal “transactive communication;” that is a more frequent engagement in “reasoned dialogue” and an effort to incorporate the ideas of multiple individuals (p. 364). It is of particular interest that non-experienced composers displayed
a higher level of engagement and interaction while working with a friend. Such interaction may likely lead to greater learning and productivity.

A central precept in the Wiggins (2007) model of compositional process was the holistic conception of the musical work. It must be noted that the Wiggins model applies to both individual and collaborative composition. When children compose music collaboratively, individual compositional ideas are "revised against the criteria of a shared understanding of how the music might be" (Faulkner, 2003, p. 118). Shared understanding is an essential guiding force within the group compositional process. Wiggins (1999a) investigated the nature of shared music understanding through a discriminate sampling of previously collected audio and video data. Throughout the creative process, children exhibited shared understanding through their musical products and verbal interaction, as well as through the knowledge of their prior musical experience. Shared musical understanding also surfaced as students expressed musical ideas within a group. Generally this was accomplished through singing or playing rather than verbalization. However, verbal commentary was often used to judge an idea against a shared understanding. When children composed music in groups, musical decisions were judged and guided by a holistic perception in which the "vision of the work in progress is larger than the ideas of individuals of the group" (p. 85). Wiggins also noted that the shared vision reflects both formal and informal contexts.

**Pedagogical approaches to collaborative music-making.** Through a case study of teacher intervention in group composition, Fautley (2004) observed an absence of discussion about aesthetic traits. It appears that the teachers who do incorporate
composition in their curriculum are more concerned with technical, assessable elements than the development of creativity. Furthermore, the teachers in the study were surprised when the researcher revealed that their verbal interactions with the students consisted almost entirely of non-musical formative assessments. Fautley emphasized the validity of formative assessment, and stressed that music educators incorporate formative assessment as a natural component of their educational approach. However, this study highlights the need for music educators to provide more qualitative feedback regarding creative decisions. As an example, Fautley explained that if the inclusion of an ostinato were required for a composition assignment, teachers provided assistance and feedback only about the technical meaning of "ostinato," rather than feedback about the musical qualities of the actual ostinato created. Fautley recommended that there be less of a focus on "task completion" and more emphasis on "musical judgments" (p. 215).

Byrne, MacDonald, and Carlton (2003) conducted a study of the relationship between flow and creative output of 49 college students. Significant correlations were found for the composing tasks that were structured to contain (a) clear goals, (b) immediate feedback, and (c) a balance between challenge and skill. In light of the research of others regarding flow in collaborative music activities (Green, 2008a; St. John, 2004, 2006), it seems that an effective pedagogical approach to collaborative composition may include a similar task structure. These three components of task structure, plus the addition of a fourth regarding the reduction of the fear of failure, were utilized in a similar study of group composition (MacDonald et al., 2006). Findings of this study also indicated a significant relationship between self-recorded levels of flow
and creative output.

St. John (2006) proposed a pedagogical model to facilitate flow in the learning experience. The educator must (a) observe the student’s negotiation of the presented task, (b) provide the “temporal space” (p. 255) necessary for students to interact and explore the ideas of one another, and (c) foster a social context that encourages the free exchange of ideas. With a model such as this, educators must be willing to accept the direction taken by students, and to some extent, relinquish the reigns of control.

The non-traditional, student-centered teaching approach, which is reflective of informal learning practices, has also been advocated by Green (2008a). In an examination of the learning processes of children at 21 schools, five previously observed strategies of informal learning (Green, 2002) were applied to the education setting: (a) start with appealing, familiar music, (b) copy music by ear, (c) learn from peers or individually, (d) conceive music in a “holistic, idiosyncratic, and haphazard” manner, and (e) include performance, listening, improvisation, and composition in the learning process (p. 178). Participants were asked to form groups with friends, listen to music, then learn through the self-direction of the group how to play it. The foci of the research were group cooperation in organization of learning, and the inclusion of students of differing abilities and those with poor attitudes. In contrast to their preconceptions, teachers found that the informal, student-driven groups displayed better “application, responsibility, motivation, and cooperation” than usual (p. 182). Green also commented that there were very few students within the groups who were inactive. To gain the perspective of the students regarding group cooperation interviews were conducted with 200 students in 40 focus
groups. The interviews revealed several important findings. The first finding was that an unconscious learning took place through merely a participation in collective activities. Second, peer-directed learning alleviated the pressure children generally associated with the traditional teaching approach. A final finding was that leadership often emerged within the groups. One essential conclusion regarding the shift of pedagogical roles was that many of the extra-musical aspects of the group actions, which traditional teaching approaches would have been ceased, served to open the door to the music-making process. This conclusion was particularly evident in the students who generally exhibited poor attitudes.

Visual models of collaborative composition. Through a 5-stage study, Faulkner (2003) investigated student perceptions of group composition. The methodology included (a) the collection of social and historical data for the establishment of cultural background, (b) a survey of pupil perceptions of composition, (c) pupil assessment of their own compositions, (d) a case study of 12 students to provide a deeper description of pupil surveys and assessments, and (e) a case study of two aspiring professional musicians to provide an understanding of issues emerging in the community. Pupil surveys indicated that listening, performing, and composing are conceived holistically. Furthermore, students expressed high levels of motivation toward learning these musical skills through composition activities.

From the second stage of the study, several themes emerged through the data coding process: aesthetic object, personal identity, social event, and extramusical associations. Faulkner noted that the majority of pieces selected by participants to
represent the piece that meant most to them did not relate to aesthetic qualities of the work, but rather, to the other socially situated themes that emerged. All of the selected pieces were created collaboratively, and furthermore, based on the comments of the participants, “appear to have been chosen for the corporateness of their making” (p. 109). In other words, the participants of this study exhibited preferences for music because of its social meaning, rather than its aesthetic quality. Value was placed on the music because of the, “personal and social experiencing of it” (p. 109).

The preference for group composition was supported by the case study conducted as stage three of the study. All but one of the participants in Faulkner’s study expressed that composing in groups was more enjoyable. One reason given for this preference was the presence of multiple musical ideas. Kaschub (1999) also found that individual composers struggled to find ideas, and collaborative composers enjoyed the musical contributions from each of its members.

Perhaps the most intriguing point of Faulkner’s research is his interpretation of why students often bring ideas they have ‘worked out’ at home. He stated that “whilst pupils composing at home may appear to contradict the ‘composing as a social act’ argument, it is significant that ideas invented at home…only appear to take on the status of significantly valued composition when shared, assessed and developed with others in a group setting” (p. 115). Faulkner’s research led to the visual diagram of a theoretical model for group composition.

Fautley (2002, 2005) also developed a collaborative composition model. The construction of the most recent model (2005) begins with the establishment of five
cognates common to existing compositional process models for individuals: external, subconscious, conscious, sensory-motor, and activity. When composition occurs collaboratively, participants have "joint ownership" and construct meaning "between them" (p. 43). With reference to Vygotsky's Zone of Proximal Development, Fautley (2005) highlighted the importance of the 'between' to the learning process. In light of this, the separation of each composition component (general tonal and stylistic knowledge, idea, thematic material, and transformation) into the individual, shared, and distributive functions they serve in collaborative composition is ascertained. The construction of the visual model is based upon these foundations. The dotted line represents the overarching constraints (e.g. time, resources, and environment) that underlie, and bear a strong influence on, the compositional process. Upon these constraints, a stimulus is introduced to initiate the process. The introduction of a stimulus leads to phase one of the internal, pre-generative stage: cognition and sensory-motor activity. At this stage students begin to formulate musical ideas, generally through performance on an instrument. In the pre-generative stage, phase two, knowledge, awareness, and experience influence the decision-making process. Musical knowledge is informed by formal and informal music experience. Aesthetic awareness has a "filtering effect" (p. 48) on the music generated by students. Also, a repertoire of compositional techniques from past experience will also shape the direction of the work. The generative stage has five phases. An initial confirmatory phase (Phase 1) in which students organize their ideas is followed by the processes of generation and exploration (Phases 2 and 3). It is in these phases that students accept or reject the musical ideas of one another within the
group. This leads naturally to a process of organization (Phase 4) in which ideas are ordered into a structure. Fautley refers to Phase 5 as the “work-in-progress performance” (p. 49). In group composition, the formal or informal rehearsal of the unfinished work is a major component of the process. In a case study analysis of group compositional process, Fautley (2004) found that 45% of the time was spent in this phase. The first of the three post-generative phases is revision. During this phase, which frequently reverts back to Phase 5, students will rehearse individually, or in groups, to prepare the piece for performance. Extension and development (Phases 7 and 8) serve to give the work coherence. The performance of the composition is the final post-generative phase. Fautley tested the model for group composition in a case study, and results indicated that stages were present.

**Synthesis of Literature**

This study builds upon a growing body of research that investigates the sociocultural domain of music composition. To support the study, this discussion of related literature presented research in four relevant areas: musical creativity and the compositional process, musical identity, dynamics within group composition, and influences of the intended audience. Although a great deal is known about social influences on the works of distinguished composers, little research has been conducted regarding the importance of such influences on individual “neophyte” composers (Carter, 2008, p. 82). As such, this literature review, and the study it frames, remained limited to sociocultural influences on the musical compositions of child composers. A synthesis of the literature discussed in this chapter brings several pertinent points to the forefront.
Several factors have an impact on the creative capacities of the child composer. These factors include age, music aptitude, instrument use, the classroom environment, and the provision of frequent feedback.

Although previous literature has emphasized a consistency in children’s approach to composition through a cyclical use exploration, development, repetition, and silence and in the overall compositional process, the nature of music composition is still idiosyncratic.

Researchers have consistently found that children are guided through the compositional process by a holistic conception of the work.

Children develop musical identities in stages, and make choices regarding their musical consumption for the communication of 'self'.

Child composers have been found to possess an identifiable compositional voice.

Children are motivated by peer feedback, and work most effectively within friendship groups.

Task structure bears a strong impact on the compositional process. The design of a compositional task is most effective when incorporating an informal approach, the guidance of instructions, and the facilitation of "flow" in collaborative music-making.
Chapter 3: Methodology

In the first chapter of this paper, an historical overview of compositional process research and rationale were discussed that identified a need to further investigate sociocultural influences on the compositional processes of collaborative groups. Chapter 2 provided a survey of the related literature in four areas: the compositional process, intrapersonal, interpersonal, and cultural influences. This chapter defines the approach taken for the collection and analysis of relevant data for the study. With regard to the variety of approaches available in case study research, Creswell (2007) stated that there are “a large array of texts and approaches from which to choose” (p. 73). The approach to case study research utilized for the design of this study was adapted from Yin (2009). According to Yin, there are five components that should be present in the design of case study research: (a) a study’s questions, (b) its propositions, if any, (c) its unit(s) of analysis, (d) the logic linking the data to the propositions, and (e) the criteria for interpreting the findings (p. 27). All five components are present in this research design; the first three are addressed in the introduction section of the chapter, and the last two in data analysis section.

Preparing the Case Study

In this section, preparations for the collection of appropriate and useful data are described. This is accomplished by refocusing through the restatement of the research purpose and questions, considering the possible outcomes of the study, understanding the application of qualitative methods, and defining the cases of the study.
Restatement of research purpose and questions. The purpose of this study was to better understand how confluence or divergence of intrapersonal, interpersonal, and cultural influences guide the compositional process and final musical products of children working in collaborative groups. The following research questions guided this study:

Research Question #1: How is the compositional process influenced by the sociocultural relationship between the composers and any perceived intended audiences (intrapersonal–cultural)? Within each collaborative group in this study, there are four composers. Each has their own unique history of musical experiences, compositional voice, and musical identity. In other words, a unique musical self, as formed by cultural (external) influences, exists for each composer within the collaborative group. How does the sameness or difference between each of the musical ‘selves’ (intrapersonal–cultural) within the group guide or hinder the compositional process?

Research Question #2: How is the compositional process influenced by the interaction between individuals within a collaborative group (intrapersonal–interpersonal)? The relationship between each of the four individuals, and the resultant group dynamic, may act to assist or impede the compositional process. Each individual may have an effect on the group, and likewise, each group may have an effect on the individual. This is the intrapersonal-interpersonal relationship. What effects do the relationships, adopted roles, and willingness to participate amongst the individuals within the collaborative group have on the compositional process?
Research Question #3: How is the compositional process influenced by the sociocultural relationship between the collaborative group and its intended audience (interpersonal–cultural)? A collaborative group of composers may (or may not) have a shared perception of the expectations of their intended audience. A group understanding of the intended audience may lead to decisions to satisfy, disappoint, or surprise their intended audience, or to a multitude of other interactions. This, in turn, may lead to compositional choices, and have an effect on the compositional process.

Research question #4: How do collaborative composers negotiate differences among intrapersonal, interpersonal, and cultural identities? The previous three research questions focused upon how sameness or difference between intrapersonal, interpersonal, and cultural relationships may influence the compositional process. With the fourth research question I investigate how collaborative composers deal with such differences and conflicts.

Theoretical propositions. The research questions presented in a quantitative study are often followed by a set of hypotheses. "Hypotheses are concise statements about what is expected to occur, not why it is expected to occur" (Sutton & Staw, 1995, p. 377). Therefore, because qualitative methodologies seek to delve deeper into the understanding of why particular phenomena occur, it is necessary as part of the research design to extend the line of thinking beyond a set of predictions of what might occur, into the development of a theory that will serve as a set of principles to guide the collection of data that will support explanations of why such events occur. In discussing the importance of theory development, Yin (2009) stated:
The simple goal is to have a sufficient blueprint for your study, and this requires theoretical propositions, usefully noted by Sutton and Staw (1995) as 'a [hypothetical] story about why acts, events, structure, and thoughts occur' (p. 378). Then, the complete research design will provide surprisingly strong guidance in determining what data to collect and the strategies for analyzing the data. For this reason, theory development prior to the collection of any case study data is an essential step in doing case studies. (p. 36)

The *a priori* question: with regard to social and cultural influences, how does confluence and divergence affect the compositional process of a collaborative group? The aforementioned research questions subdivide this question to delineate the findings with regard to the interaction of three specific sociocultural influences: intrapersonal, interpersonal, and cultural. To what degree does each of these sociocultural factors influence the collaboration?

The literature in compositional process has acknowledged the cyclical use of exploration for musical ideas, experimentation with found motives, development, repetition, and revision (Kratus, 1989, 1990, 1994; Wiggins, 2007). Such research has also established that compositional products are generally more cohesive when composers spend less time in the exploration stage, and more time in the repetition and development stages. Sociocultural divergence within a collaborative group of composers may be analogous to a tug-of-war that negatively impacts the compositional process. On the other hand, sociocultural confluence may aid in leading the compositional process toward a more cohesive final product. Therefore, there is an implication that sociocultural divergence may lead to more time in the exploration phase, and sociocultural confluence may lead to increased time in the repetition and development stages. Wiggins (2003) has shown that children are guided by a holistic conception of the work. Perhaps
collaborative composers who share a holistic vision of the work experience a greater degree of confluence, and consequently increased time in the stages of repetition and development.

**Research overview.** To investigate the negotiation of intrapersonal, interpersonal, and cultural influences in collaborative composition, an explanatory, embedded multiple case study design was employed. A maximum variation sampling of eight 4th-grade students was utilized in the study (Yin, 2009). Each participant took part in five unstructured, open-ended composition activities using Casio PX-310 electronic keyboards. Two composition activities were completed independently, and three were completed in collaborative groups. One 30-60 minute session was allowed for the completion of each independent composition activity, and three 30-60 minute sessions were allowed for each collaborative composition activity. The eight participants completed their independent compositions on eight separate keyboards during the same 30-60 minute session. Group compositions were completed on two separate keyboards, one for each group. There was no requirement to use the entire allotted time. Previous research of children’s compositional process had used similar time allotments (e.g. Wiggins, 1994; Younker, 1997). In order to observe a variety of peer interactions each participant was placed into different collaborative groups for each of the three collaborative activities. The only instruction given to the participants at the start of each activity was to compose and perform an original piece of music. Because the purpose of this research was to better understand how children negotiate differences of sociocultural influence on their own, researcher intervention was minimized to a role of merely
protecting the emotional well-being of the participants. Previous studies of compositional process have encouraged a similar approach which limits teacher guidance. Wiggins (1999b) suggested that teachers provide assistance only when absolutely necessary, and to otherwise “stay out of the way” (p. 32). Green’s (2008) studies of informal learning practices encouraged teachers to “stand back and observe as much as possible” (p. 179). This “more-than-usually self-directed” (p. 179) approach appeared chaotic, but a closer analysis revealed positive characteristics. Despite the teachers’ anticipations that “pupils would waste time, muck around, break equipment, and argue,” they agreed that “application, responsibility, motivation and cooperation were better than normal” (p. 182).

After the collection of data was complete, three of the collaborative groups were selected for the purposes of within-case and cross-case analyses. The justification for the selection of these three cases was based upon a maximum-variation sampling: one group was highly productive, one group was highly unproductive, and one group was all-female. Additionally, to better understand intrapersonal influences in collaborative composition, the independent compositional experiences of two target composers (Ali and Casey) were included as cases in the study. The focus on the experiences of target composers was adapted from Freed Carlin (1998).

Data collection included the researcher’s direct observations of the composition sessions. Descriptive and reflective notes were taken in addition to a minute-by-minute account of peer interaction and compositional process. One-on-one and focus group interviews were conducted at the conclusion of each composition activity. As part of the
interview, participants were asked to recount their thought processes as they viewed video and audio recordings of their work. Similar methods of data collection that include video recall were utilized in previous studies of compositional process (Barker, 2003; Barrett, 2000; Emmons, 1998; Faulkner, 2003; Smith 2004).

The data analysis phase began with a within-case analysis of each participant. These analyses included the coding of data and the identification of themes. The analytic techniques of pattern matching, time-series analysis, and logic model construction were followed. Analytic generalizations were then drawn through a cross-case synthesis.

The warranting of qualitative methods and case study design. The literature regarding compositional process is overwhelmingly qualitative in design. Although the quantitative studies that have been completed assist in building an understanding of the relationships between selected variables and creativity (e.g. Auh, 1997; Kiehn, 2003; Kratus, 1989, 1994, 1995, 2001; McCoy, 1999; Moore, 1986; Priest, 2001a, 2001b; Van Antwerp, 1995; Walker & Auh, 1999; Webster, 1979), the use of qualitative research is more often warranted, and enables the provision of a, "complex, detailed understanding" (Creswell, 2007, p. 40) of the experiences of individual composers. To best address the research questions in this study, a complex, detailed understanding of the lived experiences of eight young composers was necessary. The nine characteristics set forth by Creswell in conducting qualitative research are (a) a natural setting (b) the researcher as a key instrument, (c) inductive data analysis, (d) meaning ascribed by participants rather than researcher, (e) an emergent design, (f) a theoretical lens, (g) interpretive inquiry, and (h) a holistic account. Careful consideration
was given to each of Creswell’s characteristics as the study was conducted.

Although several qualitative methods were suitable for this study, an explanatory, embedded multiple-case design was utilized (Yin, 2009). According to Yin (2009), the selection of a research design is dependent upon, “(a) the type of research question posed, (b) the extent of control an investigator has over actual behavioral events, and (c) the degree of focus on contemporary as opposed to historical events” (p. 8). By addressing these three issues, the choice for case study research became clear. First, the research questions in the present study all inquire “how” or “why” a particular phenomenon takes place. Such questions, according to Yin (2009), are explanatory in nature and are answered best through case studies, histories, or experiments. Second, because only experimental research involves the manipulation of behavioral events the choices of research design are reduced to case studies and histories. Although the present study includes data collection of individuals and small groups of student composers, this difference does not function as an independent variable as it would in experimental research; rather, the collection and analysis of data with regard to individual composers was needed to become better acquainted with each participant’s musical background and compositional voice. This information was then used to observe and explain how these musical tendencies emerged and interacted within the environment of collaborative composition. Finally, because the present study attempted to explain events as they occurred, the case study method became the apparent choice of research design. Many other researchers have utilized the case study research design to investigate the compositional process of children, particularly the most recent studies (Barrett &
Researchers have effectively utilized case study design for studies of compositional process in the past; similarly, because the present study relied upon a collection of rich detail regarding the social interactions within the lived experiences of a limited number of individuals, I reasoned that case study design would be most appropriate.

Defining the cases. This was not a study of individuals; rather, this was an explanatory, embedded multiple case design (Yin, 2009) that sought to analyze the interaction of intrapersonal, interpersonal, and cultural influences in the collaborative composition process through the study of several groups of composers. Yin defined the embedded multiple-case design as several units of analysis that become the focus of data collection and consequently form boundaries that define each case. Multiple cases are then analyzed through replication of these same boundaries, and also set within its own context. Because of the frequent use of quantitative language such as, “unit of analysis,” Campbell described Yin’s approach to qualitative research as keeping an “insistence that the case study method be done in conformity with science’s goals and methods” (Yin, 2009, p. viii). In an effort to best focus the collection of data, such conformity was adopted in the present study and boundaries were defined with several units of analysis. The first, which is relevant to all research questions, is a focus on compositional process. In addition to this, each of the research questions focused on supplementary units of analysis and their relationship to compositional process. To address research question number one, it was necessary to assimilate each participant’s perception of and
interaction with the culture or intended audience for which they are composing. Research question number two required a focus on the interaction of individuals within the collaborative group. Research question three focused on the relationship between group interaction and group perceptions of the intended audience. To address research question four, it was necessary to explore each participant's musical identity and analyze how this identity emerged and interacted with other participants.

**Data Collection**

In this section, I detail the methods of data collection, beginning with a description of the site selection, and the measures taken to gain access. Two phases of data collection are then introduced. The first phase, identification of participants, justifies the need for a purposeful, maximum variation sampling. This is followed by a description of the recruitment process, and details of the survey that was utilized. A brief introduction of the eight selected participants is then presented. This is followed by a description of the second phase of data collection, fieldwork. Methods of data collection, including interviews, focus groups, observations, and audio/video documentation are explained. Then the measures taken to assure consistency in data collection are discussed. This encompasses a focusing of the analysis of data through reliance on theoretical propositions, a pre-determined case description, and prefigured codes.

**Site selection.** The study took place in a general music classroom in an intermediate school in a suburban neighborhood near New York City. The school had approximately 700 students in the third, fourth, and fifth grades. Student ethnicity was fairly diverse and represented in the school as 61% White, 25% Hispanic, 9% Black, and
5% Asian. Within this diverse population 17% of students had limited proficiency in English. The school was also economically diverse with 34% of students eligible for the federal free or reduced lunch program. The apparent diversity embodied in this particular school made it particularly appropriate for the proposed study because the diversity of the larger school population, diversity may have been more likely to occur within the groups.

The general music classroom of the selected site contained a MIDI keyboard lab that is utilized for individual, group, and whole class compositions. Each of the 15 student stations contained a Casio PX-310 keyboard. Considering that children spend a great deal of time exploring all of the available sonic possibilities of the instrument (Savage, 2004), the design of this particular keyboard was appropriate for use in the present study. Although the keyboard has 202 available tones, only 12 are accessible from buttons on the front panel. The remaining tones are hidden, and are accessible through a combination of a function button and a three-digit code. Without instruction by the researcher, participants were not aware of these additional tones. The reduction in available sonic options allowed for a potential increase in time on task without making participants feel as if their options have been limited. The researcher allowed the freedom to select any of the accessible sounds and to utilize the split and layer functions of the keyboard. Participants were instructed to disregard the automatic functions of the keyboard such as drum beats and automated accompaniment patterns.

Gaining access. To gain access to the research site and participants, it was necessary to provide details to and obtain written permissions from the Institutional Review Board (IRB) of Boston University, the school district of the research site, the
participants, and the parents or guardians of the participants. The approval forms for the proposed study (see Appendices A, B, C, and D) contain the specific elements mandated by the Boston University IRB. Permission to conduct the study was granted by the school district board of education on November 4, 2009, and by the superintendent on December 2, 2009 (Appendix A). Approval from the Boston University IRB was then received in May 2010 (Appendix B).

Phase I: Identification of participants. The goal of the first component of data collection was to select eight participants for the study. The recruitment and survey procedures are detailed in this section. These details are followed by a brief description of each selected participant.

Overview. The participants for this study included eight children from a fourth grade class of approximately 225 students within the intermediate school (grades 3-5). All participants were general music students who have had regular access to the electronic keyboards that would be utilized in the study. The selection of participants from this specific group was justified by several factors. First, researchers have found that when using electronic keyboards for composition activities, students spend a great deal of time exploring the new sound potential of the instrument (Savage, 2004). The participants selected for this study had already had nearly two years of experience using the MIDI keyboards in their general music classroom, and as a result, were accustomed to its sonic properties and functionality. Consequently, more focus on the compositional process may have been exhibited than in previous studies that included the first time use of electronic keyboards (Kratus, 1989, 1994). Second, because the students had many
opportunities to experiment and compose with electronic keyboards in the previous two years, they had developed their compositional voice and identity as a keyboardist. Because this study sought to understand the interactions and emergence of musical identities in collaborative composition, it was beneficial to study participants who have had the opportunity for this development. Researchers have shown that the “musical voice” can be developed with the use of electronic keyboards (Airy & Parr, 2001).

Finally, one core aspect of qualitative research is the allowance of data collection in the natural setting. In an attempt to provide an authentic environment for research, data collection was intentionally conducted in a familiar environment and through activities familiar to the participants.

The qualitative nature of this study necessitated the use of a purposeful sampling strategy. In choosing whether to select similar or dissimilar cases for inclusion in the study, I considered my goal of highlighting the greatest number of issues. Therefore, in accordance with the recommendation of Creswell (2007) a maximum variation strategy was employed to select cases for the study. Maximum variation was chosen because “when a researcher maximizes differences at the beginning of a study, it increases the likelihood that the findings will reflect differences or different perspectives—an ideal in qualitative research” (Creswell, 2007, p. 126). Maximum variation was achieved through the utilization of several dissimilar cases. The notion of avoiding typical cases for the purpose of highlighting additional issues is supported by Stake (1995) who states that the use of typical cases can fail to bring certain matters to the forefront, but, “an unusual case helps illustrate matters we overlook in typical cases” (p. 4). Despite the fact that
dissimilar cases could likewise fail to reveal some meaningful data, the choice to utilize dissimilar cases was made in light of these statements. The diversity sought for this study includes differences among the participants with respect to musical identity, peer interaction, and their connections to sociocultural context. Selection was also based upon the participant's ability to contribute to the study in a way that will "maximize what we can learn" (Stake, 1995, p. 4). The assessment of these two criteria was accomplished through the interpretation of the results of an open-ended student survey (see Appendix C).

**Recruitment and survey.** On September 8, 2010, a meeting was held at the selected site for all fourth-grade students. The building principal allowed time at the student meeting for the introduction of my research study. The student assent script (Appendix D) was read and followed by a question and answer session. At the conclusion of the meeting, a recruitment letters (Appendix E) and informed consent forms (Appendix F) were given to each fourth-grade student.

Of the 250 fourth-grade students who were given a recruitment letter and informed consent form, 40 returned signed letters thereby expressing interest in participating in the study. An open-ended survey was administered on December 20, 2010 to these 40 students (Appendix C). The purpose of the survey was to provide information to assist with the purposeful sampling of participants for the study. The survey instrument contained questions that pertained to the formation of musical identity and attitudes toward collaborative music making. The survey also asked participants to respond to a variety of musical selections by holding up one of five smiley face cards that
ranged from a frown to smile. For each musical selection, students were asked to show
with the smiley face cards how the music made them feel, how it would make their best
friend feel, how it would make their teacher feel, and how it would make their parents
feel. Participants were video-recorded while responding to each musical selection. Survey
results were recorded in a Microsoft Excel spreadsheet within a 48-hour period.
Responses were given a score based on a five-point Likert-type scale ranging from a one
for the index card that displayed a frown to a five for the index card that displayed a
smile. Validity was found to be unaffected by the use of pictorial substitutes for the
Likert scale (Reynolds-Keefer, Johnson, Dickenson, & McFadden, 2009). The results of
the survey were then analyzed for the selection of eight participants who would represent
a variation of musical preferences and social influences.

Participants for the study. Creswell (2007) advised that the selected cases be
reflective of “different perspectives on the process, problem or event” (p. 75). In order to
gain such perspectives, the results from the listening portion of the survey were charted
and analyzed for the degree of agreement or disagreement between the participants, their
perceptions of the opinions of their parent, their best friend, and their teacher. The results
justified the selection of eight participants for the study.

Ali. Ali exhibited a consistent degree of agreement across musical styles with the
perceived musical preferences of her parents, teachers, and friends. This is not to say that
Ali found all musical styles to her liking, but that she felt the same about each style as
other important figures in her life (parents, teachers, friends). For the pop music example,
Ali held up a smiley face for all, for the opera example, a frown for all, and for the Sousa
march, an indifferent face for all. The apparent parallel between Ali’s musical tastes, and her perception of the musical tastes of others was the basis for her selection as a participant.

*Maxwell.* Maxwell was selected because his responses seemed to contrast the responses of Ali. Maxwell exhibited drastic differences between his musical tastes and the perceived musical tastes of adult figures (parent and teacher). In general, if Maxwell held up a smiley face to a particular musical style, he would display a frown for his parent and teacher. At the same time, Maxwell’s response to each musical selection seemed to consistently match the perceived response of his friend. Such results imply that Maxwell may be greatly influenced by his peers, and maintain stark contrasts of opinion with authority figures. To support this implication, it was noted while viewing the video-recording of the survey that Maxwell even changed his responses after seeing the responses of his peers. It seemed that although Maxwell’s survey responses did not necessarily represent his own musical preferences, they did suggest desperation for agreement with the responses of his peers. In light of these behaviors, it seemed that his inclusion in the study would help meet the requirement for maximum variation.

*Maggie.* Maggie was one of the only survey participants to display a favorable response for all musical styles. This suggested that Maggie held an open-mindedness and general appeal for all musical styles. Maggie’s list of favorite music (e.g. jazz, “Black Eyed Peas,” and “Hey Soul Sister”) confirmed her apparent attraction to a variety of musical styles. Furthermore, Maggie’s responses indicated that although she perceived a similarity in musical preferences with her parents and friends, she often disagreed with
Kenny. The selection of Kenny as a participant was based upon his seemingly close-minded musical preferences. Kenny strongly disliked all songs in the listening portion of the survey, with the exception of “Rock and Roll” by Led Zeppelin. His responses were consistent with the expected responses of his peers, as the other participants surveyed also displayed a lack of interest in any musical genre except rock. Such results suggested that Kenny identified and was passionate about one particular musical style, and may be strongly influenced by the preferences of his peers. Similarly, the level of close-mindedness in Kenny’s affinity for rock music became evident in the written survey. Kenny expressed a desire to compose, “extreme heavy metal” music and listed only heavy metal bands in his list of favorite music (e.g. “Iron Maiden,” “AC/DC,” and “Metallica”).

Casey. The selection of Casey as a participant contrasts Kenny’s strong rock influence. Casey was the only participant to hold up a smiley face for the opera selection. Such a response demonstrated a high degree of independence, because nearly all other participants held up a frown. She also was one of the only nine to hold up a smiley for the Mozart. It is pertinent that these responses were independent of the perceived musical preferences of her parent or best friend (a frown was displayed for both). I interpreted the independence of these responses as a sign of confidence.

Felix. In contrast to the extreme responses of the aforementioned participants, Felix’s responses seemed typical; Felix’s responses generally agreed with the majority of responses given by those who were being surveyed. He did appear to have an interesting,
lively personality however.

Lisa. Likewise, Lisa’s responses also seemed typical in comparison with the responses of others that were surveyed. Her responses and demeanor during the survey seemed to suggest a willingness to go with the flow. This is supported by her written survey response in which she indicated a desire to compose, “music that would make people happy.”

Theresa. In some cases, the written portion of the survey provided enough information to make a participant selection. Theresa indicated on the survey sheet that she recently won a “PTA reflections” contest in which her composition, “Squiggle, Squaggle” won an excellence award. Her selection for the present study was based in part on the potential influence this experience could have on her interpersonal role within the collaborative groups.

Consideration of written responses. Written responses also assisted in the formation of collaborative groups that might maximize the collection of relevant data. In light of the research that emphasizes the role of friendship in musical composition (Miell & MacDonald, 2000), the written portion of the survey asked participants to make a list of people with whom they would enjoy composing music. Maggie and Lisa both indicated that they wish to work with Theresa (Participant H), Theresa requested to work with Maggie. Casey listed Lisa, and Kenny listed Felix as working partners on their surveys. Additionally, all of the selected participants had a common bond in that they all were members of the school band program. Maggie, Lisa, Theresa, and Kenny all played the clarinet. Ali and Casey played the flute. Felix was a trumpet player, and Maxwell
played the tuba. Although the participants were all in the band program, they did not all know each other. At the selected school, band rehearsal begin in 5th grade, so the 4th grade students only participated in small group lessons. The selection of these particular eight participants was made knowing that there would be pre-established friendships for some, but not all.

**Phase II: Fieldwork.** The goal of the second component of data collection was to gather information that would serve to answer the research questions. This was accomplished through interviews and focus groups, observations, and the recording of video and audio documentation.

*Methods of data collection and organization.*

*Video and audio documentation.* All composition sessions were video and audio recorded, with the recordings serving two purposes. First, students were asked to recount their experiences while watching the video recording during one-on-one and focus group interviews. Second, although direct observation was employed in the study, the video and audio recordings were necessary to verify findings, and to increase reliability of the study through member checking during video recall sessions. Because children are not likely to accurately verbalize reasons for their creative decision-making (Kratus, 1989), video and audio documentation was the most important source of data collection.

*Interviews and focus groups.* Interview data were included in this study, but not considered to be the most important and reliable source because of the difficulty children may have in verbalizing reasons for their creative decisions (Kratus, 1989). Many other prominent qualitative studies omit the use of interviews entirely without compromising
the quality of the research: Wiggins (1994) does not use interview data, Hickey (1995) augments her study with quantitative data, Kaschub (1999) utilizes "letters of advice" as data, and Smith (2004) incorporated stimulated recall. Interview data, however, can be important in case study research because they can provide information that is "targeted" and "insightful" (Yin, 2009, p. 102). Interviews provide a perspective which is less dependent upon inference that observations (Parker, 1984). I have included interviews in this study, not as the main source of data, but to encourage the gathering of additional details during video recall with the participants.

Because the proposed study considered the perspective of both the individual and their interaction within a collaborative group, two different interview strategies were utilized: the one-on-one and the focus group. Each of the individual composition activities concluded with a 30–45 minute in-depth, one-on-one interview with each participant. Data from in-depth interviews were collected over several meetings, and served as an essential means of including facts and opinion (Yin, 2009). The one-on-one interviews were essential for gaining the perspective of each student composer with regard to the emergence of a compositional voice, the connection to a cultural context, and the interaction with peers. Additionally, at the conclusion of each of the three group composition activities, a focus group interview was conducted. Focus groups were valuable in capturing the interaction of peers that took place during the compositional process. All interviews were video recorded in order to capture both verbal commentary and relevant body language. Transcriptions of interview data were then completed for analysis.
In an effort to maintain integrity and consistency through the data collection phase, the interviews, although open-ended and conversational, were guided by two sources: the interview protocol and the video and audio documentation. The one-on-one and focus group interview protocols each contained five general questions that were directly related to the research questions. The inquiry aimed to initiate discussion in relation to the social and cultural influences that guided the compositional process. The final question of each interview asked students to think out loud while they watched the video recording of the composition sessions. Think alouds have been used in previous music composition research as a means of verifying that “impressions/interpretations of actions or words concurred with the composers’ intent” (Freed-Garrod, 1999, p. 43). This recounting of events helped to address potential “inaccuracies due to poor recall” (Yin, 2009, p. 102).

**Observations.** Each of the composition sessions enabled the researcher to collect data through direct observation. The use of observation in a case study is essential because, unlike other forms of data collection, observation embraces the context of the case (Yin, 2009). The observation protocols were developed to maintain consistency and focus on the research problem. The use of an observation protocol enabled me to record minute-by-minute accounts of important events during the compositional process. Descriptive notes that recounted my “hunches and learnings” (Creswell, 2007, p. 134) were also taken. To assist in maintaining my focus during the observations, the observation protocols indicated which component of the compositional process was present each minute. For this purpose, the categories of exploration, development,
repetition, and silence were adapted from Kratus (1989). Additionally, the observation protocol for collaborative composition recorded the positive or negative interaction of peers. The observations were transcribed for analysis.

**Assuring consistency in data collection.** Several methods were employed to maintain a high level of consistency in the type of data being collected. The guidance of theoretical propositions, an understanding of children’s verbal limitations, a preconceived case description, and *a priori* codes were essential for maintaining focus on the collection of data that best addressed the research questions of the study.

**Relying on theoretical propositions.** The aforementioned guiding principles of the study served as a guide in the collection of data. Yin (2009) asserted that this strategy is of the highest priority because the formation of theoretical propositions, as informed by the literature and research questions, shape the identification of cases and data collection strategies. Through this lens, the groundwork for analysis was also established. The descriptive and reflective notes I recorded during observation reflected this lens, as did the follow-up interview questions. The three essential components of data analysis in qualitative research—coding, developing themes, and providing visual diagrams (Creswell, 2007)—also stemmed from these same central precepts. Finally, theoretical propositions in conjunction with the acceptance or rejection of rival explanations served as the basis for analytic techniques such as pattern matching, time-series analysis, construction of logic models, and cross-case synthesis (Yin, 2009).

**Understanding verbal narratives of musical composition.** The qualitative nature of this study relied heavily upon the input of student participants. The meaningful
interpretation of these verbal accounts required an understanding of the abilities and limitations of children to describe the music they have created as well as the process of its creation. The research has shown that although children may not yet possess strong verbal facility, descriptions are enhanced through other methods. In a qualitative study of five children ages six to nine, Gromko (1996) found that the use of fragmented language to describe music was augmented by imagery and manipulation. It seems that children will regularly interrupt their own words with other thoughts, musical symbols, physical manipulation, or images to convey their ideas. Such interruptions are not necessarily a sign of the misunderstanding of musical concepts, but rather a lack of ability to facilitate accurate verbal representations of their thoughts. The verbal descriptions of musical understanding are often “far more limited” than the understanding evident in the musical products of children (Major, 2007, p. 176).

The perceptible difficulty children have in providing verbal descriptions of music should not infer that composition activities are too difficult and should be avoided. On the contrary, an increase in compositional activities may increase the capability of children to provide more fluent, detailed descriptions. In a study of pupil talk about composition, Major (2007) found that six categories of verbal explanation (exploratory, description, opinion, affective, evaluation, and problem solving) emerged. Once students had established an affective connection to their work, they utilized more sophisticated terminology in their descriptions. These findings imply that students will provide richer descriptions if sufficient time is allowed for students to establish an affective connection to and ownership of their work.
Having established that children understand more than their vocabulary exhibits, and that they utilize alternative processes to augment descriptions of music, it is essential to investigate just how the descriptions they do provide reflect actual compositional process and products. Highly creative student composers use language that reflects the temporal nature of music and less creative students utilize language that reflects a static perception of music composition (Priest, 2001b). Such conclusions indicate that with careful attention to the particular verbiage used by children, educators may gain insight into the creative thought processes and abilities of the student. Not only are the types of words utilized in the description of musical composition related to the level of creativity, but also the number of words. Moderately and highly creative student composers seem to have a larger vocabulary of words with which to assess composition, and tend to ascribe five or more factors in their verbal assessments (Priest, 2001a). Barrett (2000) found that children respond to the aesthetic decision-making processes through several categories including (a) descriptions/analyses of musical properties or structural features, (b) referential descriptions, (c) expressive descriptions, (d) judgments of quality, (e) descriptions of performance, (f) descriptions of compositional procedure, and (g) recognition.

*Developing a case description.* There were two different types of cases among the five cases included in this study: Two were individual compositions, and three were collaborative group compositions. Outlines of the case descriptions for each type of case served as valuable tools for the consistent collection of relevant data. For the individual composers, it was predetermined that the case description would include (a) sources of
inspiration, (b) strategies for motivic development, (c) evidence of social influence, and (d) a detailed timeline of compositional activity. For the collaborative groups, evidence of social influence, and a compositional timeline were also included as components of the case description. Additionally, the collaborative cases were pre-designed to include (a) adopted group roles, (b) the specific point of view of the two target composers (Ali and Casey), and (c) more flexibility to allow for the materialization of emergent themes relevant to the research questions.

**A priori codes.** Several potential coding categories were determined prior to data collection (see Figure 2). The use of such prefigured or *a priori* codes are often connected to previous research and theoretical propositions, and serve to set perimeters for data analysis (Creswell, 2007, p. 152). For the first category of prefigured codes, compositional process, the collection of data was organized into four sub-categories derived from previous research (Kratus, 1989): silence, exploration, repetition, and development. The other three prefigured categories—intrapersonal, interpersonal, and cultural context—are intended to address directly the theoretical propositions of the study. Each of the three is then further subdivided into research-based topics.
Figure 2. A priori coding categories served as a basis for a focused, consistent data collection.

Data Analysis

In the third section of this chapter I provide a description of the methods of data analysis utilized in the study. The specific analytic techniques utilized, coding and theme development, pattern matching, time-series analysis, and cross-case synthesis are then described. The section concludes with a discussion of the measures taken to provide validation and credibility.

Analytic techniques. Stake (1995) asserted that data analysis does not begin at any specific time, but rather is an ongoing process of assigning meaning to our impressions and observations. He referred to three areas of data analysis: direct interpretation and categorical aggregation, correspondence and pattern, and naturalistic generalization. In qualitative research, “the search for meaning often is a search for
patterns, for consistency, for consistency within certain conditions, which we call "correspondence" (Stake, 1995, p. 78). Such patterns, or correspondences, were sought throughout this study to support the direct interpretations and categorical aggregations presented in the analysis of data.

**Coding and theme development.** Stake (1995) emphasized that, "we can look for patterns immediately while we are reviewing documents, observing, or interviewing—or we can code the records, aggregate frequencies, and find patterns that way" (p. 78). In order to analyze the consistency of patterns, data were coded for “categorical aggregation” (p. 78). Lines of texts were identified, assigned a code, and entered into a computer software program, Atlas.ti. Due to the considerable amount of data that is generated in a multiple case design, the advantages of storing data in computer software seemed to outweigh the disadvantages. The advantages of using software include the ability to store and search data by keyword or code, access all data immediately, and visually organize data. Creswell (2007) listed several advantages for using software: (a) storage in one location, (b) easy text searching, (c) forces the researcher to carefully analyze data, (d) visual concept mapping, and (e) easy retrieval of memos. Disadvantages include the time spent learning to use the software. As recommended by Creswell, this study was open to the inclusion of emergent categories in addition to the use of the *a priori* categories shown in Figure 7. Emergent categories did arise, and are discussed at length in the final chapters of the dissertation.

**Pattern matching.** The identification of patterns through the aforementioned coding process allowed for the use of pattern matching. The observed patterns that
resulted from the coded analysis of the collected data were compared to patterns based on the theoretical propositions of the study. Such comparisons allowed for strong inferences when patterns matched, and additionally, alternative patterns did not arise (Yin, 2009). Through the context of prior research, certain patterns were expected to occur, and assisted in the consistent collection of data for the present study.

**Time-series analysis.** The observation protocol designed for the proposed study allowed for an in-depth study of the compositional process. The minute-by-minute report of exploration, development, repetition, and silence modeled after Kratus (1989) allowed the researcher to observe changes in the compositional process over time. The trends posited through the theoretical propositions prior to data collection were compared to those found through a time-series analysis of the data. Such comparisons were made for both individual composers and collaborative groups. The use of a time-series analysis within a qualitative study enabled the further explanation of differences between groups through the analysis of interview or observation data. Yin (2009) emphasized the strength of quantitative analysis within an overall case study design.

**Cross-case synthesis.** The analytic techniques mentioned thus far apply to within-case analyses for each of the five cases. The process of coding, pattern matching, and time-series analysis were necessary to draw conclusions about each individual case. Once such analyses were complete, a cross-case synthesis (Yin, 2009) was conducted to aggregate findings across cases. The purpose of this synthesis was to “expand and generalize theories (analytic generalization)” (p. 15).
**Validation and credibility.** Golafshani (2003) compared the meaning of research validity and reliability within quantitative and qualitative studies. The researcher emphasized that although both quantitative and qualitative researchers must establish credibility, their differing approaches to validation strategies are rooted in the instrument of data collection. In contrast to the researcher's role in quantitative research, the qualitative researcher is an instrument of data collection (Golafshani, 2003; Patton, 2001). Therefore, the establishment of credibility in qualitative research is dependent upon, "the ability and effort of the researcher." (Golafshani, 2003, p. 600). In this study, several validation strategies were employed to reinforce the efforts of the researcher, thereby establishing credibility.

Creswell (2007) outlined eight validation strategies for qualitative research, and recommended that at least two are employed in any qualitative study. Of Creswell’s eight validation strategies, five were utilized in this study: (a) prolonged engagement in the field, (b) triangulation, (c) clarifying researcher bias, (d) member checking, and (e) rich, thick description. The construction of the methodological design of this study included these measures to encourage its overall integrity. The extended time spent in the field and the detailed descriptions of the cases are natural elements of qualitative research that contribute to this integrity (Creswell, 2007). They are discussed in this section under the headings of construct validity, internal and external validity, and reliability that were adapted from Yin (2009).

**Construct validity.** An essential element for construct validity is triangulation; the use of multiple sources of evidence establishes a chain of evidence. This study
included the collection of interview, focus group, observation, and audio/video data. Through the use of these multiple data, stronger inferences may be made when “aimed at corroborating the same fact or phenomenon” (Yin, 2009, p. 116). A minute-by-minute account of compositional activity was also recorded. These detailed accounts of participant behavior are presented in the appendices (Appendices G-M) to satisfy Creswell’s (2007) validation strategy of including thick, rich description.

**Internal and external validity.** The establishment of internal validity is of particular importance in an explanatory case study due to the possible introduction of extraneous variables (Yin, 2009). In anticipation of this, the proposed study included the collection of data that supported rival theories that may have contradicted the stated theoretical propositions. According to Yin (2009), the awareness of an alternative explanation for the studied phenomenon, followed by a vigorous collection of data to support it, would improve the validity of the study because “you would less likely be accused of stacking the deck” (p. 134). The avoidance of researcher bias was aided throughout the data collection phase through a persistence to being, “open to contrary findings” (p. 72).

Another threat to internal validity, particularly in case study research, is irresponsible use of inference (Yin, 2009). The analytic strategies in the proposed study have been designed to include measures that control the use of inference. External validity was established through the analytic generalizations (Yin, 2009) present in the cross-case synthesis.
Reliability. Allowing participants to review drafts of the case study data, also adds to the construct validity (Yin, 2009). This technique, called member checking, was critical to establishing credibility in this study. Member checking took place through a process of verification during one-on-one interviews and focus groups with the participants, as recommended by Creswell (2007), to check for the accuracy of the findings.
Chapter 4: Five Selected Within-Case Analyses

The previous chapter outlined a methodological design for a multiple case study that examines sociocultural influences in collaborative composition. In the present chapter, the collected data are presented through the description of five within-case analyses. As a part of the data collection phase, each of the eight participants composed and performed two pieces individually, and three pieces within collaborative groups. From all of the collected data, a total of five cases were selected for within-case analysis in this study: three are collaborative group compositions, and the other two are cases of the individual composition experience of two selected target composers. The selection of cases for inclusion in this study was based upon a purposeful, maximum variation strategy. Of the three collaborative groups, two were selected based on their degree of success as a collaborative group: One was highly productive, one was unproductive. The third group, an all-female group was chosen for two reasons: to allow for a comparison of the differences in sociocultural interaction between heterogeneous and homogeneous gender groupings, and to help bring to light relevant non gender-related issues. Similarly, because the reflective notes I took had already suggested that a great deal of information regarding gender had been collected, the choice to use two female participants as target composers was made to allow the exploration of other pertinent issues. The maximum variation sampling utilized for the selection of target composers was based mostly upon differences in their general approach to motivic development.

Each individual composition was followed by a one-on-one interview, and each
collaborative composition activity was followed by a focus group interview. All composition activity was video recorded and used to prompt dialogue during the interview sessions. The video recordings also allowed for an in-depth observation of participant activity. In defining rich description, Denzin (1989) states, "(1) It gives the context of an act; (2) it states the intentions and meanings that organize the action; (3) it traces the evolution and development of the act; (4) it presents the action as a text that can then be interpreted. A thin description simply reports facts, independent of intentions or the circumstances that surround an action" (p. 33). Because the methods of data collection emphasized these characteristics, they allowed for a "rich, thick description, a recommendation for maintaining credibility in a qualitative study (Creswell, 2007, p. 209). Details of each composition activity are presented in Appendices G and H (Ali as a solo composer), I (Ali in collaborative group #1), J and K (Casey as a solo composer), L (Casey in collaborative group #2), and M (Ali and Casey in collaborative group #3).

The resultant data of the two selected individual composer experiences and the three selected collaborative composition activities are presented in this chapter. As presented in Chapter three, a pre-determined case description guided the collection of relevant data, and in this chapter, served as the basis for its organization and presentation.

Case #1, Ali as a Solo Composer

Ali’s two individual composition experiences and follow-up interviews served as the basis for this within-case analysis. Ali’s task was to compose and perform an original piece of music. For each composition, a single 30–60 minute session was allowed. There was no requirement to utilize the entire allotted time. The first individual composition
session took place on March 1, 2011 and was followed by an interview on March 7, 2011. A second session took place on March 22, 2012 and was followed by an interview on March 23, 2011.

Ali was a white female in the fourth grade who “used to play the flute” (interview, March 7, 2011). She had a strong preference for pop music, as indicated by her survey response to the fifth musical selection. Her responses to the recruitment survey suggested that, regardless of the musical genre, Ali generally perceived the musical preferences of her peers, parents, and teachers to be similar to her own. Ali enjoyed listening to pop music, “just like her mom” (interview, March 7, 2011).

**Just hitting buttons.** In both of the individual composition activities, Ali’s approach to motivic development began in a similar manner. During the initial 30 seconds, Ali felt her way around the keys, poking randomly with index fingers, while looking away from the instrument. This seemingly random approach was helpful for the generation of musical ideas: “I just hit buttons, and then I came up with something. I changed the rhythms, and I just hit buttons, and then it came to me” (interview, March 7, 2011). During this initial phase of exploration, Ali appeared to be getting a feel for the instrument, rather than paying close attention to the sound. Compositional ideas, however, were chosen for the way they sounded, not how they felt on the keyboard:

PK: Do you write the music based on how it sounds or how it feels to play it?
Ali: How it sounds.
(interview, March 7, 2011)

A desire to transcend technical limitations became more evident in the second composition when Ali chose a motive (harmonic thirds) that was beyond her technical
capacity, and clearly awkward for her to perform. The harmonic thirds were played with fingers two and three in the right hand, while the left hand was placed on her right wrist to help push down the keys. Although an attempt was made to abandon this technically difficult motive by playing seconds instead of thirds, Ali quickly became dissatisfied and returned to the original idea. At times, when Ali decided to expand the motive by stacking up block chords built on thirds, she even turned her hand upside down and tried to play the chords with the back of her fingers. All of this demonstrates that for Ali, the desired sound overrode the technical capacity to perform it.

Motivic development, the moments of intense focus. In both of the individual composition activities, Ali’s demeanor changed completely when a musical motive came to her. During the first composition session, after 1’37”, Ali looked up and smiled as she began repetitions of a three-note motive (G#-A#-C#). During the second composition, when Ali found a motive utilizing harmonic thirds at 1’48”, she turned her right hand palm side up and shrugged her shoulder as if to say, “this idea is not so bad.” At this point Ali became quite focused, and seemed to block out all other distractions in the room. Despite the interruptions of another participant, Felix, who shouted, “Wasuuup” (individual composition session, March 1, 2011) and “Yayayayaya” (individual composition session, March 22, 2011), Ali remained on task, and stared at her right hand, which was playing the motive. Upon listening back to these interruptions during the video recall portion of the interview, Ali was amused by Felix: “Hmmmph! Felix!” (interview, March 23, 2011). Once the found motive was repeated several times, Ali attempted to further develop her ideas. The motive was attempted in different
registers of the keyboard. Through the process of feeling her way around the keyboard, Ali was able to find where a compositional motive sounded pleasing to her.

Ali: I just kinda move fingers in different spots and get them in different positions and see which one sounds the best. Like where—I mean like where it sounded best. Like, I did the same thing over in different spots to see which spot sounded the best.

(interview, March 23, 2011)

In both compositions, however, Ali demonstrated her preference for the middle of the keyboard. In the follow-up interviews, Ali confirmed this preference.

PK: Do you like the low sounds or the high sounds better?
Ali: I like the middle.
(interview, March 2, 2011)
Ali: I like the sound in the middle better. I don’t really like that it’s really high or really low, I like it in the middle.
(interview, March 23, 2011)

Ali also experimented with various patch (timbre) changes on the keyboard. These patch changes often resulted in changes to the compositional motive, and assisted in the development of new ideas. Motivic development took place after the change to an organ patch at 3’04” in the first composition activity as Ali combined the repeated notes with the three-note motive. The original motive (G#-A#-C#) was moved onto the white keys, and performed with a new rhythm. After this point, the composition activity was dominated by the contrasting of these two ideas. The switch from a piano to an organ sound at 5’07” in the second composition activity prompted an extension of the harmonic thirds into stacked block chords.

At times, a slight variation of an established, repeated motive led to the generation of new ideas. In the second composition activity, the performance of harmonic thirds in
the right hand began to give way to melodic thirds. The melodic thirds ascended up the keyboard, and eventually, gave rise to a new stepwise melody (CDEF—GAB—).

In most cases, as the exploration for new ideas led to dead ends, Ali reverted to the repetition of an established motivic idea. This return to the same familiar material appeared to help Ali refocus.

**What makes a good composition?** Ali seemed to have difficulty explaining what differentiates a “good” musical idea from a “bad” one.

PK: What is it that makes you say, “this one is better than that one?”
Ali: I just, like—I just do the ones that I like and then see which ones go with the other ones.
(interview, March 23, 2011)

Upon further questioning Ali asserted that any musical idea could be qualified as “good.”

PK: What is that makes a song sound good to you?
Ali: Umm, not really anything because if you’re just banging on it. It could sound good, too.
(interview, March 23, 2011)

During the video recall portion of the interview, Ali was questioned about the use of patterns in her composition. She confirmed an awareness of using patterns, but then stated that the composition would have been just as good without them.

PK: Something about there being a pattern, do you think that helps make it be good music?
Ali: Then at the end I do one-two, one-two, one-two.
PK: So you were aware that you were doing patterns like that? (video is paused to focus on discussion) if there was no pattern would the piece be as good?
Ali: Yeah.
(interview, March 23, 2011)

In contrast, later in the video recall, as Ali was watching herself perform a pattern (down a third, then up a second), she agreed that the repetition made the piece sound good.
PK: Do you think by repeating that idea over and over that makes the piece sound a little better? More organized, maybe?
Ali: Yeah. I like that it’s the same thing but while you’re going it changes (interview, March 23, 2011).

By attempting to have Ali be more specific, she revealed that her judgment of a “good” musical idea was not influenced by other social factors.

PK: Is there anything that has to be in the piece in order for it to be a good piece?
Ali: It could be anything.
PK: It could be anything, right? So it can be any old thing that makes it sound good. It’s just how—
Ali: As long as you think it sounds good.
PK: So, if Ali says it’s good, it’s good music.
Ali: Yeah. I think if it’s your music, then you—if it’s good to you then it’s good. (interview, March 23, 2011)

This exchange suggests that Ali judged the merit of a musical idea simply on her opinion of how it sounds.

Social influences on Ali’s composition. Ali did not think her composition was influenced by any other song she has heard in the past. Throughout both interviews, Ali was asked repeatedly whether or not her composition reminded her of any other music she has heard before. Each time Ali responded by shaking her head, “no.” When asked what kind of music she composed, Ali responded by pausing for eight seconds while looking up at the ceiling, then saying, “I don’t really know” (interview #1, March 2, 2011).

Ali did make it clear that she had borrowed material from her previous group compositions: “I got ideas from the last thing I did with my group, and then I just came up with the rest” (interview, March 23, 2011). However, Ali did not mention this influence in the first interview. It should be noted that the interaction in her first group
composition was quite negative, but very positive in the second group activity. The second group Ali took part in was also a female-only group. Upon further questioning, Ali confirmed that it was the female-only group that influenced her:

Ali: One was that Casey came up with, and then some of it was that the whole group came up with.
PK: That was the all-girl group, right?
Ali (smiling):—Yeah.
(interview, March 23, 2011)

While working on her composition, Ali was also influenced by the sounds and actions of the other participants in the room. After 19’15”, Ali began looking around the room at other participants. At this point she attempted to replicate “The Raider’s March,” a song being played by the 4th grade school band. Participant C, Maggie, had been playing “The Raider’s March” melody, and it became apparent at this point that Ali’s stepwise motive originated from this hearing this. At 21’00”, Maggie came to Ali’s keyboard to help her learn to play the song. Soon after this, when Ali became frustrated with her inability to accurately copy the song, she showed influence from Participant F, Felix. Felix had begun to recite a tongue twister. Ali walked away from her keyboard, listened to and copied Felix. The two then sat face to face and recited the tongue twister together. This interaction with Felix had changed Ali’s mood from serious to silly, and Ali never returned to her composition.

Another difference between the first and second interviews was Ali’s perception of the intended audience. In the first interview Ali claimed that she had no particular audience in mind, but the second interview revealed that the group of participants for the study was her intended audience.
PK: Who were you thinking of while you wrote the music?
Ali: Just this group.
PK: Did that influence the way you write it or—
Ali (shakes her head)—I just wrote it.
(interview, March 23, 2011)

Ali may have been unaware of any direct influence from her previous group activity. The interview dialogue, however, in combination with the video data, revealed the existence of peer influence in her work.

**Ali’s timeline of compositional activity.** The timeline of the phases of Ali’s compositional activity are discussed here using terminology adopted from Kratus (1989). Ali began both compositions with exploration. In both composition activities, a musical motive was discovered in just less than two minutes. At that point, an episode of repetition alternating with development began. This highly productive period of Ali’s compositional activity lasted for approximately 4 ½ minutes and yielded the establishment of the first musical idea for the final composition. At that point, approximately 6 ½ minutes into the composition, Ali reverted back into a phase of repetition and exploration. Boredom became apparent through Ali’s facial expressions at this point, and Ali coped by taking frequent, brief breaks from the activity. In both compositions, at 12 ½ minutes, a second wave of development occurred. In both cases this second wave of motivic development was highly focused and lasted for two to three minutes. This activity led to the establishment of a second musical motive. For the next five minutes, Ali continued a cycle of alternation between the repetitions of the two contrasting motives, as if practicing for a performance, with frequent breaks from activity. After 17 minutes, Ali appeared fatigued both mentally and physically. In the first
composition Ali rested her head on the keys. In the second activity, Ali raised her arms in the air and stretched. Ali walked away from the keyboard after 21 minutes in the first composition, and at 24 minutes in the second composition. Clearly, the allotment of time was excessive for Ali, and did not yield any usable musical material after this period of fatigue set in.

Although the general pattern of each compositional activity was similar for each activity, the second individual composition was marked by a more sporadic fluctuation between activity and silence. This may have been the result of an adjusted expectation of the intended audience. The first composition activity took place on the first day of the study, when expectations were not yet clear to Ali. Perhaps this prompted an urge to keep busy in order to avoid disappointing me. During the second individual composition, Ali seemed less concerned about taking breaks when she needed to. Nonetheless, the cyclical approach to compositional process, with frequent fluctuations between silence, exploration, repetition, and development, were consistent with previous research conducted on child composers (Wiggins, 2007).

Case #2: Ali as a Collaborative Composer with Maxwell, Maggie, and Kenny

This case is based on the collaborative composition experience of Ali, Maxwell, Maggie, and Kenny. The task assigned to the group was to compose and perform an original piece of music. Three days were allowed to complete the task. Each day, the group was allowed to collaborate for 30-60 minutes, but without a requirement to utilize the entire allotted time. The collaboration took place on February 9th, 10th, and 15th of 2011 and was followed with an interview on February 16, 2011.
I randomly selected this particular grouping of participants; it was their first collaborative composition experience and there was no basis for purposeful selection. The participants in this group were not familiar with one another. Maggie claimed that she “never even met them before,” and Kenny stated that he “doesn’t know any of the girls” (interview, February 16, 2011). Only Kenny and Maxwell were remotely acquainted because they were in a physical education class together.

**Maxwell, stop!** Maxwell exhibited preference for sounds that seemed to bother essentially everyone else in the room. Within the first minute of Day 1 in a collaborative group, while holding the top three notes on the keyboard (with an organ patch) for 30 full seconds, Maxwell was able to create enough frustration to cause Kenny to feel the need to physically lift Maxwell’s hands off of the keyboard. During the 30 seconds that followed, Maxwell held down the highest ‘C’ while the rest of the group tried to work out new ideas. Again, Kenny lifted Maxwell’s hands off of the keys. In the interview, Kenny stated, “Maxwell, at the beginning was holding down certain keys—it was like on rock organ or something, and that got me really annoyed” (interview, February 16, 2011). The group quickly learned that politely asking Maxwell to stop, firmly scolding Maxwell, removing his hands from the keys, or any other attempt to make him stop had no effect.

At times, it seemed that Maxwell was playing sounds that were intended to get the group irritated, or at the very least, to get their attention. This is understandable considering the number of times that his ideas were ignored. On Day 1, at 4’08”, Maggie suggested an idea that involved *glissandi*. Ali, Maggie, and Kenny tried the idea, but Maxwell was not included. As they finished working out the idea, Maxwell added a
finishing touch to the piece by playing randomly on the black keys, until Kenny pushed his hand off of the keys. Over the next two minutes, Maxwell made several patch changes, to which Maggie responded, “Stop!” Then after he selected the organ patch again (the same one Maggie had just turned off), he began more high-pitched clusters. The clusters became so overwhelming, that Kenny, Ali, and Maggie all stopped what they were doing and stared at Maxwell. Maggie turned the volume to zero to stop the sound, but, Maxwell still did not let go of the keys. Finally, Kenny lifted Maxwell’s hand again while Maggie said, “Stop it.” At 9’39”, Ali, Kenny, and Maggie were working together again on developing an idea. Again, Maxwell was not included in this. His first reaction was to walk to another keyboard and start banging tone clusters. Kenny rolled his eyes at Maxwell and asked him to come back to their keyboard. Then, from 10’18”-12’00”, Maxwell banged tone clusters up and down the upper half of the keyboard. An organ patch was then selected, and Maxwell held out another ear-piercing high-pitch cluster at the top of the keyboard. Ali stopped what she was doing. Maggie held her ears. Kenny gave Maxwell a look. However, Maxwell still did not stop until the volume was turned to zero again.

By 12’39”, the group was frustrated, annoyed, and unproductive in part because of Maxwell’s actions. Ali and Maggie were noticing that Maxwell was becoming more obstinate as Kenny continued to physically remove his hands from the instrument. Ali continued to pull the plug out of the keyboard, or turn the volume to zero when altercations occurred. Maggie moved her spot on the keyboard at 13’18” so that she was physically standing between Kenny and Maxwell.
“Kenny is bossy.” Over the course of three days, Kenny emerged as the director of the group. We discussed his role as a director during the interview.

PK: Kenny started to take on a role of the director, you know, you play this, now you play that. How did you guys all feel about that?
Kenny: I technically had to because they were doing their own thing, I mean—
PK: So you felt a need to—
Kenny: I felt the need to like step up and say ‘OK, you aren’t agreeing with him so you—so I tried to like get them into like put them into harmony the notes they were playing.
PK: Trying to organize it, because you said you were concerned about getting it organized. You were trying to get everyone organized?
Kenny: I mean they were only banging on keys. I was scared that we were going to have a repeat of Day 1.
PK: So how did you guys feel about that?
Maggie: After a while it got annoying.
Maxwell (nods): Yeah.
Kenny: I see that.
(interview, February 16, 2011)

Struggle for leadership. A struggle for leadership took place, particularly during Day 1. Kenny and Maggie, who took places at the center of the keyboard, seemed to both try to take charge early in compositional process. While Ali and Maxwell started out by exploring their own ideas, Kenny and Maggie began with a discussion about playing an idea that uses three notes. Maggie asked everyone to play “Mary Had A Little Lamb.” Kenny followed with a suggestion to play “Twinkle.” When paper and pencil were given to the group, Kenny was the one that picked it up and signaled the group to start putting ideas together, although nobody listened. At 4’08” Maggie got everyone’s attention and tried to lead a new glissandi idea, but, Kenny interrupted and essentially restated Maggie’s idea to the group as if it were his own. A similar interruption took place at 6’41”; Kenny attempted to focus the group by conducting the ideas they were already
playing. Maxwell and Ali seemed willing to listen to Kenny, but Maggie interrupted by making many patch changes. Kenny then answered this by changing her patch changes. Although Maggie made several attempts to claim leadership in the group throughout Day 1, Kenny often negated her ideas quickly and changed course.

In Day 2, Kenny immediately claimed the leadership role. During the first thirty seconds, Kenny stopped Maggie and Maxwell and tried to have them replay their parts.

Kenny: OK, time out, (snaps his fingers). Stop. Let’s think (pointing to Maggie). You, do the idea and Maxwell and I will—
Maggie: I don’t know.
Kenny: Play “Mary Had A Little Lamb.”
(group dialogue, February 10, 2011)

During Day 3, the group openly challenged Kenny’s position as leader. A detailed account of the group’s reaction to Kenny’s leadership is contained in the following section.

*The group’s response to Kenny’s leadership.* Although Kenny did take on a leadership role within the group, his efforts were generally not well-received. The participant’s in the group viewed him as bossy.

Ali: He’s bossy. He wouldn’t let me tell my idea. He’s always like, “You do this.” That’s all he ever was. “Stop doing that, just do this.”
PK: The ideas that the other people came up with in the group, was it different than the kind of idea you would come up with?
Ali: Only really Maxwell and Kenny came up with ideas, ‘cause they thought that they were in charge.
(interview, March 7, 2011)

The bossiness began early in Day 1 and was pervasive throughout the collaboration. By the mid-point of the first day, Kenny’s insistence to lead had already caused anger and frustration within the group, particularly when he chose to physically
remove others’ hands from the keyboard. At 17’22” Kenny began to conduct. He heard what Ali and Maggie were playing and seemed to want to organize them together. He picked up Maxwell’s hand and Maggie’s hand from the keyboard. Maggie slammed both hands down on the keyboard and eyed Kenny.

Kenny’s leadership also suffered due to a lack of the ability to clearly express his ideas to the group. On Day 1 at 19’06”, while everyone explored independently for new ideas, Kenny made a suggestion to the group.

Kenny: Guys.
Maggie: How many more seconds?
Kenny: How ‘bout we do something where one person presses one note and another person presses a different one?
(group dialogue, February 9, 2011)

The girls both stopped playing, and looked at each other. Ali tilted her head to the side, and placed her hand on her forehead. Although Kenny was often insistent on when a particular participant should play, he was never really clear on exactly what they should play. On Day 3 at 4’54”, Kenny tried to stop Maxwell and directed him to play on the low keys. Kenny motioned to the center of the keyboard.

Kenny: You guys do something over there.
Ali: Yeah but, what do we do?
Kenny: What?
Ali: What do we do?
(group dialogue, February 15, 2011)

Kenny played a few random keys as an example. Ali seemed to be willing to put emotions aside and work with Kenny, despite his bossiness, for the sake of getting the piece done. She seemed to understand Kenny’s form for the piece, but when she pressed him to be specific about what to play, he was unable to answer her.
Frequently, negative reactions arose in response to Kenny's leadership, particularly when a member of the group was omitted from the decision-making process. Maggie's opinion was omitted on Day 1 at 20'21", and it caused a conflict that remained present for the remainder of the compositional process. While Ali turned the volume up and down rapidly, it caught Kenny's attention.

Kenny: Keep on doing that.  
Ali: This?  
Maggie: That's weird.  
(group dialogue, February 9, 2011)

At this point, Kenny was very interested in the sound that was created by Ali's manipulation of the volume knob. Instead of consulting the group, particularly Maggie who expressed that the sound was "weird," he pressed forward with the idea. Kenny told Maxwell what note to play, then took Maggie's position on the keyboard to show his idea. Kenny had now told all other members of the group what to do, but never considered their input. Maxwell, Maggie, and Ali all stopped playing and Kenny was left to work alone on the keyboard while the others looked away. When Kenny was finished, Maggie made another new suggestion, which Kenny seemed to completely disregard.

Maggie: How about one of us presses these two—see every two—one of us should press these two.  
Kenny: Everyone presses two.  
(group dialogue, February 9, 2011)

Instead of considering Maggie's idea, however, Kenny played a cluster, and started the volume swells again. Maggie quickly stopped the volume swell idea and exclaimed, "That's so weird!" She switched to a piano patch and turned the volume to an appropriate, constant level. The rest of the group stopped playing.
Another example of Kenny disregarding Maggie took place on Day 2 at 19’09” after a patch change was made by Maggie to “Synth. Brass.” A few energetic clusters were played, and Maggie clearly enjoyed this new timbre. After just a few seconds Kenny told the group, “OK, let’s get back to work,” and changed the patch back to “Piano.” Maggie looked up and rolled her eyes. Maggie returned to the “Synth. Brass” patch at 23’31”, and made another attempt to interest the group in utilizing the timbre. Maggie said, “What are you trying to do? Do you guys have Mario Brothers? This kinda reminds of something in there” (group dialogue, February 10, 2011). Maggie did not get an answer from anybody in her group.

By Day 3 at 5’43”, Ali and Maggie expressed a lack of confidence in the group’s willingness to even listen to their ideas.

Maggie (slightly inaudible): Some of us have some ideas that we can do, but somebody’s stopping me (points finger at Kenny) from working it out all together.
(group dialogue, February 15, 2011)

Nobody responded to Maggie. Kenny physically removed Maxwell’s hands from the keys. The group got quiet.

Ali: See I don’t even know whether these people will let me show them what I did.
(group dialogue, February 15, 2011)

Ali never did share the musical motives she had developed on her own.

**Learning to listen to others in the group.** After three minutes of Maxwell’s ear-piercing tone clusters had gone by, Kenny had taken the “if you can’t beat ‘em, join ‘em” attitude, and began playing tone clusters along with Maxwell. In the interview,
Kenny alluded to the fact that these clusters served as accompaniment to the melodies played by the girls.

Early in Day 2, Kenny made another attempt to incorporate the ideas of others. Maggie seemed dissatisfied with the musical ideas the boys were practicing, and had walked away from the keyboard. When Maggie returned she slammed her hand down in the upper octave while Kenny was playing. Kenny pointed his finger at her and said, “Stop.” Maggie continued to rapidly play random keys. Kenny then began to copy Maggie. Maggie again commented that this was “weird,” and began to play “Mary Had a Little Lamb.” Kenny and Maxwell then began a rhythmic accompaniment to the song by each playing a pulsing eighth-note rhythm on a single note.

**Boys vs. girls.** Throughout this collaborative activity, a division by gender developed. The division was subtle on Day 1, as the girls politely suggested ways to work together despite their differences in musical taste. This was elevated to the frequent use of the word “annoying” to describe the boys’ music. Day 2 was abundant with episodes of boy/girl separation. Finally, in Day 3, the arguing between the boys and girls became so intense that there was a need for researcher intervention.

**Positive interactions gone awry.** Although a healthy interaction between the boys and girls was displayed in the initial moments of Day 1, it didn’t last long. Maggie made the first suggestion to the group, which was to play “Mary Had A Little Lamb.” Kenny and Ali agreed and tried playing the song together. This was followed by similar suggestions by Kenny to play “Twinkle, Twinkle Little Star,” and by Maggie to try “Jingle Bells.” Although Kenny and Maggie initially tried to find common ground by
utilizing familiar songs, they learned within two minutes that agreement would be more difficult than they thought. After an initial attempt to work together, all four participants worked independently on their own ideas for a brief time. At this point, the first sign of a division between boys and girls became apparent. While Maxwell and Kenny were playing one idea, Ali and Maggie were working on something very different. At 2’05” Kenny suggested that the boys hold down a tone cluster on the upper keys while the girls play their idea. This idea seemed unsatisfactory to the girls, however, Kenny made another attempt by 3’17” by holding the tone cluster in his right hand and playing “Mary Had A Little Lamb” in his left hand. Maggie reacted to this by saying, “I don’t get how you—that’s so annoying!” (group dialogue, February 9, 2011). Clearly, the boys and girls already had very different ideas of what type of music they want to compose.

Another failed attempt made by the group to work together on finding an idea they could agree on took place at 4’08” on Day 1. Maggie said, “Hmmm. Let’s see,” then suggested that two people play glissandi in contrary motion while another plays a melody in the center of the keyboard. Kenny then offered a development, “I know, we go like that (gliss) and play (sings rhythm and motions to center of keyboard)” (group dialogue, February 9, 2011). Maggie mumbled sarcastically, “Yeah, OK.” The group tried the idea, but nobody seemed enthusiastic about the results. Kenny commented during the focus group that the idea was too difficult because the two glissandi would have to be perfectly timed, and would require too much technical facility.

The most revealing division between boys and girls stemmed from the use of the volume knob as a musical idea. Ali had been using the volume knob periodically as a
device to control the high-pitched piercing tone clusters. At 20'21", she rapidly swelled
the volume up and down. Kenny asked her to keep doing it, and used it as an essential
musical motive for the remainder of the compositional process. At first, the use of the
volume knob was well-received by Ali, Kenny, and Maxwell. They spent about three
minutes experimenting with the idea toward the end of Day 1. Maggie, however, never
bought in to the volume swell idea, often commenting that it was “weird.” At this point,
there did not seem to be a division by gender: Only Maggie did not like the idea.

Throughout Day 2 of the collaborative composition, the volume swell was the
main musical idea being developed. Maggie had a great deal of negative interaction with
the boys in trying to convince them to exclude this idea.

    Kenny (to Maxwell)—Keep doing that.
    Maggie: You’re ruining it.
    Kenny: This isn’t ruining it.
    Maggie: Yes it is.
    Kenny: It’s making it mysterious. Mysterious seems to be better.
    Maggie: OK, that’s just weird.
    Kenny: It doesn’t matter what it sounds like.
    Maggie: Yeah, it does. That’s what the whole entire thing is supposed to be about.
    (group dialogue, February 10, 2011)

Eventually, when Kenny did appease Maggie by responding to her request to do
“something with piano” and to “leave the volume alone,” a more productive group effort
was made. During the interview Kenny and Maggie stated their differences on the final
goal.

    PK: What are some of the things you disagreed about?
    Maggie (answers quickly)—Hmmm, changing the volume doing the thing over there.
    Kenny: They didn’t really like that.
    PK: Oh, I see.
The boys then stated how they liked the idea, and that the girls did not.

Kenny: I was doing that—like what’s it called—and they’re like, “this doesn’t sound good” and stuff like that, and as long as it’s—umm—organized, it’s not gonna really matter. But they go like, “but I care what it sounds like.”

It seems that Kenny’s concern was to organize a form for the piece, regardless of what the final product sounded like. Maggie was more concerned about the sound of the particular pitches being played.

Maggie and the boys had several conflicts throughout Day 2; however, due to Ali’s absence on Day 2, it is unknown whether this was a division along gender lines, or just a conflict with Maggie’s personal preferences. Nonetheless, when Ali returned on Day 3, she sided strongly with Maggie throughout the day. The girls’ alliance caused Ali to stand against the use of the volume swell idea, which was originally her creation. The issue began on Day 3.

Maggie (to Ali): See changing the volume is so annoying.
Maggie (to Kenny): Can you stop?
(group dialogue, February 15, 2011)

Kenny did not respond to Maggie, and said to Maxwell, “What do you think?” The boys continued to work together. Ali turned to Maggie, and motioned toward Kenny with her LH—palm facing up—and mumbled inaudibly:

Maggie: Yeah, ‘cause we don’t get to decide as a group. He just starts to bring it up—

Kenny may have seemed inflexible to the other participants due to an insistence to stick with his idea and a failure to willingly incorporate the ideas of others in the group.
Consequently, Ali may have been motivated to turn against the volume swell idea—an idea that she created and approved of on Day 1. The tension built.

   Kenny: OK, let’s do like we were doing yesterday.
   Ali: Yesterday! What did we do yesterday?
   Maggie: What you [Kenny] were doing the other day was really annoying.
   (Kenny continued to attempt a rehearsal anyway.)
   Ali: See? He doesn’t let us do anything.

   Devices employed for minimizing gender conflict. Efforts were made to minimize the piercing tone produced by the boys’ high-pitched, sustained, “rock organ” tone clusters. Maggie attempted several patch changes to find a more pleasing sound. At first (2’44”) Maggie politely suggested, “How about something like this?” and changed the patch to “fantasy” a mellow, bell-like tone. However, both boys started changing patches as well. Maggie stopped fighting it out with the boys. Kenny then split the keyboard, which left the “fantasy” patch for the girls’ half, and “rock organ” for the boys’ half. Maggie looked away and commented, “This is so annoying.” Maggie attempted a change back to the “fantasy” patch at 3’44”.

   Another device used to escape the conflict between the boys and girls was taking breaks from their work.

   Maggie: I wanna go get a Munchkin, anybody want to take a break?
   Kenny: I’m gonna go brainstorm (waves Maggie away with his right hand).

Kenny then worked with Maxwell, “OK, Maxwell—” and placed Maxwell’s left hand on a cluster. Kenny then held Maxwell’s right hand on another cluster, and improvised a melody. When Maggie returned, Kenny looked at her with a smile. Maggie started to play randomly at the top of the keyboard. Kenny then tried to share with Maggie.
Kenny (to Maggie): We got something.
Maggie: I have no idea what’s going on.
(group dialogue, February 10, 2011)

Maggie walked away. Kenny waved her over, “Come here.” Maggie did not come back. Perhaps by walking away and taking a break, Maggie was avoiding an uncomfortable situation: conflicts with the boys or the embarrassment of being a part of the composition she did not like. On the other hand, it also enabled the boys to further develop their ideas without conflict or resistance.

Another example took place on Day 2 (February 10, 2011) at 13’35” when Kenny and Maxwell had another rehearsal of the volume swell idea. Maggie played along at the beginning, but Kenny gave her a stare and she walked away. Maggie came back a minute later and played along again. Kenny, still rehearsing the volume swells with Maxwell, nodded his head “yes” as she played. He said to Maggie, “This is our piece, you keep doing that.” Maggie turned her hand—palm facing up—shook her head, and then walked away. Although Maggie approached the group with a willingness to contribute, and Kenny’s body language appeared to be accepting of Maggie’s input, conflict arose and Maggie again separated from the group. In light of the previous dialogue, it is likely that Maggie was unhappy with a juxtaposition of her ideas and the boys’ volume swells.

On Day 3 at 3’25”, when the boys began a rehearsal of their ideas from Day 2, Ali and Maggie walked away and tried to work on a different keyboard.

Maggie: Do you want to work together on this piano?
Ali: Yeah!
(group dialogue, February 15, 2011)
The girls’ facial expressions clearly displayed the relief they felt by working together without Maxwell and Kenny.

**The need for intervention.** The rising tension between the boys and girls increased to the point at which researcher intervention became necessary for the sake of maintaining civility. A long discussion took place:

Ali: All you’re doing is banging on the piano. We have to think of something.
Kenny: Yeah, banging on the piano sounds good.
Ali: We have to think of something—
Maxwell: (turns on recording)—That’s how we sound like right now.
Ali: We have to think of something. What could we do?
Kenny: (signaling time-out)—Guys. Alrighty. You guys, something like that (plays random keys) while he’s—basically—he isn’t banging. That’s not banging. Banging is this (Kenny bangs on keys) that’s banging. He is not banging.

(Ali and Maggie whispered to one another and smiled.)
Kenny: Guys, do any of you guys have an idea?
Maggie: Stop hitting the keys—
Kenny: We’re not!
(Maxwell banged on the keys.)
Maggie: Don’t do that.
Kenny: What’s your idea?
Maggie: I don’t know, something else.
Kenny: Something else? What is something else?
(Kenny told Maxwell to stop.)
Kenny: What do you want to do?
Maggie: Something different.
Kenny: What’s different?
Ali: Maybe something in the middle.
(Maggie played “Hot Cross Buns” and Kenny gave her a look.)
Kenny: If you guys don’t care what it sounds like—
Ali: I care what it sounds like, I do. We ALL have to put our thoughts into it.
Kenny: I know.
Ali: But you’re not letting us.
Kenny: I said, “Do you guys have an idea?” You guys said, “something other than that.” I said, “What other than that.”
Ali: And we said we don’t like that.
Ali: We don’t want that.
Kenny: You don’t want that, yeah, I think I got through my head. Now, what do you guys want?
(The keyboard started playback of the recording, temporarily interrupting the dialogue.)
Kenny: What do you want to do?
Ali: We don’t know.
Kenny: You don’t know?
Ali: We just don’t want that.

Kenny and Maxwell started to play some random ideas. Ali and Maggie just watched. Kenny tried to include Ali and physically placed her hand on the keyboard. Ali shook her hand away, and wiped it clean. A second time, Kenny tried to physically place her hand on the keys. Ali threw her hands up and shook her head.

Ali: I’m just gonna take a break.
Maggie: I’ll take a break, too.

The girls walked away from the keyboard and began to tell me of the troubles they were having. The situation became quite intense, and so I had to intervene for the sake of emotional support for the participants. The girls were heard venting off-camera to me.

Girls: We haven’t touched the piano at all.

I stood between the boys (on-camera) and the girls (off-camera) and began a dialogue between them.

PK: So what’s going on?
Kenny: We had something to do. They didn’t like it. I asked them if they wanted it and they didn’t want it.
PK: OK, so you’re trying to think of ideas? You guys have some ideas that you wanted to do?
Kenny: Well, yesterday we got it pretty well going, but Ali wasn’t here so we didn’t have the whole group, we only had 3 people, and umm, basically, what we tried today—which to me sounded very good, but to them, it didn’t sound so good so we stopped. Maxwell was like, umm, over here.
(The boys demonstrated their volume swell motive.)
PK (to the boys): So that’s an idea that you guys liked, and that they didn’t like, right? Maybe the piece can have two different parts.
PK (to the girls): Do you want to try something like that? You know, like, where they have a part where they do that and you guys can come up with something else? And you can go back and forth? How’s that for a suggestion?

Girls: OK
Boys: Alright
PK: This way everyone can get their ideas in.
(group dialogue, February 15, 2011)

For the next five minutes, Ali and Maggie worked alone on the keyboard while the boys took a break. They developed a simple chromatic stepwise idea in contrary motion, and repeated it a few times. After the boys joined them again at the keyboard, several rehearsals of the complete piece took place. Ali and Maggie whispered to one another during the third rehearsal, then walked off camera until the final performance began.

Ali’s role in the group, “the advocate.” Musically speaking, Ali’s participation in the collaborative group may seem minimal; however, she played an important role as an advocate for those whose voices were not being heard. On Day 1, Ali stood up to Kenny on behalf of Maxwell. Day 3 was centered on Ali serving as a voice for Maggie. These peer interactions bore a major influence on the compositional process of the group.

During Day 1, Ali did not contribute much to the group’s music composition. Instead, she demonstrated a remarkable ability to block out the conflict and cacophony, and used most the time to work out her own ideas. After watching Maggie play a few familiar melodies, Ali started her own work with a motive that consisted of three rapid ascending notes followed by a single pitch repeated twice. She remained focused and
continued to repeat this motive while the other three participants fought over patch changes (2’44”), held out “annoying” ear-piercing rock organ tone clusters (3’17”). This isolation from the group continued throughout Day 1.

After 9’12”, when Ali had essentially found and repeated all of her musical ideas, she began to show concern about the group’s progress.

Kenny: It seems like all we’ve done so far is bang on the keyboard. We’ve got so much time left.
Maggie: Seriously? (Kenny and Maggie look at the clock). Too bad.
Kenny: 20 minutes.
Ali: We have to think of something.

It seems that after taking time to work out her ideas independently, Ali was ready to share them with the group. Although, the group may not have been ready to listen. Kenny then told Ali which note to hold down (9’39”), and for the moment, Ali seemed willing to listen. Again, Ali expressed her concern with the group’s progress (10’18”).

Ali: Guys, we have to come up with something to do.

It seemed that she was waiting for the group to ask her for her ideas, but instead, Kenny took charge again (12’00”).

Kenny (to Maggie): Do that and (to Maxwell) do that twice.

The group had become very negative and unproductive at that point. Between 12’39” and 13’10”, Ali unplugged the keyboard twice. It is possible that Ali was becoming frustrated with the group’s inability to listen to her ideas, and to one another. Finally, Ali made the group aware that she had some musical ideas; however, at that point it seemed she may not have been willing to share them.

Ali: I have my own piece.
Ali finally turned to Maggie five minutes later (18'24") and asked her to copy one of her musical ideas.

At the end of Day 1, Kenny's directing of the group, although well-intentioned, was beginning to cause a great deal of frustration and anger within the group. These negative interactions were likely caused by Kenny's failure to listen to and include the ideas of others. After 24'14", Ali would be the first to stand up to Kenny for his continued disregard for Maxwell's input.

Maxwell: It's 9:05 (begins to play clusters)
Kenny: I want to finish this. Stop.
Maxwell: Why can't I play it?
Kenny: Yeah, because that's (clusters) all you're doing.
Maxwell: Well you're not doing anything else.
Ali (in an angered voice): Well he could show his idea—
Kenny (sarcastically): OK.
Ali: Let him try.
Kenny: OK, well just, tell us what you are doing. Tell us what you're doing.
Maxwell: Just playing all the black keys.
Kenny: Hitting all the black keys. See how it sounds, nobody else play.
(group dialogue, February 9, 2011)

Maxwell played a rhythmic descent of black-key clusters. For the first time, the group listened to Maxwell. More importantly, for the remainder of Day 2 and Day 3, Kenny and Maxwell worked well together as a team. This positive interaction between the two boys was initiated by Ali's intervention.

The only trouble with Kenny and Maxwell's new partnership was that it began a strong division between the boys and the girls in the group. This was compounded by the fact that Ali did not participate in Day 2 of the collaborative composition. Ali arrived later than expected on Day 2 after having an extensive, tearful conversation with her
mother outside of the room. Ali was present in the room during the group composition, but did not take part in the project. I had an email correspondence with her mother to express my concern about Ali. I felt that the negative interaction of the group on Day 1 was likely the cause of her avoidance of the Day 2 activity. Ali’s mother replied, “I spoke to Ali last night about her participation in your study. She is still very excited about being a part of it. It seems that her homework was the sole issue yesterday morning” (email correspondence, February 11, 2011). Ali’s absence from group activity on Day 2 left Maggie alone to challenge the new partnership between the boys.

On Day 3 (February 15, 2011), Ali immediately began to connect with Maggie. During the first minute, Ali initiated a conversation with Maggie about looking forward to working on the independent compositions next week. Then, while Kenny tried to have the group rehearse their ideas from the previous day, Ali made comments to Maggie about how they “don’t get to decide as a group,” and that he “doesn’t let us do anything.” These statements seemed to be acknowledging how Maggie had been treated during Day 2. Although Maggie had asked Kenny once on Day 2 to stop the volume swell idea, she tended to respond non-verbally, by walking away, to frustration caused by the boys disregarding her ideas. Ali, on Day 3, advocated for Maggie by being her voice. She challenged Kenny to be more specific.

Ali: Guys, we have to think of a piece. We have to think of something.

Kenny tried to stop Maxwell, then told him what he should play. Kenny motioned to the center of the keyboard and told girls what to do.

Kenny: You guys do something over there.
Ali: Yeah, but, what do we do?
Kenny: What?
Ali: What do we do?
(Kenny played a few random keys as an example.)
Kenny: Do something like that.
(Ali did not play anything.)
Ali: Do we have to play something so, like, close together?

Up to this point, nobody had challenged Kenny, and asked him to clarify what he wanted everyone to play. Ali was trying to initiate a group conversation with Kenny, to have others’ voices heard.

**Social influences that guided the process.** During the interview, Kenny expressed the difficulty the group had in agreeing on a musical idea.

Kenny: One thing is it was challenging for all of us to agree on one thing.
PK: What do you think made it so challenging?
Kenny: Well we all had like different tastes and stuff.
(interview, February 16, 2011)

This statement suggests that differences in the musical preferences of each member of the group, and the music they each would be willing to identify with, complicated the compositional process. The source of influence for the musical ideas they each attempted to incorporate exhibited drastic differences. Whereas Kenny evidenced an influence from pop culture, Maxwell brought in ideas from his musical experiences at home, and Maggie sought inspiration from school-like music.

Kenny shared in the interview that the volume swell idea was reminiscent of music common in pop culture.

PK: What kind of music was it? What was it influenced by?
Kenny: What inspired us? I have no idea, I mean, it just came to my mind like don’t you know how on a DJ system they like do that (motions his right
hand from side to side). I noticed that the volume from me and Maxwell’s part, like while he did that, I changed the volume.

PK: Cool, so you got that idea from—like when they—when the DJs scratch the records?

Kenny: Yeah.

(interview, February 16, 2011)

Maggie often resorted to the playing of familiar melodies to begin her ideas (e.g. “Mary had a Little Lamb,” “Happy Birthday,” “Jingle Bells,” etc.). Maxwell’s tone clusters were inspired by his experience with his older brother on a keyboard they have at home. These melodies were played frequently throughout the three days of the collaborative composition.

Maxwell: My brother has a keyboard and I was playing on it with him.

PK: Oh yeah? So it’s kinda like what you do at home.

Maxwell: Yeah.

PK: When you do that at home, does your brother like that sound? Does he like when you bang on it like that?

Maxwell: He doesn’t like when I bang on it. He tells me to do something else.

PK: So does that make you do it more?

Maxwell (smiles): Yes.

PK: So when he says not to do it you bang more?

(laughter)

Confusion about what type of music was supposed to be composed appeared to permeate the collaborative activity. At times, participants revealed a desire for the approval of authority figures. On Day 2 (February 10, 2011), at 8′40″, the general music teacher of the school walked in to gather some supplies from her desk. Maggie, who was away from the keyboard at the time, quickly rushed back and started to play when she saw her music teacher. Maxwell and Kenny also played through their ideas. The opinion of an authority figure seemed to bring hope, especially for Maggie and Kenny, that a resolution of conflict would take place. The conflict began in Day 1 when Kenny
incorporated the volume swell idea, which Maggie had repeatedly said is “weird.” They asked for confirmation from their school music teacher.

Kenny: Do you think changing the volume makes it better?

The music teacher did not answer, because she was previously instructed not to interact with the participants, but instead exited the room. In order to help extinguish the flames, I walked past the group and commented casually.

PK: Interesting, that’s what Ali was doing yesterday, right? Turning the volume up and down?

Maggie laughed, and started to bite her nails. She looked confused that I could think this type of music was acceptable. She eventually said, “I am going to get another munchkin,” and walked away. It seems that at the root of the conflict between the boys and Maggie was a difference of perception regarding the expectations of their intended audience. During the interview, Maggie showed that she clearly had a different awareness of the intended audience.

PK: Who were you thinking was going to watch the video?
Maggie (quickly responds): You.
Maxwell and Kenny (shrug their shoulders): I don’t know.

It is possible that Maggie was guided by a certain perception of what I would be expecting to hear in the final composition, and the boys were far less concerned with satisfying any particular audience. However, when questioned further about the audience she had in mind, Maggie did not mention me but instead spoke about her sister, stating, “she always judges me on everything.” Maggie clearly had an awareness that there would be an audience listening to and even judging her work. This could explain why Maggie looked confused when I commented that the volume swell idea was interesting.
However, the issue may be more complex. Despite the fact that I suggested to the group that their composition was acceptable, Maggie still had a difficult time allowing herself to take part in it. Moments later, when Kenny tried to include Maggie’s request to use a piano sound, and play in the middle of the keyboard, she showed reluctance to try (10’55”). It seemed that Maggie would not juxtapose her ideas on the boys’ motive for fear of being identified with their style of music.

**Timeline of compositional activity.** This collaborative group was generally unproductive due to issues of negative interaction and conflict. Consequently, the group spent a great deal of time engaging in lower level activities (silence and exploration) rather than higher level activities (repetition and development). On Day 1, the group explored new ideas for the first five minutes. A 5’05” the group began repetitions of previous ideas. It should be noted, however, that at this point each member was playing independently; this was not a repetition of a group idea. A similar pattern of exploration and repetition followed. The first attempt at the development of ideas as a group took place between 7’31” and 8’22”. More developments occurred between 9’39” and 10’18” and again between 12’00” and 12’23”. The flow of ideas between these developments was often interrupted by disagreement within the group. For the remainder of Day 1, a great deal of exploration, and some independent repetition of ideas took place. The final attempt at development took place from 21’05” to 21’56”.

The dynamic in Day 2 was different due to a recent cooperation between the boys, and Ali’s absence which left Maggie alone. Kenny immediately started the day with a rehearsal. Although he thought some progress had been made, Maggie was convinced
that nothing has gotten done on Day 2 and commented, “We have no ideas.” This led to another period of exploration. When Maggie walked away from the keyboard, the boys immediately got to work developing the volume swell motive. This led to a series of rehearsals of their idea between 9’07” and 16’16”. At this point, Maggie asked the boys to “leave the volume.” Leaving the volume steady forced the group back in to a series of exploration.

The key activity in Day 3 was musical silence. This was due to the need to verbally settle the conflict of ideas within the group. The only periods of development occurred when the boys and girls worked separately. The third day ended with a series of rehearsals for the final performance.

**Case #3, Casey as a Solo Composer**

This within-case analysis is based on Casey’s two individual composition experiences and the two follow-up interviews. The task assigned to Casey was to compose and perform an original piece of music. For each composition, a single 30-60 minute session was allowed, but without a requirement to utilize the entire allotted time. The first individual composition session took place on March 1, 2012 and was followed with an interview on March 2, 2012. The second individual composition session took place on March 22, 2011 and was followed with an interview on March 28, 2011.

Casey was a white female in the fourth grade who played, “flute and piccolo” (interview, March 2, 2011). She took lessons in the school band program and was currently working on, “Indiana Jones, Yankee Dandy, and a bunch of them [she doesn’t] know how to play yet” (interview, March 2, 2011). She practiced her flute, “mostly”
every day because, “sometimes [she] was tired” (interview, March 2, 2011). In my interpretation of the survey results, Casey seemed to have a high degree of independence from peer influence. This seemed particularly evident during the responses to the opera selection, to which Casey was the only prospective participant to hold up a smiley face reaction card. She also was one of a small number that responded favorably to the Mozart symphony. Although independence could be one explanation for such responses, other possible interpretations include a higher degree of exposure to classical music, or a greater need for attention from peers.

During the first interview, Casey was asked what type of music she listened to, and responded, “Well, my mom kinda chooses the stations so I really don’t know, maybe pop? Umm, sometimes 106.1 [the local pop station]” (interview, March 2, 2011). She had a piano at home, and sometimes tried to play the songs she heard on the radio. I asked whether she could play any songs in particular, but Casey said, “Not really, because I’m trying to learn” (interview, March 2, 2011). Clearly, there was a parental influence on Casey’s listening preferences. However, it is notable that although Casey did respond favorably to the pop music example in the survey, which was in agreement with her expected parental responses, she did not agree with the expected listening preferences of her parents in all categories. It seems that Casey perceived her own listening preferences to be independent of and more open-minded than the preferences of her peers, parents, and teachers.

Patch changes for inspiration. When asked during the first interview, Casey confirmed that the selection of the correct timbre was an important motivator for the
generation of new musical ideas. When asked in the first interview which sounds she liked best, Casey said, “I think I like rock organ and jazz organ,” but was unable to explain why (interview, March 2, 2011). Casey began both of her solo compositions by immediately exploring the available palette of tone color. In the first composition Casey began by playing sustained, single notes with the “choir” patch. Then after changing to a layer of “fantasy” and “vibraphone,” a series of glissandi were performed. Finally a change was made to a layering of “organ” and “piano” prompting the realization of the first motive (hands together in contrary stepwise motion) that was used for the remainder of the composition. Similarly, at the start of the second individual composition, a series of glissandi were performed until a patch change was made. This patch change to “rock piano” inspired a new idea that became the main motive of her composition.

Throughout this series of events, it was evident that Casey was not searching for a particular sound for an established motive; rather, she used the various patches to inspire a variety of contrasting musical ideas. Furthermore, once a musical idea was established through a particular timbre, the two remained inseparable. In the second solo composition at 1'31", Casey plays on the “e. piano” a motive that was originally conceived through the “piano” patch. This clearly did not sound right to Casey, as she shook her head and quickly changed the patch back.

Throughout the two solo compositions, Casey seemed to assign particular functions to each available timbre. The use of an “organ” patch generally resulted in the performance of sustained, overlapping notes. Piano sounds yielded shorter, choppy rhythms. The use of the “fantasy” patch was associated with either glissandi or harmonic
thirds. These assigned functions for each patch remained constant throughout both individual compositions.

In the first solo composition activity, Casey had worked out nearly all of her musical ideas by 8’30”. For the remainder of the time, she searched for a new contrasting idea at the end of her piece. It is likely that she experienced difficulty in finding a new contrasting motive because of continued attempts with the same timbres. It seemed as if Casey were unable to generate a new, contrasting idea from the same patches. The only new idea developed at 13’05” when Casey selected the “synth. brass” patch for the first time. At this point she began to play an energetic, triumphant motive in sixths and octaves. Although the idea was abandoned, perhaps because it did not fit within the overall composition, it stood as an example of Casey’s motivic development through the use of patch changes.

One of the most interesting uses of timbre for inspiration came at 18’33” into the first solo composition. At this point, Casey became desperate for new musical ideas. She had been searching, for more than ten minutes and appeared tired, bored, and fatigued. A glissando was performed on the keyboard with her right hand, while her left hand executed a glissando on the patch change buttons. Perhaps Casey was hoping that a new idea would descend from the resulting rainbow of tone color.

**Audiation vs. technical execution of ideas.** Casey played the flute in the school band, but she was untrained on the keyboard. Despite the technical limitations that may be exhibited by a child untrained in performing on a keyboard, Casey showed evidence of having a vivid musical imagination, perhaps due in part to her other musical
experiences. She was often found audiating (Gordon, 2007) her musical ideas. She began the first composition activity by pretending to sing along with the sounds produced by the “choir” patch. Between 1'50” and 2'40” of the first solo composition, Casey made attempts to perform musical ideas she heard in her head. She began by singing her ideas out loud while conducting with her hands. It was apparent that she heard the music she wanted to perform. The emphasis on listening prior to experimentation is reflective of the first three stages in the model of compositional process proposed by Kennedy (2002).

When attempting to reproduce this music on the keyboard, Casey seemed dissatisfied. During her first attempt, she sang along with her keyboard performance. When she was unable to play the idea accurately, she stopped, sighed, looked up at the ceiling and said, “No.” The frustration was magnified during the second attempt as Casey stopped, threw her arms in the air, and shouted, “Arrghh.” She made a third attempt, which resulted in a nod of her head—a reluctant acceptance of her performance.

A similar scenario took place at 3'25” when Casey heard rapidly alternating harmonic thirds. She was unable to properly execute the sound she seemed to have already heard in her head, and displayed a look of disappointment.

During video recall at the first interview, Casey confirmed that she was unable to correctly play the piece she composed.

PK: Did you feel like you had something organized?  
Casey: Part of it, yeah—‘cause I kinda forgot it ‘cause I switched (wiggles her fingers).

She clarified her statement and revealed that she in fact remembered what she wanted to play, but was restricted by the technical execution of the idea.
Casey: I couldn’t remember how I did it in the beginning, how I made my fingers work, ‘cause it was hard to do it with both hands.
PK: So you knew you had something with three fingers, but you couldn’t remember exactly what it was?
Casey: I knew what it was, it’s just how I did it ‘cause it was too hard to—
PK: Play?
Casey: Yeah.
(interview, March 2, 2011)

Casey’s use of audiation was also evident in the rehearsals of her composition. In the second composition activity, she was often found “air playing” the piece by shadowing the correct notes above the keys. During the video recall portion of the first interview, Casey also “air played” the flute and recorder along with parts of her composition.

**Distractions.** Throughout both composition activities, Casey used several devices to distract her from the length, tedium, and boredom of the compositional process. Of all the distractions used by Casey, the most common was the repetition of the song “Axel F” (Faltermeyer, 1984). Casey explained during the interviews that she learned this song from her brother. Her frequent performance of this song did not seem to directly influence the music she composed, but rather served as an escape from the compositional process. The first appearance took place at 19’56” into the first solo composition, after Casey had become fatigued from a struggle to find new ideas. For the remaining four minutes, Casey repeated fragments of this song eleven times. The repetition of “Axel F” was even more pervasive in the second solo composition activity. The song first appeared at 4’04”, after Casey had established the first motive for her composition. After establishing a contrasting second motive by 7’57”, Casey rehearsed
her piece, took a break, then began a pattern of alternating “Axel F” with nearly every other action throughout the remainder of the compositional process. Between 10’44” and 19’51”, performances of the song appeared eight more times.

Signs of extended mental breaks were also evident in the frequent use of glissandi, and the keyboard’s automatic drum feature. Although glissandi were an essential component of Casey’s compositions, they were also often played in response to frustration (Composition #1 at 1’14”, 3’39”, 15’40”), or in conjunction with a mental break (Composition #1 at 7’55”, 13’50”, 25’54”; Composition #2 at 4’33”, 6’52”, 9’21”, 14’06”, 23’10”). While watching herself play random glissandi during the video recall portion of the interviews, Casey often laughed and stated that she was tired. Despite the instructions to omit drum patterns from their compositions, Casey occasionally utilized the drums to fight boredom, or perhaps become reenergized. The use of drums was often accompanied with a smile, some dancing, and verbal outbursts such as, “Samba!”

Casey’s second solo composition was also plagued by a non-intentional distraction, that is, a runny nose. From the time the situation begins at 10’19” until it was resolved at 20’01”, Casey spent more than two minutes away from the keyboard attending to her runny nose. During this time, no new motivic developments took place.

As mentioned earlier, the distractions that took place throughout Casey’s solo composition sessions appeared to be derived from her desire to fill up the allotted time. Casey worked quickly to develop motives at the beginning of her composition sessions, and as a result was often left with large amounts of time to occupy. Shorter composition sessions might have yielded less unproductive time.
Social influence of family, peers, and “creepy, funny, clown music.” A variety of social influences impacted the development of Casey’s solo compositions. Throughout the compositional process, Casey was often found watching other participants in the room and searching for ideas. At just 0’20” into the first activity, Casey watched Kenny until he said, “You’re staring at me.” Casey then began to play a motive in which she held down keys in both hands using stepwise contrary motion. This idea was very similar to the stepwise motion, tone cluster motive that Kenny was playing. This search for ideas from other participants was confirmed by Casey in the interviews: “I was watching some people because I didn’t have any ideas” (interview, March 2, 2011). Despite the admitted search for inspiration, Casey stated in the interview that this particular motive was not inspired by Kenny’s composition. However, when asked in the second interview if anyone in particular influenced her, Casey did admit influence from two participants, Theresa and Maggie.

In the first composition activity, Casey established all of the motives for her composition by 8’30”. The majority of the time after this point was devoted to searching for a new contrasting musical idea. At 10’28”, Casey stopped playing her keyboard, scanned the room, and listened to another participant who was performing an ascending stepwise melody. She then briefly attempted to incorporate this idea into her composition. In the second composition, at 2’45” and at 8’56”, Casey seemed to be comparing her composition to the ideas of other participants. Despite the fact that these examples did not result in a direct influence on Casey’s composition, they exemplified Casey’s openness to sociocultural influences, including peer influence, on her work.
Another example of Casey’s desire for peer influence was found in her use of musical ideas from her previous collaborative composition experience. During the first solo composition, at 1’09” and 15’07”, Casey played the opening motive that was used in her last group composition. This motive did not seem to be utilized in order to be copied, but rather, to serve as a source of inspiration.

In addition to any peer influence, Casey also displayed considerable influence from her family. When asked during the first interview (March 2, 2011) who would listen to her composition, Casey responded immediately, “my mom, and my dad.” In the second interview (March 28, 2011), Casey remembered, “I thought my mom would like it, and I played it for my mom, and she liked it.” According to the second interview, thinking of her mom while composing, “kinda helped” to make musical decisions. During the video recall, Casey also stated that she thought of her brothers as an intended audience.

PK: When you get an idea are you thinking about, like, you like the way it sounds or are you thinking about, um, are you thinking about an audience that might listen to the piece?
Casey: My brothers.

Casey stated in the first interview that she learned the song, “Axel F,” from her brothers. This song was used repeatedly throughout Casey’s compositional experience. Casey also stated in the second interview that although the song had been stuck in her head lately, it did not help her to write the music. Even though Casey may not be aware of any direct influence from “Axel F,” it still may have served a stimulus for musical ideas. It is also plausible that the song was utilized to recall her brother, which in turn
influenced the piece as she had stated.

Casey was also influenced by other facets of her home life: “Well I have a—like a fake keyboard at home I got when I was really young and it has part of, part of a song that I just did” (interview, March 2, 2011). In the second interview, Casey mentioned the influence of this keyboard again.

PK: Does that remind you of any other kind of music that you’ve heard before?
Casey: Yeah, but I don’t know the name of it.
Casey: It’s just not like a real song. It’s like a fake song.
PK: Is it something you hear on the radio, or your music class, or band, or orchestra?
Casey: No, because I have a—one of those keyboards at home, and except it’s a lot different, and it’s from when I was really little, and it had a weird song thing on it, and it kinda popped in my mind (interview, March 28, 2011).

There was also evidence of a social influence beyond family and peers in Casey’s work. When asked what kind of music she composed for the first solo composition, Casey asserted without hesitation that the music was “kind of more creepy, but like, funny” (interview, March 2, 2011). Casey continued by suggesting the image of a clown. Casey shared that her composition, “—kinda reminds me of the, umm, a circus I went to.” In a follow-up question, I asked Casey whether she was thinking of a circus during the compositional process, to which she replied, “I don’t know, I think I was.” This conversation suggested an influence of the intended audience on Casey’s composition. Casey’s musical decision-making may have been guided by her perceptions of the cultural norms for the “circus music” genre. Such perceptions may have impacted the selection of particular timbres, pitches, or rhythms in order to best fit the norms of that genre.
Casey’s timeline of compositional activity. Casey began both solo compositions by exploring various timbres. Then, within the first minute of both solo composition activities, a musical motive that remained consistent throughout the activity was discovered and repeated. After finding a motive to work with, Casey quickly moved into a brief phase of development. This phase began at 1’50” in the first composition and at 1’07” in the second composition. The developmental stage was longer and more focused in the first solo activity when Casey showed clear signs of audiating her ideas. This was evidenced visually by her frequent conducting and thinking out of musical ideas. Development in the second activity was generally accomplished quickly through a rhythmic variation of ideas already established.

In both of the solo compositions Casey had established her complete piece after approximately eight minutes. Casey rehearsed her first complete solo composition at 8’30”. During the remainder of the first activity Casey made attempts to find another contrasting motive, but ultimately rejected all new ideas. A rehearsal of the second complete solo composition took place at 7’57” after Casey announced, “Mine’s gonna be a really short piece because I can’t think of any ideas” (March 22, 2011). After this point in the second composition activity, minimal effort was made to find a new musical motive.

Throughout both activities, frequent rehearsals of the complete composition took place. Rehearsals take place at 5’10”, 5’58”, 8’30”, 9’46”, 16’12”, 17’02”, and 21’07” in the first piece. In the second piece rehearsals take place at 4’46”, 5’46”, 7’57”, 10’49”, 15’02”, 16’42”, and 20’01”. After a firm establishment of the structure of the complete
piece (8'30" and 7'57"), Casey confirmed her final product with one more run-through (9'46" and 10'49"), then took a 5–6 minute break from activity at the keyboard. This break was utilized in the first activity by trying to find a new contrasting motive. Casey confirmed in the second video recall that at 12'00" she was, “tired of it” and also that she, “couldn’t figure anything out” (interview, March 28, 2011); however, this search did not take place in the second activity. Instead this time was occupied by repetitions of “Axel F” and attendance to a runny nose. After returning to the rehearsals of the piece, Casey took frequent mental breaks and often rested her head or chin on the keys. At 21'50" in the second activity, Casey asked, “How much longer? Because I’m running out of ideas” (March 22, 2011).

Case #4: Casey as a Collaborative Composer with Felix, Lisa, and Theresa

This case is based on the collaborative composition experience of Casey, Felix, Lisa, and Theresa, the second group of participants for the first collaborative composition activity in the study. During the interview, the girls stated that they had been previously acquainted: Theresa and Lisa were both girl scouts, Theresa and Casey had a mutual friend. Felix and the girls did not know each other. The task assigned to the group was to compose and perform an original piece of music. Three days were allowed to complete the task. Each day, the group was allowed to collaborate for 30-60 minutes, but without a requirement to utilize the entire allotted time. The collaboration took place on February 9th, 10th, and 15th of 2011 and was followed with an interview on February 17, 2011. I selected this particular grouping of participants randomly because it was their first collaborative composition experience and there was no basis for purposeful selection.
One boy working with three girls. From the outset, Felix appeared to be comfortable working in this group, despite being the only boy and unfamiliar with the other group members. On the other hand, the girls exhibited a preference not to work with Felix, creating a division by gender. The group began by discussing a plan for the composition. Felix took an active role in this discussion, and suggested that it “doesn’t need to be fancy,” and that they could “all do the same thing” (February 9, 2011). The group decided to go with Casey’s idea to compose four individual parts. Casey first presented her motive. From 1’39” to 3’24” Lisa was given the chance to find her part. After this, from 3’24” to 5’24”, Theresa worked on her ideas. Instead of giving Felix the chance to work out his ideas alone on the keyboard like everyone else, the girls handed him the pencil and paper and started practicing their parts. Felix avoided conflict by moving to another keyboard at 6’17” to work out his part. During video recall in the interview Felix commented that the girls were not giving him enough time at the keyboard.

Felix: Where am I? Oh, I’m on the keyboard. I went on another keyboard because they were hoggin’ it. Where am I? (in a soft voice to Casey) I spent most of the time on the side anyways alone working by myself.
(interview, February 17, 2011)

Casey checked in with Felix and asked if he was working on his part, then handed him headphones. I then reminded the group that they needed to work on one keyboard. Felix tried to work out his part on the lower octaves of the keyboard.

Casey then told each member of the group where to stand. When Felix asked, “What do I do?” at 9’08”, Casey drew an imaginary line on the keys between the boys
and the girls, and told him to do anything. Casey had divided the keyboard into two zones, boys and girls. A deeper division by gender followed after Felix turned on the drums.

Casey: You can’t use that.
Felix: Who said? He didn’t say we can’t use ‘em.
Casey: Yeah he did. He said we can’t use them because they’re not ours.
(group dialogue, February 9, 2011)

The drums were turned off, and exploration continued. However, when Felix wanted to change patches, Casey didn’t want to.

Casey: We have to make up a really cool thing.
Felix: Wait.
(Felix changed patches, and Casey appeared frustrated.)
Lisa: We should split it.
Casey: Oh yeah, split.
(The keys were split so Felix could have one sound, and the girls could have another.)
Casey: Yeah, now you have your half.
(group dialogue, February 9, 2011)

Now that the keyboard was split, Casey searched for what she considered to be the correct patch. Lisa, Theresa, and Felix explored randomly. Felix commented that he thought they were doing, “one at a time.” Felix continued to try to share his ideas with the group. At 11’17” he asked the girls to “listen to this” as he played ascending glissandi on the low keys. The group continued to explore, and did not pay much attention to his idea. Casey suggested that the group should add a second part to the form in which everyone played together. Felix again tried to remind the girls that he has not yet had the chance to work out his ideas.

Felix: Can’t we each do our own piece?
Casey: Yes, but then we have to do something in sync. It just makes sense, right?
Felix: My turn.
(group dialogue, February 9, 2011)

Casey’s voice had become slightly agitated, and she appeared to be frustrated. A long period of exploration followed. Theresa then realized that Felix was still working out his first part.

Theresa (to Felix): What is your part?
Felix: I have no clue. I’m still trying stuff, but you guys keep playing and I can’t hear.
(group dialogue, February 9, 2011)

Casey then pushed the group, prematurely, into a rehearsal. Felix never did receive the same opportunity to work out his part that the other three girls did. Nonetheless, during the rehearsal Felix just made up a part on the spot.

Felix: I forgot my keys
Theresa: Whatever, just do that.
(group dialogue, February 9, 2011)

The tension seemed to be relieved after this first rehearsal. The group added a new part to the piece that included all members of the group equally. Everybody seemed excited about the progress of the group. Felix played along, but reminded the group throughout the rehearsals that he still needed to figure out his first part. During the rehearsal at 19’26” he was dismissed and told to just play anything.

Felix: I forgot mine.
Casey: Just do it.

Felix tried again after the rehearsal.

Felix: I gotta find a new piece, I just made that up.
(group dialogue, February 9, 2011)

Day 2 began with a more positive interaction between Felix and the girls. They
started by rehearsing the second part, which included everybody. Felix then got the group to acknowledge and accept his ideas.

Felix: Oh wait. Let’s see, which one was it that sounded like the waves? Which one was it? (A patch change is made). Oh wait, here are the waves.
(group dialogue, February 10, 2011).

By 10’22” of Day 2, Felix resigned to the fact that he would never have the opportunity to develop his first part.

Felix: I’m just gonna do a different one every time.
Casey: OK.
(group dialogue, February 10, 2011)

Although this collaboration exhibited divisions along gender lines, the grouping of one boy with three girls did not seem to have a negative impact on the compositional process. This statement is evidenced by the positive social interactions that took place, and the overall productivity in completing the task. Felix may have projected different viewpoints than the girls, but his ideas were generally accepted by the group. Overall, whether or not they would admit it, from an observer’s point of view it appeared that Felix, Casey, Theresa, and Lisa all enjoyed working together.

After the girls had begun to develop the “scary” music on Day 2, Felix found comfort in his opposition to their ideas. Theresa presented an idea to the group at 4’12” on Day 2 in which she played a glissando with her elbows, and then dropped her head on the keys as if dead. Casey claimed this as the girls’ part.

Casey: Oh, that’s so cool. Let me try. (She tried it twice). All the girls. All the girls just do this.

Felix accepted this division, and seemed to gain satisfaction in proclaiming his opposition to their new idea.
Felix: Sounds horrible.
Casey: Who cares? We like it. Your turn to make one.
Felix: Sounds like someone’s dead.

At this point, Felix began to work with the girls to further develop their “scary” music.

Casey: Let’s do that dying song.
Felix: That doesn’t sound good.

Felix held a high-pitched cluster while Casey played, and liked the sound. He called Casey back to the keyboard to have her try it again, and asked the group to listen.

Felix outwardly displayed opposition to the music, but cooperatively played along and helped the girls develop their ideas. The interaction between Felix and the girls became increasingly friendly, and Felix began to joke with the girls. As Theresa and Casey played the glissando/cluster idea, Casey suggested that they fall to the ground at the end, and demonstrated for the group.

Casey: That will be the end of you. And then, this one’s gonna be the end of me.
Felix: The end of you? Seriously, what do you mean the end of you (group laughter)?

Felix continued his attempts to make the girls laugh as Casey pretended to sing the low choir sounds.

Felix: Who’s burping?
Casey: We should do this.
Felix: That’s not funny, that’s just scary. I need another group, (Casey laughs) I’m scared.
(group dialogue, February 10, 2011)

By adopting a role of being “scared” of the girls, Felix was provided with material with which he could comfortably bond with the group. During the interview I asked Felix about the many times he commented on Day 2 and Day 3 that he was “scared” of the girls.
PK: Were you scared? You said you were scared in the video. You said you were scared of the girls or something.
Felix (smiles): They were like, they were like being so weird. They were like sitting on broken stools and falling down. It was scary (group laughter).
Theresa: I think Felix doesn’t like it because he’s the only boy in the group.
PK: Is that true?
Felix: Yeah.
(interview, February 17, 2011)

Throughout this conversation, Felix was smiling, and seemed to be enjoying the attention he was getting from taking this point of view. The three girls were all listening and laughing along with him. Despite Felix’s words, his placement into this collaboration was clearly tolerable. In fact, a review of the video footage suggests that he more than likely enjoyed his time with Casey, Theresa, and Lisa.

The incorporation of theatrical elements. A significant component of this collaboration was the incorporation of theatrical elements to enhance the performance. On Day 2 the group began to add meaningful motions to the music they were composing. At 4'12", Theresa played two glissandi/clusters by starting with her elbows on the keys, then sliding them apart and landing on the keys with her forearms. Then all of the girls tried it together. Casey quickly took over and developed the idea further.

Casey: Wouldn’t this be so cool? Like—
(Casey played the glissandi/cluster, but landed (as if dead) with her head on her arms. Theresa copied it.)
Casey (excitedly): Like this, like this—
(Casey repeated the idea. Felix joined in and dropped his head on the keys.)
Felix: Oh, Hi Mommy!

When Theresa and Casey played the glissandi/cluster idea again, Casey suggested that they fall to the ground at the end, and demonstrated for the group.

Casey: That will be the end of you. And then, this one’s gonna be the end of me.
Casey went on to suggest that at the end of piece, they should all jump back up and play something. The group worked on the ending. They started by waving their hands over the keyboard, while still on floor. Theresa then suggested they jump up. Casey suggested they all play their first part at the same time to end the piece. They tried Casey’s idea.

Casey: This is gonna be so funny.
Theresa: Let’s try it again from the beginning.

For the remainder of Day 2 and all of Day 3, the theatrical component of the piece assumed a dominant role in the compositional process. With the addition of each theatrical element, the group became more excited, motivated, and inspired.

Casey: I can’t wait for the dying part. I go first. I have to die first.
(group dialogue, February 10, 2011)

By 15’57” on Day 2, the group became silly and a great deal of laughter was heard. They developed the new ending by playing their parts simultaneously while still ducking down under the keyboards. They quickly popped up together.

Casey (laughs): It’s like a performance, too.
(group dialogue, February 15, 2011)

Felix, despite repeatedly mentioning that the music sounded bad, seemed to enjoy the theatrics. He fully incorporated them into his part of the performance during a rehearsal at 20’27”. At the end, he waved his hands above the girls’ heads, as if putting a magic spell on them. He motioned his hands down as they fell. Once they all fell he stepped through the girls and played his last part.

Felix: Out of my way, ladies!
(group dialogue, February 15, 2011)

At 4’29” on Day 3, Felix added a, “Hallelujah!” as he threw his arms in the air before he
played his part.

The silliness and dramatics increased when Casey brought a broken stool over to the keyboard at 9'02" on Day 3.

Theresa: How 'bout when you're playing you sit on the stool.
Casey: Yeah.

Felix suggested they fall off the chair. Another rehearsal began at 11'09". Each participant sat on the stool while they played their part. Casey had to remind Felix to play the cluster again by turning toward him shouting, "Hey!" Felix howled like a wolf as he played.

Felix to (Casey): Wow, that was funny (claps hands). Good girl.

Felix recognized that Casey had taken over his theatrical role in the finale, as she was now waving her hands over each participants head before they fell to the ground. Felix pulled Casey off-camera.

Felix: Get out of here. You don't stand up.
Casey: Yeah I do.
(Felix knelt on the windowsill behind the girls and waved his hands.)
Felix: I am the haunter.

The group decided to end the piece with a pose on the stool.

Casey: Hey, Felix, Felix. Yeah, go over here.
Theresa: I have the coolest idea ever. How about each of us stand on one edge here, and we go—(clap hands).
Casey: Sure.
Felix: No!

Felix walked off-camera. The girls tried several poses for the finale. The girls called Felix over to the keyboard. Felix refused to pose. The girls told him to just stand still and touch the piano.
Casey: You could play scary music.
(group dialogue, February 15, 2011)

Felix turned on the drums and alternated between A and C in a steady rhythm while the girls posed for the ending.

**Casey’s role in the group, the leader.** Casey quickly emerged as the leader of the group. Casey had a natural positive energy and presence that seemed to be contagious to others around her. Within the first two minutes of Day 1, Casey had initiated a discussion about the plan for the piece, presented two different motives, and began to teach her parts to the group. It seemed as if Casey developed these motives elsewhere, perhaps at home, in order to be prepared for the composition activity. During the interview (February 17, 2011), Casey admitted to developing some ideas on her piano at home.

One quality that helped Casey gain acceptance as the leader was her ability to make others feel supported in the presentation of their ideas. When Lisa shared a musical idea with the group at 1’39”, Casey told her, “That’s really perfect.” When Theresa shared her idea, Casey looked at her and gasped with excitement. Casey also gasped with excitement when Lisa played a new idea at the beginning of Day 2. When Felix was finally able to share his idea with the group at 2’37” on Day 2, Casey listened to him and lent her support by saying, “You should do that” (group dialogue, February 10, 2011).

Despite Casey’s playfulness throughout the collaboration, she was always focused on the ultimate goal of completing an organized composition. Whenever the group became off-task, Casey would pull them back together. The most common approach to
refocusing the group was to call for a rehearsal of the piece. Casey frequently had the group rehearse, often prematurely. Felix recalled the frequent premature rehearsals during the interview.

Felix: She kept telling us to do it over. Do it over.
Casey: Because I just wanted to keep on doing it instead of just stopping.
Felix: But you gotta stop and listen to how it sounds.
(interview, February 17, 2011)

Although the rehearsal often occurred before the participants knew exactly what to play, they were very effective in serving the purpose of getting the group refocused, as motivic developments often followed.

Casey utilized several other tactics to lead the group toward progress. When Felix moved to another keyboard at 6'41", Casey checked up on his progress by asking, “Are you making up yours?” (group dialogue, February 10, 2011). As the frustration began to build at 9'08" on Day 1, Casey’s leadership helped to move the group in the right direction. She told each participant exactly where to stand, and divided the keyboard into separate working zones. She quickly recognized the difficulty in having four people develop ideas independently at one keyboard, and took it upon herself to create a musical idea that everyone could play together.

Casey: Ok guys, we have to think. I have to make up something that everyone can remember that we can all play in sync.

Lisa and Theresa were receptive to this suggestion and listened as Casey played a new descending chromatic idea and explained that they should play something easy. After Lisa and Theresa repeated her idea, Casey decided that it was too hard to play.

Casey: Wait, wait no. This is too hard.
Casey made her suggestions to the group with a decisiveness and conviction that caused the other participants to follow her lead. On Day 2, Casey told everyone they would be playing two parts each.

**Casey:** Wait, so we’re each gonna do two pieces? Like my first is (she plays) and my 2nd—

(group dialogue, February 10, 2011).

By Day 3, Casey’s establishment as leader became so firm, that other participants felt the need to seek her approval for new ideas.

**Theresa:** I’m gonna change it.

**Casey:** No, I like that. ’Cause like, you’ll pretend to go like this (Casey plays) and I’m gonna pretend to pick it up, and you’re gonna go like this (Casey’s head down on keys).

**Theresa:** Can I go like—

(Theresa preceded her original part with several clusters.)

**Theresa:** Can I go like that?

**Casey** (tilts her head): I still like—

**Theresa:** Fine.

(group dialogue, February 15, 2011)

The only flaw in Casey’s leadership was her tendency to exclude Felix, particularly in Day 1. Although Lisa and Theresa were given the chance to develop ideas of their own, Felix was left to work alone through the cacophony of the girls all practicing their parts simultaneously. This caused a buildup of tension until Casey presented a new idea that was inclusive of all participants at 17’13”. During the interview, Felix recalled that Casey was bossy.

**Researcher (to Felix):** How did you feel about the whole thing?

**Felix:** Eh, I don’t know.

**PK:** What was good about it, and what was bad about it?

**Felix:** They were kinda bossy.

**PK:** Oh, so they were bossy? Telling you what to do?
Felix (pointing at Casey): Well, she was.
(interview, February, 17, 2011)

Felix’s ideas were eventually acknowledged early on Day 2 at 2’37”. After this point, Felix was much more receptive to the group, and a positive interaction continued from the remainder of the collaboration.

“Haunted house music” and other social influences. This collaboration was guided in large part by the expectations of an intended audience. Although the participants did not necessarily have any specific audience members in mind, by choosing to compose “scary haunted house” music, they had a perception of the stylistic conventions expected by a generic audience of that particular musical genre. During the interview, we discussed the group’s focus on haunted house music.

PK: So, what kind of music is it that you composed?
Theresa: It was mixed between like scary and like fun.
PK: It was like haunted house music? Is that what you were thinking while you were writing?
(Felix shakes his head no)
Casey: Not him, but all three of the girls were.
PK: Alright so, I want to get both points of view. So the girls were thinking haunted house?
Casey: Kind of, yeah. Scary—
PK: So as you were writing that music you were thinking about what a haunted house might sound like?
(Casey sings a ‘scary’ melody)
Theresa: I was thinking about Halloween.

The discussion continued as the participants shared their individual perceptions of haunted house music.

PK: So, what kind of things would you hear in a haunted house?
Casey: I know a sound—
Theresa: Cracks—
Casey: Or like, really high-pitched noises.
Felix: Like a girl screaming because she just got burned.
PK: Were any of those sounds in your final composition?
Casey: Kind of. Yeah.
Felix: No.

Casey explained that Felix’s three-note tone cluster sounded like high pitched screaming.

Later in the interview, Felix expanded on his idea of haunted house music. This may explain his reluctance to accept the music they composed as haunted house music.

Felix: I just didn’t like what they were doing.
Theresa: That was weird.
Casey: Yeah, because it was a haunted house theme. How can boys not like a haunted house theme?
Felix: I liked it—I didn’t like it, but—because it didn’t sound like a haunted house. It sounded like rainbows and unicorns.
Casey (laughs): What?
PK: Oh, I see. So you like the idea of a haunted house, but what they were playing didn’t sound scary for some reason. So what should haunted house music sound like? What should it have?
Felix: I don’t know, scary stuff?
(interview, February 17, 2011)

Timeline of compositional activity.

Day 1 began with a discussion, led by Casey, that established a working plan for the group. It was decided that each participant would create their own part for the piece. Casey had her part within the first minute. Time was then given for each participant to develop musical ideas of their own. After Casey, Lisa got a turn from 1’39” to 3’13” to work out her ideas. Lisa repeated her part several times as Casey tried to write it down on paper. From 3’24” to 5’36”, Theresa found her part and repeated it several times as the others wrote it down on paper.

Up to this point, the group worked very systematically by giving each participant
time alone on the keyboard to develop ideas. At 5'36" the paper and pencil were handed to Felix, but he was not given the same chance to have time alone at the keyboard. For the next ten minutes, a considerable degree of frustration arose as Felix became divided from the girls. He worked alone at his own keyboard for a brief period. When he was asked to return to the group’s keyboard, Casey divided the instrument into two zones, one for the girls and one for Felix. Then Lisa suggested splitting the keyboard so that the girls could have a different sound than Felix.

After 15'51", Casey suggested that the group try a rehearsal. Felix made up a part to get through the rehearsal. The tension was broken, and by 17'13", Casey presented a new idea to the group that included all participants. The group tried the new part together at 17'28". The interaction had now become very positive. A series of rehearsals began. At 18’54 the group applauded after a rewarding rehearsal. For the remainder of Day 1, the group performed continuous rehearsals, with short breaks. By the end of the day the form of the piece was well-established and only Felix was left without a musical motive.

Day 2 began by picking up on the positive energy from Day 1. A rehearsal took place immediately. After 3’04” Felix decided on a musical motive that gained the group’s approval. When Casey played a new idea at 3’38”, the composition took on a new direction.

Theresa: Sounds like someone is dead.
Casey (to Felix): Wait, wait, I want to show you this.
Casey (to Theresa): No it doesn’t (Casey laughs). OK, it does sound like someone’s dead.
Felix: Sounds like church.
(group dialogue, February 10, 2011)
This new idea set the stage for the incorporation of theatrical elements into the piece. Theresa followed this with a new idea of her own. Casey developed the idea further by laying her head down on the keys at the end as if she were dead.

At 7'47" the group rehearsed the piece, and incorporated Casey and Theresa's new ideas. This was followed by a development of the ending at 9'45" in which the group waved their hands over the keys while ducking under the keyboard. Many repetitions of the entire piece followed. Rehearsals of the complete piece took place at 12'47", 15'57", 17'49", 20'27", and 23'48".

On Day 3, the positive energy was transformed into silliness. A great deal of laughter was heard from all members of the group, but particularly Casey and Felix. The day began with another rehearsal of the entire piece. When a second rehearsal was attempted at 2'10", Theresa forgot her part. The rehearsal resumed at 4'29". The group decided that they needed to work on the ending and several ideas were suggested. Without clearly adopting any of the ideas, another rehearsal began at 7'01" that was never completed. The group then brought props into the composition, and incorporated a stool into the performance. They rehearsed again with the stool at 11'09". The group finally developed an ending from 13'23 to 17'30". In this ending, the three girls held a pose on the stool while Felix alternated A and C in time with a drum beat. The group became overexcited, and exhibited a great deal of energy. Felix accidently knocked the video camera over. The group laughed wildly. Then, as Theresa walked over to check to see whether the camera was broken, she also accidently dropped it. The group had a final rehearsal at 21:56. Casey exclaimed, "We did it!"
Case #5: Ali, Maggie, Casey, and Lisa

This case is based on the collaborative composition experience of Ali, Maggie, Casey, and Lisa. The task assigned to the group was to compose and perform an original piece of music. Three days were allowed to complete the task. Each day, the group was allowed to collaborate for 30-60 minutes, but without a requirement to utilize the entire allotted time. The collaboration took place on March 9th, 15th, and 16th of 2011 and was followed with an interview on March 16th, 2011. An all-female group was intentionally selected for further study due to the considerable number of gender-related issues that emerged throughout the other cases. The decision to utilize a homogeneous gender grouping was made to provide contrast with heterogeneous groups. This group also included the particular perspective of the two target composers, Ali and Casey.

**Bonding.** The all-female collaborative group exhibited a considerable number of interactions that served the purpose of connecting personally with each other. At first, girls who had been grouped together previously showed a support of one another. Then as the girls got to know one another throughout the three days of the compositional experience, they united through the teaching of familiar songs. By the end of the third day, the girls had displayed both verbal and physical signs of admiration for one another.

**Guarding established relationships.** At first, in the opening three minutes on Day 1 of the collaboration, there seemed to be a connection between the girls who worked together in previous collaborations (Casey/Lisa and Ali/Maggie). At 3’01”, Casey began to play her part:

Maggie: Then you’ll start, and nobody will touch it until you’re done.
(As Casey finished, Lisa began to play.)
Maggie (to Lisa): I don’t think we should play it up there.
Casey: How about we do it on a different thing?
(Casey made some patch changes)
Maggie: It sounded good the way we did it.
(Ali changed the patch back to the piano/organ layer.)
(group dialogue, March 9, 2011).

In this interaction, Casey demonstrated support for Lisa’s ideas and made an attempt to find a patch that might help the acceptance of Lisa’s part among others in the group. At the same time, Ali took action to defend Maggie’s idea of using a previous sound.

Although some bonding had taken place between all members of the group during the first day, Day 2 of the collaboration also began with the girls supporting their previous partners. The group began Day 2 with an attempted rehearsal of the piece. Casey began to play her part.

Maggie: And then we were all doing the same thing you were doing.
Casey: And then hers was like—wait, wait, shh—it’s her turn.

Casey physically removed Maggie’s hands from the keys. In this interaction, Casey showed support for her previous partner, Lisa, by not only asking the others to stop playing, but by physically removing their hands from the keyboard. Casey’s support for Lisa was then also verbalized.

Casey: I like hers a lot.
(group dialogue, March 15, 2011)

Lisa then played her part for the group.
Use of familiar songs to bridge the gap. Casey and Maggie began to bond early in Day 1 through the performance of familiar songs. At 3'59", Casey began to play “Jingle Bells.” Maggie followed this with “Ode to Joy.”

Casey: Oh guys, listen to this. Wait, can I do something?
(Casey then played “Axel F.”)
Maggie: How do you know how to do that?
(March 9, 2011).

Casey played five more repetitions of “Axel F,” and Maggie laughed after each one. The girls seemed to be trying to win each other over with their repertoire of familiar songs.

Maggie became fascinated with Casey’s ability to play “Axel F,” and spent a great deal of time trying to copy her. Between 5’54” and 6’39”, Casey tried to teach “Axel F” to Maggie note by note. When Casey played the song again at 17’16”, Maggie asked Casey to play it slowly so that she can learn it, too.

Maggie: Just do it slow so I can know it.
(March 9, 2011)

Casey, however, did not fulfill Maggie’s request at this time, but instead, tried to have the group move forward with the composition. After they rehearsed the piece, Casey took the time to teach Maggie and Lisa “Axel F.”

The activity of bonding through the sharing of songs did not always override the desire to produce a finished composition. Casey’s willingness to take the time to show Maggie how to play “Axel F” seemed to decrease as time went on. On the second day, after Maggie tried to play the song during the first minute of the day, Casey not only ignored Maggie, but lifted her hands off of the keys and insisted that the group focus on
the composition. In both collaborative groups, Casey worked to focus her peers. Soon after this, at 1’59”, Maggie began “Axel F.”

Casey: Shhh.
(Casey pushed Maggie’s hand off of the keys.)
Casey: We should do—
(Casey played a few notes.)
Maggie: That sounds really low.
Casey: Yeah, we can play it at a higher pitch.

Maggie walked off-camera. In this interaction, Casey was clearly ignoring Maggie’s desire to learn the song because she was focused on working on the piece; however, Maggie may have been using the song to form a connection with Casey, and appeared to be upset as she walked away from the group. When Maggie returned to the keyboard a few minutes later, and played “Axel F” again, Ali tried to keep the group from getting off-track and physically moved between Maggie and Casey. Conceivably Ali was sensing that Maggie’s interaction with Casey was threatening the group’s productivity.

At 15’20” another attempt was made to learn “Axel F” from Casey, but when Casey stopped her, Maggie physically picked her up and carried her away. The girls had become quite comfortable with one another, and were laughing about this. Finally, after several failed attempts to bond with Casey through the teaching of “Axel F,” Maggie changed course asking Casey to play “Twinkle” and “Raider’s March.”

Maggie: Who wants to know how to play Twinkle, Twinkle Little Star?
Casey: Me.
(Maggie then taught “Twinkle” to Casey.)

Maggie did this same thing at 19’40”.
Maggie: Let's play, “Raider’s March.”
Lisa: How do you do that? How do you do low G?
(group dialogue, March 15, 2011).

The bonding through familiar songs was also evident on Day 3. During the first interaction, Casey turned on the drums and danced while Maggie laughed. Then Maggie and Casey played through “Axel F” and the “Raider’s March.” At 14’41” on Day 3, a friendly, competitive spirit arose regarding the playing of these familiar songs. Casey began to play “Raider’s March.”

Maggie: Raider’s March rules! (whispers to Casey) I play it better than you.
Casey: I don’t care.
Maggie: Let me show you how it’s done.

Maggie and Casey both play. Maggie then picked up Casey and carried her away. The pleasant rivalry continued when Maggie then started playing “Axel F.”

Casey: Well I play this better.
Maggie: So, I play Raider’s March better.
Casey: I don’t care. I don’t like it. I like this.
(group dialogue, March 16, 2011)

**Building new friendships.** Throughout the three-day interaction, the girls in the group clearly progressed from having only a casual acquaintance with one another, to becoming quite comfortable and fond of one another. It seemed that on Day 2, Maggie began the day with a focus less on composition, and more on bonding with the group. She seemed to feel the need to share her identity as a clarinetist, as evidenced by the clarinet reed that remained in her mouth the entire day.

Maggie: Don’t you love the taste of reeds? I can’t wait for it. They taste like chocolate.
Ali: Ewww!
Maggie: I really love it.
This led Maggie, Ali, and Casey into a discussion about reeds, and how they need to be soaked. Three minutes later, when attempted progress on the composition failed, the conversation was continued.

Casey: How long have you had that?
Lisa: You don’t need it now.
Maggie: Yeah, I know, but it tastes good.

The focus on Maggie’s clarinet intensified after 13’57”. At this point, the whole group took a break away from the keyboard. Maggie was seen putting her clarinet together. The other girls were looking at it together. There was an inaudible dialogue between the girls off-camera. I then failed in my attempts to refocus the group onto the composition task. The girls desire to socialize superseded their participation in the activity.

Maggie (to PK): Can we play our instruments now?
PK: What are you all taking a break? Where are you all going?
Girls: We’re done.
PK: But you can’t be done. You have the rest of today, and you still have tomorrow, too.
Girls: I know but we did it.
PK: Make it longer, or make another piece.
Girls: Another piece?
PK: Sure.
Ali: We’re done. We already have like three pieces.
Other group: We have five.
(group dialogue, March 15, 2011)

At times, the girls expressed their affection for one another physically. As Casey was learning “Twinkle” from Maggie at 16’25” on Day 2, she stopped suddenly, and hugged Lisa.

Casey (to Lisa): I like you.

After rehearsing the piece midway through Day 3, the girls posed for the ending. Casey
posed with her arms around Maggie and Ali.

**Verbalization of ideas.** The all-girl group most often made developments to their piece through a verbalization of ideas. Often, the ideas and structure of the piece were talked about, and rehearsed immediately without a need to play the parts first. Within the first four minutes of Day 1, the group had discussed and performed an elaborate plan without practicing any of the parts first. After a minute and a half, Casey gasped, and acted surprised, as if she just got an idea. She then rushed to the bottom of the keyboard and began to play a series of harmonic thirds.

Maggie: And you’ll be doing it in the center.
Casey: Yeah, I’ll do, wait. How about I do it in the center, (to Lisa) you go after me, (to Ali and Maggie) you guys wanna be last ‘cause you’re last? (To Ali) You go over behind her (Maggie) and she’s (Lisa) with me. OK now, (to Lisa) come close to me.
Ali: All of us should go behind you.
Maggie: This is so much easier than last time.
Casey: Now, (to Lisa) put your two fingers here.

Maggie placed her fingers instead. Casey physically removed them from the keyboard and placed Lisa’s fingers instead. Everybody laughed. Casey then told Maggie and Ali where to play their harmonic third. Casey also played a harmonic third. Everybody then began playing ascending harmonic thirds.

Maggie: Casey, you should do thing you did, in the middle, while we’re all doing that.
Casey: Oh yeah, that would be so cool. You guys want to play it all?
Maggie: You’re gonna be in the middle, so we’ll have to go around you.
Casey: Ok, Ok, we have the whole thing.
(group dialogue, March 9, 2011)

Throughout this interaction, all of the girls in the group seemed to understand the structure being discussed. It was very early on the first day, very few ideas had even been
explored, yet the group was able to settle easily on a fairly complex series of events solely through verbal explanation.

The group developed their second part in a similar manner. At 16’10”, after the group had been exploring independently, Casey described the second part.

Casey: Ok, that’ll be the second—oh wait—(to Lisa) do this.
(Casey alternated rapidly between two notes a third apart.)
Maggie: I’ll start from the top and go down.
Casey: Yeah, yeah (to Lisa). Wait, follow her (Maggie).
Casey: (gasp) Yeah, you start over there, and you start over there, and you stay with her because when you get half way, we’ll get half way up.
(group dialogue, March 9, 2011)

With this explanation, and no practice, the group was able to rehearse the second part of their piece. The parts they actually played were created on the spot to match the structure that was discussed.

On Day 2, after 2’41”, another lengthy verbalization inspired a new section of the piece.

Casey: (Gasp) Ohhh! Remember in the last group everyone put their hands on two and you (Lisa) were after me, I think, and I was right here.
Lisa: No, no, no I was right here.
Ali: And I was like right here.
Casey: Oh wait, I know what it was.
(Casey walks to the low end of the keyboard.)
Casey: I go first
Ali: And then we kept going.
Casey: Yeah, but don’t go until we get up to—‘till I get up to here.
Ali: But, I’m doing these two, and you guys are doing this.
(group dialogue, March 15, 2011)

They began to play the part. The group now worked together to develop an idea that was based in part on Casey’s last group project. The motive consisted of all members in the group playing stepwise, ascending harmonic thirds. They staggered their entrances so that
each participant was approximately one and a half octaves apart. When they got to the top they inserted a new idea.

Casey: Hold your last two notes.
Ali (to Maggie): No, you hold your last two notes. Then like you get off, then I get off.
(group dialogue, March 15, 2011)

At 6’54” on the last day, the ending was developed through the same type of intense verbalization. Casey began to turn the volume up and down, an idea that was strongly rejected by Maggie in another collaboration.

Maggie: That could be our ending.
Casey: That could be the ending.
Maggie: Like after we’re done like—like we just did that, then she’ll do that.
(They all hold down a key while Casey swells the volume. Maggie laughs.)
Maggie: And that’ll be the ending.

The group then worked together to develop the ending. After starting to play what they previous referred to as the finale, ideas were worked out verbally.

Lisa: Then we should go right into the—
Casey: Yeah, right into it.

Casey organized the volume swell ending by telling everyone where to place their hands.

Casey: How about everyone goes on one hand, one finger, and she (Lisa) does these keys.
Maggie: Then, done!
Casey: No wait, put your finger back. Then, when we’re done, we should just one person at a time brings it up when you’re done.
Maggie: I don’t think we should do that.
(Casey put Maggie’s finger back and continued anyway.)
Maggie: That sounds weird. How ‘bout we just leave it the way it was because I don’t think when we walk down the black keys it would sound right.
(Casey just continued.)
Casey: Oh my gosh, that sounds perfect.

Maggie then showed Casey how to fade the volume out. When the volume was at zero,
Maggie and Casey threw their hands in the air.

Maggie: The end!
(group dialogue, March 16, 2011)

**Maggie's need for attention.** Maggie did not contribute many musical ideas to the composition. Instead she utilized most of her time seeking the approval and attention of other members of the group. She often sought attention through off-task behaviors, but then seemed uncomfortable when she was given full attention to perform her part of the piece. Each member of the group had a different approach to dealing with this behavior. Ali tended to ignore any behaviors that distracted the group from making progress. Casey seemed to invest time into Maggie’s attention-seeking behaviors in order to yield a brief period of productivity. Lisa continued to work independently on her contributions, seemingly unaffected by Maggie’s behavior.

Maggie often sought recognition for her ability to play a repertoire of songs or for her ability to play the clarinet. Throughout the three days of the compositional experience, she utilized more time playing familiar songs than working on new ideas for the composition. The entire second day was centered on Maggie’s clarinet, and she kept a reed in her mouth the entire time.

Although Maggie sought recognition from her peers for her ability to play familiar songs, she appeared uncomfortable when encouraged by the group to compose new music. On Day 1 at 7'54", the girls gave Maggie the time to make up her part of the piece. Maggie began to play “Axel F,” which she commonly used to bond with Casey. Casey played a cluster over Maggie’s hands.
Casey: Wait, we’re not doing that.
(Then Casey played “Axel F.”)
Casey (to Maggie): Make something up.
Maggie: Ummm, what was that?

The girls all looked under the table and commented that they kept touching gum underneath. In this example, Maggie tried to get Casey’s attention by playing “Axel F.” Casey stopped her and tried to refocus her on the task. She then tried to give Maggie what she was looking for, and quickly played through the song once. When Casey then invited Maggie to compose something new, Maggie again diverted the group’s attention to the gum stuck under the table. However, Casey did not give up on Maggie. She played “Axel F” twice, and got Maggie’s attention.

Casey: You have to make up something. She (Lisa) has hers and I have mine. So you have to—OK, make something up.
(Maggie played random clusters. Casey explored new ideas.)
Casey: Wait guys, listen.
(Casey shared her idea. Maggie tried to play it, but changed it slightly.)
Maggie: Sounds better.
Casey: That sounds so cool (gasp). That can be your part.
Maggie: I don’t know where it came from. I don’t know how to like—

After Maggie had found a musical motive, Casey acknowledged Maggie’s last off-task, attention-seeking behavior by touching the gum under the table.

Maggie: Eww! You touched it again.
(group dialogue, March 9, 2011)

When the group rehearsed the piece early in Day 3, Maggie again became hesitant to play on her turn.

Maggie: I don’t have any song to do.
(All three girls simultaneously played ideas for Maggie to use.)
Maggie (to Casey): Tell me what you’re doing.
Casey: Just take your fist—
(Casey rolled her fist on the black keys.)
Maggie: OK, that’s just weird, whatever. (group dialogue, March 16, 2011)

Maggie copied Casey, but seemed embarrassed to play the part. She then placed her hands on Casey’s arms, seeking her support.

On Day 3, Maggie played dumb to get a reaction from the group.

Casey: We have to practice, we have to practice.
Maggie: Practice what?
Casey (rolls eyes): The song.
Maggie: There was a song?
Casey: Remember?
Ali: Maggie!
(group dialogue, March 16, 2011)

Casey seemed willing to play along. However, Ali did not want to tolerate this behavior, but rather, wanted to get working on the piece.

Casey’s role: The leader. Casey emerged as the leader of the group early in Day 1. Her leadership remained unchallenged throughout the three-day collaboration. In the first 15 seconds of Day 1, Casey began to take charge by turning the volume down to zero and asking her peers to stop.

An energetic, captivating approach. At the start of Day 1, Casey invited everybody in the group to come up with a part. As Casey began exploring, she unintentionally captivated the group. They watched as she explored thirds, then they all tried to emulate her ideas. First, as Casey was finishing her idea, Ali tried adding a few ending notes to it and laughed.

Casey: You can do anything you want.
Maggie: No, wait. You should teach us all that, and we’ll all do it on different—
(Casey played it again. This time Ali copied Casey.)
Ali: I did it.
Casey: Kinda.

Maggie then tried to play it using fingers two and three instead of both hands. Lisa began to play two alternating notes.

Casey: You can change the thing if you want.

(group dialogue, March 9, 2011)

Casey’s intention was just to work independently, but the others in the group preferred to follow her ideas. Furthermore, Casey insisted that they could change the part any way they wanted, but they continued to copy her.

In a similar situation at 5’06”, Casey suggested that they each work on their own parts. Casey began to work on her part independently, but the others were captivated by what she did.

Ali: OK. We have to think of something.

Casey: Let’s think of our own parts.

(group dialogue, March 9, 2011)

The group did not follow what Casey said, but rather, Maggie began to imitate her, and Ali and Lisa watched and listened to her.

Inclusion of all group members. Casey was sure to include the ideas of all members of the group. This was accomplished very systematically, particularly in Day 1. After Casey had established the part she was going to play, she first turned to Lisa to have her create a part.

Casey: OK, you (Lisa) have to make something up while you guys (Maggie and Ali) are practicing.

(Lisa played a stepwise motive on the black keys. Everybody listened.)

Maggie: Doesn’t that sound Chinese kinda?

Casey: That is perfect. That is perfect, you got yours.

Casey was very supportive of Lisa’s idea, quickly confirmed that this would be her part,
and then moved the group on. A similar approach was taken to help Maggie find her part for the piece.

Casey: You have to make up something. She (Lisa) has hers and I have mine. So you have to—OK, make something up.

Maggie played random clusters. Casey explored new ideas. It seemed that Casey may have been playing these ideas to help inspire Maggie's creativity, because Casey already had her part and did not need to explore for her own benefit. Casey asked the group to listen and shared her idea. Maggie tried to play it, but changed it slightly (skip, step, step).

Maggie: Sounds better.
Casey: That sounds so cool (gasp). That can be your part.
Maggie: I don’t know where it came from. I don’t know how to like—

Again, a great deal of support was shown for Maggie's idea, and then the group was quickly moved on. By 10'24", Casey began to help Ali find her part.

Casey: OK. You (Maggie) have yours. What are you (Ali) gonna do? Ali: I don’t know, something else.
Casey: Or you can just go with the flow and do whatever you want like I did.

Casey now began to show Ali some new ideas. She switched spots with Maggie so that she could be next to Ali. Ali was not so quick to simply copy one of Casey’s ideas, and seemed to want to develop her own. Nonetheless, Casey wanted the group to move on, and insisted that Ali’s “got it,” then abruptly began a group rehearsal.

Casey: Do whatever you want. It doesn’t really matter.
(group dialogue, March 9, 2011)

After establishing each individual’s part, Casey suggested that the group should make a part that everybody played together.
Casey: Now we have to make something up that we can all do together. Who wants to help make it up? (To Maggie) How 'bout we do something we can do together.

Maggie: Yeah, but like what?
Casey: OK, look, ummm, ok.

Casey rested her left arm on the keys to think and laid her right index finger on her cheek. Maggie and Ali copied her. As Casey was being playful with Ali and Maggie, Lisa continued to work out her idea. Casey used Lisa’s idea as the basis for a group part.

Casey: Ok (gasps) how 'bout what she was just doing? She was just doing this, like, doing the finger walk.
Maggie: Yeah but, we did that last time.
(group dialogue, March 9, 2011)

While Lisa continued playing her part, the other three simultaneously tried the finger walk. After some further development, this led to the establishment of a second part for the piece.

* A balance of work and play. * Frequently, throughout the three days of the collaboration, Casey would follow a period of focused activity with light, playful off-task activities. Most commonly, this was done through repetitions of “Axel F.” During the interview, Casey stated that playing this song helped her to think.

The group worked hard on Day 1, and established most of their ideas for the final performance. Throughout the day, Casey was diligent in including all members of the group, and keeping them on-task. After a few rehearsals of the complete piece, at the end of the day, Casey led the group in a silly activity that involved the need to kneel on chairs and pose for the ending.
Casey, who had walked off-camera with Ali, walked back to the keyboard with a conductor’s stool.

Maggie: My stool—
Casey: Wait.
Maggie: I’m going to sit here.

Maggie ended up sitting on the stool pushing Casey out of the way. Casey walked off-camera again, then came back carrying a piano bench with Ali. The girls took a seat, and Casey turned the keyboard volume off.

Casey: OK. We’re gonna umm, for the finale, we’re gonna need these. Well, while we play our piece we’re going to use these, ok?
Ali: What about Lisa? Lisa doesn’t have one.
Maggie (to Lisa): Go steal the chair over there.
Ali: I’ll get her a chair.

Casey suggested to the group that they all kneel on their chairs, then pick a key, and hold it while they pose. The mood through all of this was silly, and it served to balance a bit of fun with the hard work they had done.

Casey did not always give in to the silliness in the group. At times, a focus on the composition overrode the desire of the others in the group to be off-task. Casey stopped Maggie many times from her repetitions of “Axel F” in order to encourage group progress. At 7’54 on Day 1, Casey played a tone cluster over Maggie’s hands while she was playing the song. At 10’20”, when Maggie played the song again, Casey played a glissando and pushed Maggie’s hands off of the keys in the process. After two minutes on Day 2, Casey quieted Maggie and lifted her hands off of the keys.

During Day 2, some tension was evidenced at 6’48” between Casey and Maggie. Maggie had been unproductive and unfocused on Day 2, and Casey made many attempts
to keep the group moving forward. Casey and Maggie both seemed to get frustrated with one another.

Casey: Guys, listen to how cool this is.

As Casey began to play a new part for the group, Maggie interrupted her by turning on the drums at a different keyboard. When Maggie returned, she first stood next to Casey. Casey looked up and away, and yawned. Casey resumed playing her ideas after Maggie walked to the other side of the keyboard. At this point, Casey was being very supportive of the members of the group that were working (Ali and Lisa) and ignoring those that were off-task (Maggie). As Casey, Ali, and Maggie repeated their previous chromatic ideas, Maggie began to make a remark that Casey interrupted.

Maggie: That sounds like—
Casey (interrupts): Hey, hey, hey, you guys sound cool.
(group dialogue, March 15, 2011)

Ali's role: focused and task-driven. Ali approached the collaboration with purpose, and was driven by a desire to complete her goals. Ali seemed to have a clear opinion on which ideas met her standards, and which did not. Ali did not approach composition like Lisa and Casey, who seemed to accept anything as a workable idea. Ali also differed greatly from Maggie, who often seemed uncomfortable sharing original musical ideas, and rejected most compositional ideas. Despite Ali’s own perception that her musical ideas were not well thought out and merely consisted of “banging on the piano,” it seemed to me that Ali took time to work her ideas out through a process of exploration, repetition, and development. She seemed to work with an idea until it met her standards.
In the first seconds of Day 1, Ali made clear to Casey that she wanted the patch to remain on a layering of piano/organ. She recalled this combination of sounds later, at 6'53" when the group was trying to play an earlier idea. Ali knew what she wanted. When others made contrary suggestions, Ali acknowledged them politely, but did not compromise her standards. At 10'24" on Day 1, Ali listened politely to Casey’s musical suggestions, but did not adopt any of them. When Casey then pushed the group, perhaps prematurely, into the first rehearsal, Ali played an idea similar to Maggie’s for the purpose of keeping the rehearsal moving along. She then worked to further develop her own ideas.

At times when the group worked in a focused manner, whether verbally or musically, Ali showed a willingness to listen and participate. On the other hand, Ali rarely associated with the others when the group reverted to off-task activities. When the group first worked to develop a motive on Day 1, 0'52"-2'39", Ali worked carefully with Casey’s ideas. Ali then listened as Casey developed a new motive at 7'08", and when Lisa found her idea at 7'45". Ali also stopped what she was doing as Maggie presented her idea at 9'08". However, when the group became off-task between 8'18"-9'08", Ali worked on her own to develop her ideas independently. At 12'08" on Day 2, Ali was left alone at the keyboard while the rest of the group took a break. Ali seemed happy to have the keyboard to herself to develop ideas.

Ali was the only member of the group that did not partake in the many repetitions of “Axel F.” She did, however, patiently listen to and watch the others play through the song. Several times, Ali followed their “Axel F” repetitions with attempts to refocus the
group. On Day 1 at 5'06" Ali reminded the group that they had to think of something. Again, as the group began more “Axel F” repetitions at 17'16”, Ali ignored the rest of the group, and continued to practice her part of the piece. She then refocused the group by asking them to begin another rehearsal of the piece.

Ali: We still have to practice our whole thingy.
Casey: Yeah, let’s practice the whole thingy.
(group dialogue, March 9, 2011).

When the group showed interest in Ali’s ideas, she was willing to share her developments. On Day 1 at 13’55”, Casey announced to the group that they should use Ali’s idea. Ali was walking her fingers stepwise up the keys.

Casey: Ok (gasps) how ‘bout what she was just doing? She was just doing this, like, doing the finger walk.
(group dialogue, March 9, 2011)

On Day 2, when Casey tried to have the group move on to a new part, Ali insisted that
the group play through her contribution from Day 1.

Casey: Guys, let’s go on to our next part. We’re gonna each have two parts (inaudible mumbling).
Maggie: Dude.
Ali: No, I really like when we do the thing with the black keys.
Maggie: Yeah, I know.
Casey: Oh yeah, you guys do the thing with the black keys.
(group dialogue, March 15, 2011)

When Ali made her suggestion, she physically leaned in to the group and spoke more loudly and clearly than normal.

Ali was a focused, hard worker. However, after she had fully developed her ideas,
and was ready to present them, she enjoyed the remainder of time being playful. After
fifteen minutes on Day 2 Ali announced, “we’re done.” After this point, she spent the rest
of the day trying to encourage the others to move away from the keyboard and play their band instruments instead. Whereas other participants seemed to find a way to alternate hard work with play, Ali seemed happy to play only after her work had been finished.

**Social influences.** When asked directly if they could identify a source of inspiration for their musical ideas, Ali and Maggie asserted that motives were discovered through exploration, and then organized into a piece.

> PK: Where did any of these ideas come from?
> Ali: Just like—we started banging on the keyboard.
> Maggie: Yeah, we just found a way to organize it.

However, Casey and Lisa admitted a slight influence from a song she performed with the fourth grade school band, “The Raider’s March.”

> Casey: And the songs we already knew, we took some of that.
> PK: Oh, you did. What song? What is the name of it?
> Maggie: That’s a good question.
> Casey: I forget the name of it.
> PK: The Raider’s March?
> Casey: That was one of them.

I then asked each participant separately if that song influenced them in writing the piece. Ali and Maggie said, “No,” but Casey and Lisa said, “Kinda.” We then discussed the frequent repetition of another familiar song, “Axel F.” Casey and Maggie were unaware of any influence of this this song on the compositional process.

> PK: By teaching each other the songs, do you think that had something to do with the final composition?
> Maggie: Not really.
> Casey: No (Casey laughs and looks at Maggie). Totally unrelated.
> (interview, March 17, 2011)

Although the songs, “Raider’s March” and, “Axel F” may not have had a strong direct influence on the compositional process, the positive interpersonal interaction
inspired by the frequent repetition of these songs had a remarkable impact on the compositional process. Although taking the time to share these songs with one another may have seemed off-task at first, after reflection of the whole compositional process, it seemed that the time was well spent in that it enabled the group to bond, and consequently, be attentive to and accepting of each other’s ideas. Negative social interactions, such as Maggie’s attention-seeking behavior, were also present throughout the collaboration; however, the positive bond formed between the girls was more influential on the compositional process as it was strong enough to overcome the negativity.

All four participants agreed that this group was more productive and cooperative than the last group they worked in. Casey suggested that the reason for this was that they were all girls.

PK: So this group you think was more organized?
Group: Yes.
PK: How come? What do you think worked differently?
Maggie: Because we all worked together.
Ali: And we all like agreed on things and then we just stuck with it. We didn’t keep changing it.
Casey: Yeah
PK: So you guys agreed a lot more in this group than in your last groups?
Maggie: It wasn’t mushy
PK: Wasn’t what? Say that again?
Casey (laughing): Mushy—I like mushy.
PK: Mushy? That’s a good word. So you got along a little better in this group?
Casey: Probably because we’re all girls and the girls really don’t fight a lot. (interview, March 17, 2011)

The girls then agreed that getting along helped them to write a better piece.

All four participants in the group had very different perceptions of their intended
audience: Casey stated that she thought of her brother as the intended audience, Ali thought of the research participants as her audience, Lisa claims to have had no audience in mind, and Maggie imagined the audience of the Oprah Winfrey show. This may help to explain their individual contributions to the piece. Casey stated in an earlier interview that her brother taught her the song "Axel F," and that playing that song helped her think. Ali, with a full awareness that all of the research participants would listen to the final product, exhibited a clear focus to complete the composition. Lisa spent a great deal of time just exploring. She appeared less concerned about pleasing a particular audience, and as a result, her compositional process was less focused than the others. Maggie was always hesitant to play her ideas for the group.

**Compositional timeline.** The collaboration began with Casey taking the lead. Within the first minute, Casey presented a musical motive to the group. Maggie suggested that Casey teach the part to everybody, and that they each could change it. Several ideas were then tried by the group, but no progress was made.

Maggie and Casey began to play familiar songs to one another from 3'59" to 5'06". The group explored for ideas. By 7'25", Casey began to lead the group by systematically having them create individual parts, one at a time. Casey first asked Lisa to develop her ideas. Then, Casey told Maggie that it was now her turn because Lisa now had her part. Maggie had difficulty developing an idea. By 9'08" Maggie found a motive, with Casey's assistance. This systematic approach continued, as Casey asked Ali at 10'24" to make up her part. Although Casey assisted, Ali does not seem interested in any of the ideas they developed together. Casey insisted that Ali's "got it."
The first full rehearsal took place on Day 1 at 11'52". This was followed with the idea that the group should create a part they can all do together. The group then explored for new ideas and repeated several previous ideas. By 16'45", the group was ready to rehearse the second part of their piece. The group rehearsed the whole piece at 18'23". After the piece was established, the mood of the group became silly. A piano bench was carried over and used as a prop to pose for the ending.

Day 2 was much more unfocused. Maggie, Casey, and Lisa had just been accepted into the fourth grade band. They were excited, and wanted to play their instruments for me. Maggie had a clarinet reed in her mouth the whole day. The day began with an attempted rehearsal. This was followed by a long unfocused period of time. The next rehearsal did not take place until 10'06". This rehearsal was also incomplete. There were no more rehearsals during Day 2, but a great deal of time was spent repeating familiar songs, and taking breaks away from the keyboard.

Day 3 began with a rehearsal. The rehearsal moved slowly, and without fluency. The participants stopped many times to work out their parts. Then a new part was developed for the finale between 4'08" and 4'51". A period of exploration followed. The finale was developed further between 7'55" and 9'42". The group had now incorporated volume swells into the finale. At 11'09", a rehearsal of the entire piece took place. This was the last rehearsal that the group had. The group became quite unfocused, and silly for the remainder of the time.

When asked during the interview about their approach to the compositional process the group acknowledged that several different ideas were combined into one
piece, and that a considerable amount of time was spent “fooling around.”

PK: Tell me a little bit about the piece you composed and the whole process of composing.
Maggie: We were like smooshing a whole bunch of different things into one.
Ali: Like different kinds of music.
Casey: We kinda fooled around a lot.
PK: You fooled around a lot?
Ali: And then we just came up with something.
(interview, March 17, 2001)

This conversation revealed that the group perceived the final piece as an amalgamation of differing ideas. However, in a follow-up question, Ali and Casey shared that some of the parts were linked together.

PK: Anything that linked your ideas together? Or were they just four separate, totally separate ideas?
Ali: Well, there were some parts that were, that linked.
Casey: Because she (pointing at Ali) started doing something like the black keys and white keys and she (pointing at Maggie) knew that, so they started doing it in opposite directions.
PK: And that’s the part where you guys were going in opposite directions? Kinda walking in towards each other.
(interview, March 17, 2001)

During the interview, the group discussed Lisa’s contribution to the grand finale.

Casey: She (Lisa) came up with like the, the weird ending.
PK: So the ending was more Lisa’s idea.
Casey: And then we all, well she (pointing at Lisa) made the—something cool.
And then we starting putting buttons and it kinda made the—
PK: The ending, with the volume and all of the—everyone was kinda playing at the same time. The big grand finale you guys called it.
(interview, March 17, 2001)

Chapter Summary

In this chapter, the data from each of five selected cases were presented as within-case analyses. The relevant data for each case were organized into topics derived from the pre-determined case descriptions. Figure 3 gives an overview of the themes that
emerged within each case, and their relevancy to the pre-determined case description. Although many similar topics (e.g. group roles, social influences, and gender) arose as crucial points of discussion in several cases, they have not yet been presented for comparison. To address this need, a cross-case analysis is presented in the next chapter.

Figure 3. Themes discussed for each of the five cases, and their relationship to the pre-determined case description.
Chapter 5: Cross-Case Analyses

In the previous chapter, the compositional experiences of the two selected participants, Ali and Casey, were examined through five within-case analyses. Whereas in the first case I reviewed Ali’s experiences as an individual composer, in the second case I examined her participation within a collaborative group. Similarly, for Casey, in the third and fourth cases I considered her individual and collaborative experiences. In the fifth case I reviewed a collaborative group in which Ali and Casey were both participants.

The present chapter builds upon the data gathered through the within-case analyses in Chapter 4. The findings from the five cases are extended through an analytic comparison across the cases in order to present any salient emergent themes. The themes are then discussed in reference to the four research questions. The themes include (a) influence of external cultures (family, peers, teachers, and intended audience), (b) perceptions of acceptable work, (c) persistence in task completion, (d) emergence of musical voice, (e) compatibility, (f) assumed roles within the group, (g) guidance of holistic perception, (h) task structure and flow, (i) the use of extended breaks, and (j) inclusion. Figure 4 displays the salient emergent themes with the relevant research questions.
### Research question #1: How is the compositional process influenced by the sociocultural relationship between the composers and any perceived intended audience (intrapersonal-cultural)?

<table>
<thead>
<tr>
<th>Influence of external cultures (family, peers, intended audience.)</th>
<th>Perceptions of acceptable work</th>
<th>Persistence in task completion</th>
<th>The emergence of musical voice</th>
</tr>
</thead>
</table>

### Research question #2: How is the compositional process influenced by the interaction between individuals within a collaborative group (intrapersonal-interpersonal)?

<table>
<thead>
<tr>
<th>Compatibility</th>
<th>Assumed roles within the group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability</td>
<td>Communication</td>
</tr>
</tbody>
</table>

### Research question #3: How is the compositional process influenced by the sociocultural relationship between the collaborative group and their intended audience (interpersonal-cultural)?

<table>
<thead>
<tr>
<th>Guidance by holistic conception (Internal)</th>
<th>Task structure and flow (External)</th>
</tr>
</thead>
</table>

### Research question #4: How do collaborative composers negotiate differences among intrapersonal, interpersonal, and cultural identities?

<table>
<thead>
<tr>
<th>Extended breaks</th>
<th>Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The systematic approach</td>
<td>Listening and acknowledgement of ideas</td>
</tr>
</tbody>
</table>

*Figure 4. Salient emergent themes organized with relevant research questions.*
Research Question #1

How is the compositional process influenced by the sociocultural relationship between the composers and any perceived intended audience (intrapersonal-cultural)?

“We use [music] not only to regulate our own everyday moods and behaviours, but also to present ourselves to others in the way we prefer” (Hargreaves et al., 2002, p. 1).

Folkestad (2004) noted an inseparable relationship between musical identity and music composition, stating that, “creative music making and music identity are two sides of the same coin, in that the former provides an arena on which the latter can be explored and expressed” (p. 88). At the same time, although music composition offers a means by which musical identity may be projected to others, the relationship is reciprocal; that is, although individuals may utilize music composition as a stage on which to present their musical identity, their creative decisions may simultaneously be guided by their perception of the expectations of an external culture. Because “identity exists as a dialectic between an individual and society” (Dabback, 2008, p. 282), a persistent awareness of the cultural norms of an intended audience shapes musical ideas.

Because the musical identities of children are “shaped by the individual groups and social institutions that they encounter in their everyday lives” (Hargreaves et al., 2002, p. 1), I designed the first research question to consider the impact that perceptions of external cultures had on the individual participants’ decisions during the compositional process. Four relevant themes emerged that addressed this question. First, creative decisions often reflected the influence of family members, peers, and teachers. Next, two themes emerged that were centered on perceptions of the assigned task. These themes
included the influences of the participants' perceptions of acceptable work and their persistence in task completion. Finally, the emergence of a unique compositional voice was identified for each participant.

**Influence of external cultures (family, peers, teachers, and cultural norms).** A wealth of research in music identity confirms that music is often, "worn rather like a piece of clothing," (Green, 1999, p. 167) or as a "badge" (North & Hargreaves, 1999, p. 85) to be viewed and judged by others. Consequently, as composers, children may make creative decisions on the basis of their perception of acceptance by those who may judge them. Any external culture—family, peers, school, or an intended audience, for example—may serve as a judge for one's musical identity. Some participants acknowledged no influence from others, and others found influence from their family and peers. However, my observations indicated that participants most often exhibited influence from their peers, and sought influence from their teachers. Cultural norms were seldom revealed as an influence on the compositional process. Such influence was the exception to the rule because it occurred in only one of the five cases. The extent of each of these influences will be discussed in this section.

**Family.** Family influences, which were often declared during interviews, were not always directly observable. Casey claimed the highest degree of family influence of all the participants. For Casey, family was the intended audience of her work. She stated in the interviews an awareness that her mom and dad might listen to her compositions, and that this "kinda helped" (interview, March 2, 2011) to make musical decisions. Casey also stated during the interviews that she thought of her brothers as an intended audience
while composing. Despite claiming their influence during the interviews, there was no observable evidence of her family as an intended audience; however, the song “Axel F,” which Casey learned from her brother and repeated pervasively during the composition sessions, may have had some influence. Most often, “Axel F” was played in alternation with a rehearsal of her piece. In my observations it seemed that it was used as a source of inspiration for new motives, although none of the musical material in her final pieces shared any recognizable similarity with “Axel F.” It is conceivable that by playing the song, Casey would recall her brother, which in turn influenced her creative decisions. Boer & Fischer (2011) found that songs are capable of surfacing memories of loved ones. The song was repeated frequently throughout her solo compositions and her collaboration with Ali, Maggie, and Lisa. In the collaborative activity, “Axel F” was the main impetus for bonding, particularly between Casey and Maggie.

The different ways in which siblings influenced the participants may be based on birth order and number of siblings. Borthwick and Davidson (2002) found that the youngest of two-sibling families may feel resentment and rivalry due to the praising of the older child’s abilities, whereas larger families were free of this rivalry. Casey, who had two older brothers, seemed to embrace and look for their influence; however, for the participants that had only one older sibling, Maxwell and Maggie, the sibling influence had a different dynamic. During the interview, Maxwell and Maggie both claimed that siblings were in mind while making musical decisions. Maxwell stated that his use of the high-pitch tone cluster and his banging on the keys was derived from his experience playing on his home keyboard with his older brother. In Maxwell’s case, an older sibling
looking down on his abilities resulted in an increased defiance and insistence on his own ideas. This defiance is exemplified in his claims to bang on the keyboard more at home after his brother tells him to “do something else” (interview, February 16, 2011).

Other effects may result from sibling rivalry. For Maggie, the thought of her older sibling judging her composition resulted in increased hesitation to perform. Maggie claimed that her sister “always judges [her] on everything” and that she “gets nervous” that her sister will make fun of her report card grades (interview, February 16, 2011). Consequently, in Maggie’s case, there is seemingly a need for approval from her older sibling.

Peers. The participants of this study often sought influence from their peers. Peer influences throughout the composition sessions were limited to the other same-age participants that took part in the study. Generally, peer influences did not appear to extend beyond a simple search for the inspiration of musical ideas. Ali stated in the second interview that she thought of the other participants as the audience of her work. She also stated that at times sought peer influence. Ali often “got ideas from the last thing [she] did with [her] group and then [she] just came up with the rest” (interview, March 23, 2011). This type of influence was found regularly through researcher observation, particularly during the solo compositions. At times, after appearing to have difficulty finding new ideas, Ali was found scanning the room in search for peer influence. A stepwise ascending motive in one of her solo compositions took form after watching Maggie play “Raider’s March.” Casey, at first, went right to work without searching for peer influence. Then, at only 0’20” into her solo composition, she was found watching
Kenny worked out his ideas. Kenny turned to her and said, “You’re staring at me.” This search for ideas continued throughout Casey’s compositional process. After 10’00” when she had difficulty finding new ideas she looked around the room at what others are doing, then began to replicate an ascending stepwise motive that another participant was playing. In the interview, Casey confirmed the peer influence by stating, “I was watching some people because I didn’t have any ideas” (interview, March 2, 2011). More specifically, Casey admitted influence from Maggie and Theresa. These peer influences appeared to be merely a search for ideas, and a better understanding of the meaning and purpose of the task. The search for understanding from peers seemed consistent with Burnard (2000), who found that children may come to recognize what, why, and how they are composing by sharing with one another.

The participants in this study seemed to seek peer influence only for the purpose of assistance in completing the task. The type of peer-comparison exhibited by the participants in this study supports the existence of this early stage of identity development at this age. Lamont (2002) found that a shift from self understanding (how we define ourselves) to self-other understanding (how we define others) begins to take place at the age of seven, and that a musical identity may only develop at that point.

Teachers. Strand (2005) found the need to incorporate direct instruction, “guided discovery” (p. 33), peer teaching, and collaborative decision-making in the process of teaching composition. Similarly, Smith (2004) found the structuring of compositional tasks to be less influential than the following of student preferences and teacher encouragement. The structure of this study allowed for a great deal of peer teaching,
collaborative decision-making, and the following of student preferences, but there was a
deliberate absence of teacher influence. The study was designed this way to encourage
more peer interaction through group problem-solving. Consequently, in alignment with
the findings of previous research, the participants often sought the guidance and
acceptance of their music teacher or myself.

Throughout the composition activities, there were instances of participants asking
for clarification on what was expected. Similarly, participants often claimed they were
"done," and needed the guidance of the teacher in order to get back on task. The all-girl
collaboration required researcher intervention to refocus their efforts, claiming on Day 1
(March 15, 2011), "we’re done," and that they “already have like three pieces.” However,
simply reminding them of the large amount of time they had left to compose and
suggesting that they start another piece did not help them get back to work. The girls
seemingly needed a more specific structure to the task.

The most direct example of teacher influence took place in the collaboration
between Ali, Maxwell, Maggie, and Kenny. The group had become divided over the
acceptance or rejection of a musical idea that involved volume swells. Maxwell and
Kenny showed a great deal of excitement about the idea, but Maggie refused to even be a
part of it. On Day 2 of the collaboration, the school’s general music teacher walked into
the room to gather some supplies. The group immediately sought her approval, and
seemed hopeful that her influence would help resolve the conflict. It is interesting to note
that although the music teacher’s presence was unanticipated, the participants seemed
eager for her feedback. This interaction is supported by past research that found that
informal teacher feedback can yield affirmation and empathy (Kennedy, 2001) and can be motivating for student progress (MacDonald et al., 2006). Kenny asked his teacher whether changing the volume made the music better. Although the teacher did not respond, I interjected that the idea was interesting. Maggie appeared puzzled, as if she could not believe that a teacher might find this musical idea acceptable. It seems that the lack of teacher influence and guided discovery, led the group into a division regarding their perceptions of the expectations of acceptable task completion. Because the assigned task did not provide any guideline of what would be deemed acceptable, the guidelines of acceptability were student-generated based upon their perception of the expectations, or lack thereof, of a teacher: a direct reflection of the intrapersonal-cultural influence.

The degree of perceived teacher influence appeared to have been related to the strength of leadership, and the group’s willingness to follow any established leaders. The collaboration between Casey, Felix, Lisa, and Theresa was very productive without the need for teacher influence. This was due in large part to the group’s acceptance of the ideas of their established leader, Casey. Casey also emerged as a leader in the all-girl collaboration between Ali, Maggie, Casey, and Lisa. The group was generally productive; however, Maggie’s attention-seeking behavior often stood in conflict with the desired direction of the group’s leadership. A greater degree of teacher influence may have been necessary to assist in guiding the group toward the accomplishment of their task. In the collaboration between Ali, Maxwell, Maggie, and Kenny, a rejection of leadership was present throughout the activity. This resulted in the greatest need for teacher intervention.
Cultural norms. There is evidence of a social influence beyond family and peers in Casey’s work. When asked what kind of music she composed for the first solo composition, Casey asserted without hesitation that the music was “kind of more creepy, but like, funny” (interview, March 2, 2011). Casey continued by suggesting the image of a clown. Casey shared that her composition, “—kinda reminds me of the, umm, a circus I went to.” Casey’s musical decision-making may have been guided by her perceptions of the cultural norms for the genre “circus music.” Such perceptions may have impacted the selection of particular timbres, pitches, or rhythms in order to best fit the norms of that genre.

Perceptions of acceptable work. Throughout the cases there was a clear ambiguity concerning what type of music was expected to be composed. This was due in large part to the intentional openness of the task, which was simply to compose and perform a piece of music. Through the omission of specific goals for the assigned task, I was able to observe what standards, if any, the participants set for themselves, and how they negotiated differences with the self-assigned standards other group members. Researchers have established that frequent feedback from teachers, mentors, peers, and self is an essential component of compositional activity (Hickey, 1995; Kaschub, 1999; Kennedy, 2001; Leung, 2004; Webster, 2003; Wiggins, 2005). Folkestad (2004) noted that the creative process may be initiated by the “external demands” of a teacher-assigned task (p. 88). Furthermore, the framework of an assigned task and assessment rubric can encourage the holistic perception of the work (Hickey, 1999). We know then that a clear task assignment with an appropriate rubric and feedback may spark creativity and give
direction to composers. With no guideline of acceptable work then, what standards do
children set for themselves to spark their creativity? In this study, the lack of task
assignment, assessment rubrics, and teacher feedback seemed to have left the participants
with uncertainty in regards to their perceptions of acceptable work. As a result, the
participants adopted several various “external demands” on their own in order to fuel
their creativity and judge the merit of their ideas. These demands are discussed below.

For Kenny, the need to create an organized piece of music served as the focus of the
compositional process. Kenny tried to explain himself during the interview.

I was doing that, like what’s it called, and they’re like, “this doesn’t sound good”
and stuff like that, and as long as it’s, umm, organized it’s not gonna really
matter, but they go like, “but I care what it sounds like” (interview, February 16,
2011)

Clearly, Kenny’s focus on an organized form overshadowed even the importance of the
sound of the music.

On the other hand, for Maggie, the sound of the final product was the primary
motivator. While Kenny and Maxwell practiced a part they thought was “mysterious,”
Maggie insisted that it was “just weird” and that the boys were “ruining it.” It seemed
that the boys were just satisfied doing anything that was organized, but Maggie was more
concerned with the actual sound of the music. As they continued to argue about it, the
boys told Maggie that, “It doesn’t matter what it sounds like” to which Maggie replied,
“Yeah it does. That’s what the whole entire thing is supposed to be about” (group
dialogue, February 10, 2011). This exchange reveals a fundamental difference in the
perception of acceptable work, which consequently, led to a great deal of group conflict.
Maggie’s apparent high expectations left her musically paralyzed. Throughout all of the composition activities, she sought inspiration from familiar melodies. However, it seems that to Maggie, any modifications to these familiar songs were never good enough to use in her composition, and were usually abandoned. In fact, Maggie placed a great deal of pressure on herself, and revealed in an interview that while she composed, she imagined the audience of the Oprah Winfrey show. When questioned further about this comment, Maggie shared that she was thinking about a large audience. Maggie’s statement, however vague, confirmed my own observations that she possessed a hesitancy to share her original musical ideas out of fear that they were not good enough.

In contrast, Casey exhibited a willingness to work with nearly every musical idea she, or others in the group, played on the keyboard. Casey often transformed the musical ideas of others into work she deemed acceptable. At times Casey tried to pass on this casual approach to the other members of the group that struggled to find motives that sounded ‘just right’. Casey, in an effort to move the process along, suggested that Ali “go with the flow and do whatever you want like I did.” Casey continued by showing Ali some new ideas. She switched spots with Maggie so that she could be next to Ali. Ali was not so quick to simply copy one of Casey’s ideas, and seemed to want to develop her own. Nonetheless, Casey wanted the group to move on, and insisted that Ali has “got it.” After realizing that Ali would not just copy her idea, Casey suggested that she “do whatever you want” and that it “doesn’t really matter” (group dialogue, March 16, 2011). In light of the openness of the task, Casey was correct in saying that the actual musical material didn’t matter; however, the importance of this exchange is that it highlights a
vital difference in their perceptions of acceptable work. Whereas Casey favors the organization of a complete work, Ali finds importance in the proper presentation of each individual musical motive.

Despite the lack of guidelines given for the task, Ali maintained high standards for her work. Throughout Ali’s solo and collaborative compositions, she clearly accepted certain ideas, and rejected others. Ali did not approach composition like Lisa and Casey, who seemed to accept anything as a workable idea. Ali also differed greatly from Maggie, who often seemed uncomfortable presenting original ideas, and rejected most compositional ideas. Ali’s creative decisions seemed to be judged solely against her own values. As she stated in her interview, Ali believed that, “if it’s your music, then you—if it’s good to you then it’s good” (interview, March 23, 2011).

**Persistence in task completion.** The participants in this study exhibited varying levels of commitment to the completion of the task. Any persistence they exhibited in completing the composition may be correlated to either the image they wished to portray as a musician, or as a “good” student. Perhaps, persistence was derived from a desire to earn the approval of the teacher. Although researchers have shown that one’s creativity level is rooted in music aptitude (Webster, 1979), and that increased time in development correlates to higher music audiation scores (Kratus, 1994), it seems likely that social influences may also play a role. Casey was willing to play anything, and make it work in the final piece. Ali was more careful about what she presented to her intended audience. Therefore, although Casey was able to manipulate musical material more easily, Ali spent more time in development because she was so focused on maintaining the high standards
she set for herself. The completion of a task may be motivated by a need for teacher approval.

Throughout all of the compositional activities, Ali remained quite focused on the thorough completion of her composition. This attitude of getting her work done properly carried over into her schoolwork as well. This was evidenced when Ali came in crying on the second day because she still needed to finish her homework for school; it seemed as if a failure to complete her assigned tasks was entirely unacceptable. Although there is no evidence to determine whether task completion was related to personal satisfaction or fear of consequence, the incident emphasized a component of her character. Casey also made sure to complete her compositions, but seemed less adamant in making it sound exactly right. In comparing the compositional timelines for Ali’s and Casey’s solo compositions, it is apparent that Ali spent more time in the development phase. Casey’s timeline fluctuated more erratically between silence, exploration repetition, and development. For example, for both individual composition activities, Casey completed her entire piece within eight minutes. After only eight minutes Casey declared, “Mine’s gonna be a really short piece because I can’t think of any ideas” (March 22, 2011). The remainder of the time was spent rehearsing, or fighting boredom (e.g. turning on the drums and dancing). In the interview she admitted that she was “tired of it” and that she “couldn’t figure anything out” (interview, March 28, 2011). When Ali had exhausted all of her ideas, and became bored, she often took quick breaks, then continued working until she had organized a piece that seemed comfortable with presenting as a final product.
This same approach continued into the collaborative activities. Ali remained focused on completing her part of the piece, even when the rest of the group was off-task. At times when the group was working in a focused manner, whether verbally or musically, Ali showed a willingness to listen and participate. Ali only took part in off-task activities, however, after completing her work. Casey was more erratic, at times being playful and silly with the group, and other times focusing the group together by calling a rehearsal of the piece.

**Emergence of musical voice.** Two of the cases in this multiple case study focused on the individual compositions of two target composers, Ali and Casey. The primary purpose of this was to observe any compositional patterns or preferences exhibited by each participant, and to monitor the consistency of their emergence in collaborative activities. Participants of the same gender were intentionally included in this component of the study to provide some consistency. Because gender was found to be such a pertinent issue, and because boys and girls were found to approach composition so differently, it seemed that non-gender related findings may have been too easily misinterpreted, being falsely attributed to gender. This dissertation focuses on influences within the compositional process. Although musical voice is a product, not a process, its emergence or lack thereof within a collaborative composition can provide important insights regarding the compositional process.

Young children approach composition in an exploratory manner through the manipulation of the structural, rhythmic, and melodic characteristics of their culturally influenced music (Barker, 2003). Throughout each of the cases in this study, musical
motives were discovered through “fortuitous accidents” (Kaschub & Smith, 2009, p. 28), and the resulting motives were organized into simple forms for presentation of a final product. Even at this young age, sociocultural assimilation influenced the participants of this study in the creation of works with form and structure (Nilsson & Folkestad, 2005) that contain logical beginnings and endings (Baldi & Tafuri, 2000). The results of this study show that although pieces were naturally composed with a logical form using similar approaches, the final products did not sound the same if comparing the work of one participant to another. However, similarities did exist in the work of any one participant throughout all of their compositional activities, thus giving each composer a compositional voice. Inexperienced composers and even young children indeed have a musical voice (Carter, 2008; Stauffer, 2003). Such a voice is a consequence of producing “what is meaningful to them on their own terms” (Stauffer, 2003, p. 95).

A comparison of Ali’s and Casey’s musical voice. In comparing the timelines of Ali’s two individual composition activities, many similarities in style and working habits can be identified. For Ali, random exploration yielded a satisfactory melodic motive after the first two minutes. Ali explained her approach during the interview and stated that she “just hit buttons, and then I came up with something. I changed the rhythms, and I just hit buttons, and then it came to me (interview, March 7, 2011). In addition to this description of her compositional process, an observation of Ali at work also revealed that motives were generally found rather than pre-conceived in her head.

Likewise, Casey’s two individual composition timelines showed similarities with each other. Casey’s working style contrasted Ali’s in many ways. Casey generally
worked very quickly, and exhibited an ability to easily produce and manipulate musical material at the beginning of each activity. In each of the solo composition activities, Casey established her first musical motive after only the first minute. Ideas were conceived so quickly, that they seemed to have been worked out to some degree ahead of time.

Throughout the solo and collaborative compositions Ali’s compositional voice emerged with several shared common characteristics. First was the predominant use of the middle of the keyboard. In multiple interviews, Ali confirmed her preference for this range of the instrument. A second characteristic in Ali’s work was the use long stepwise chromatic patterns that began either at the top or bottom of the instrument and worked toward the middle. This motive was used in all solo and group compositions. Finally, all but one of Ali’s solo and group compositions contained a pattern of random, rapidly alternating right and left hand index fingers within a limited range on the keyboard.

Whereas Ali composed only single-note motives, Casey’s ideas were usually polyphonic. Most often, Casey composed music that employed the right and left hand in contrary motion. Casey’s ideas also made regular use of harmonic thirds. Casey’s pieces also all shared the characteristics of frequent patch changes and glissandi, therefore exploring a much wider range on the keyboard than Ali. In general, these devices were utilized to mark off sections of the form. All of Casey’s solo and group compositions used patch changes and glissandi between sections of the piece. The final characteristic common to all of Casey’s compositions was the use of a steady beat. Although Ali often composed motives that were relatively rhythmically steady, Casey’s compositions
exhibited the highest degree of pulse adherence of all participants.

As collaborative composers, Ali and Casey both succeeded in having their musical voice contribute to the final product; however, the means by which their voice emerged differed. The emergence of Ali’s compositional voice in the collaborative activities seemed to be due in part to her independent working style, and motivation in task completion. Whereas other members of the group may have spent time arguing, bonding, taking breaks, or fooling around, Ali remained persistent in finding a musical idea that was to her satisfaction. Ali was able to block out the distractions in the room and continue to develop ideas at her pace. Even at times when other members of the group suggested that what she was working on was good enough (e.g. Casey), Ali did not submit her contributions to the group until she was completely satisfied with them. Such independence allowed for preservation of her musical voice within the collaborative activities. On the other hand, the emergence of Casey’s compositional voice in the collaborative activities was due in large part to her strong leadership. In each of the group activities, Casey led the group members in adapting a form in which each participant plays their own independent part. Then for a contrasting section, the participants played something “in sync” with one another, which allowed for each participant to contribute their own compositional voice to the final product.

**Research Question #2**

*How is the compositional process influenced by the interaction between individuals within a collaborative group (intrapersonal–interpersonal)?* Faulkner’s (2003) theoretical model of group composition visually presents the importance of social
influence within the compositional process. The emphasis in this model lies in the validation of ideas by the social group. Faulkner stated that musical ideas, whether improvised with other group members or created in some other social environment, are only understood as music when a shared understanding amongst people makes it so. Because the need for validation drives the creative process, it is essential to study the impact that particular peer interactions have on the acceptance or rejection of musical ideas. In this study, issues regarding the compatibility of the participants, and the roles they assumed within the group emerged with considerable influence on the compositional process.

Compatibility. For the participants in this study, compatibility was found to be a factor from three perspectives: ability, communication, and gender.

Ability. "Students may have different 'entry levels' when beginning to compose" (Younker, 1997, p. 360). These differences could be derived from past musical experiences. For example, children with formal instrumental training spend less time in exploration (Seddon & O'Neill, 2003). Also, a composer's musical creativity has roots in their level of musical achievement (Webster, 1979). Differences in the composer's entry levels could also be a consequence of innate musical gifts. Ladanyi (1995) suggested that there are four types of composers. An "archetypal" composer possesses natural musical talent. A "style emulator" does not have the musical gift, but absorbs through direct cultural immersion. A "technician" lacks the musical gift and focuses on technical or manipulative musical experiences. Finally, a "super composer" has the musical gift, and additionally, the opportunity to develop it. Inexperienced composers in these four
categories would then be approaching the creative process with differing “entry levels” of ability.

In my own observation, Casey appeared to be the most creative of all the participants. This statement is supported by the abundance and seemingly effortless conception of musical ideas she produced throughout each composition activity. Although Casey did not typically develop these ideas deeply, she excelled in the conception of new material. These observations suggest that she may possess the innate abilities of the “archetypal” composer. Casey was the only participant that may have belonged to this category, and so her entry-level compositional abilities were inherently more advanced. Participants that I would categorize as “technicians” include Ali, Maxwell, Felix, Theresa, Lisa. Their approach to the discovery of musical ideas was not based upon the imitation of another style of music, but on the random, physical manipulation of the keys. The, “style emulators” in this study were Maggie and Kenny.

In collaborative composition, such differences in entry-level ability could be a source of conflict; however, in this study, participants with higher-level abilities served as a source of inspiration for others. It seemed that during the collaborative activities, the participants were entranced by Casey’s musical ideas, enthusiasm, and sense of direction. Her leadership in both of the collaborative activities was unanimously accepted, and served as a major source of inspiration for the collaborations.

It is also conceivable that participants with similar abilities and creative approaches might collaborate productively. On the contrary, in this study the greatest conflict was caused by the two “style emulators,” Maggie and Kenny. Perhaps their aim
to imitate such different musical genres served as a source of instigation. Kenny showed a limited preference for rock music in the survey results, interviews, and even the AC/DC t-shirts he frequently wore. His approach to the keyboard was rhythmic and percussive, as if he were playing the drums rather than the keyboard. In the interview he confirms this percussive influence by stating that the volume swell idea was intended to replicate the DJ-style scratching of records. Maggie in contrast, approached composition through the manipulation of familiar songs. Throughout all of her composition activities, Maggie frequently began by playing songs she already knew, such as the “Raider’s March,” “Twinkle, Twinkle Little Star,” “Ode to Joy,” or “Axel F.” She struggled to produce original musical material, and often seemed uncomfortable when asked to play anything other than familiar songs. In my observations of Maggie, it seemed that she had very high, almost unrealistic, standards for the music being composed. She seemed paralyzed by an expectation that her original music might sound as well-structured and melodically organized as the tunes from which they originated. Maggie clearly refused to even take part in the ideas that the boys were working on in her collaboration with Ali, Maxwell, and Kenny. It is possible that a conflict between the musical styles that the boys and Maggie were trying to emulate had a negative impact on the compositional process.

**Communication.** The effectiveness of communication within the group was another aspect of compatibility that influenced the compositional processes of the participants in this study. Effective communication may be particularly challenging for children at such a young age. For children, the verbalization of ideas is limited in comparison with their actual level of comprehension (Major, 2007). Although the
participants in Major’s study were older, this finding may also be appropriate for the participants of this study. Gromko’s (1996) research suggested that children aged six to nine expand their limited verbal descriptions with the inclusion of musical symbols, images, or physical manipulation.

Examples of the limited verbal capacity to effectively communicate musical ideas were prevalent throughout the cases in this study. In the collaboration between Ali, Maxwell, Maggie, and Kenny, an overly generic description yielded a failed attempt to share musical ideas. Statements made by Kenny such as, “How ‘bout we do something where one person presses one note and another person presses a different one?” and “You guys do something over there” were often answered by other group members staring at one another with expressions of apparent confusion. Although Kenny may have had a specific idea in mind, the inability to verbally explain his ideas often left Ali and Maggie staring at each other with a facial expression of confusion.

Collaborations were productive when participants were able to effectively communicate with one another. The best example of this was the collaboration between Ali, Maggie, Casey, and Lisa. This group began with pairs of girls showing support of one another: Ali/Maggie and Casey/Lisa. These pairs had already worked together in a previous assignment, and had seemingly bonded and built friendships. Within minutes, however, Casey and Maggie began bonding through the sharing of familiar songs, and an admiration and friendship also developed between them. Miell and MacDonald (2000) found collaborations between pairs of friends to be more successful, in part because of the higher levels of “transactive communication,” in other words, a more frequent
engagement in “reasoned dialogue” and the effort to incorporate the ideas of multiple individuals (p. 364). Of all cases in this study, Ali, Maggie, Casey, and Lisa were the most verbal. Most commonly, the ideas and structure of the piece were discussed between the girls, and immediately rehearsed without the need to explore or practice first. Within the first four minutes of Day 1, the group had discussed and performed an elaborate plan without practicing any of the parts first. Casey was able to be specific enough in the description of her idea to the group that they were able to perform the idea immediately without rehearsal. Throughout this interaction, all of the girls in the group seemed to understand the structure being discussed. It was very early on the first day, very few ideas had even been explored, yet, the group was able to settle on a fairly complex series of events easily, solely through verbal explanation.

Gender. Throughout the cases in this study, gender was clearly an influence on the interactions, and therefore on the compositional process. The influence was not consistently positive or negative, but it was clearly ever-present. In one case (Casey, Felix, Theresa, Lisa), despite the imaginary gender line drawn on the keys, the collaboration was quite successful in accomplishing its intended goals. Although Felix mentioned during the interview that he viewed the girls as bossy, he actually seemed to enjoy deliberately playing a contrary role to the girls. In this case, the gender difference was embraced, not compromised, and the result was positive. Conversely, in another collaborative composition, the division between boys (Maxwell and Kenny) and girls (Ali and Maggie) was so severe that there was a need for researcher intervention. When a group of four girls was created, the compositional process was eased.
Kiehn (2003) found differences in the music creativity scores of boys and girls, but also discussed the dissimilar results of past research on the topic. The salient point for the present study is not whether boys are more creative than girls, as some studies have shown, but rather that the boys in this study exhibited a difference in their approach to creativity than the girls. A difference in approach to creativity could be the source of conflict in a boy/girl collaboration. Throughout the cases in this study, the most observable evidence of dissimilar compositional approaches between boys and girls was the degree of reliance on a tactile/kinesthetic approach to the keyboard. Kenny, Maxwell, and Felix all seemed to find their ideas through a physical, and often aggressive, manipulation of the keys. It appeared that for the boys in this study the actual sound of the music was subservient to the way it felt to play it. On the other hand, the girls showed evidence of being guided more by the actual sound being produced, as would an auditory learner. At times, both Ali and Casey were observed “audiating” their ideas before playing them. During phases of repetition and development, the girls also became focused, and observably attentive to the music they were playing. Maggie was so preoccupied with the sound of the music she would compose that she most often played nothing at all, seemingly for fear of not realizing the desired quality of her expectations. By combining the boys’, “play first, think later” approach with the girls’, “think first, play later” method, conflict could be expected due to the difference in their approach to the generation of musical ideas.

The most obvious point regarding gender is the potential social discomfort in combining boys and girls in the same group. When this discomfort was removed in the
all-girl grouping of Ali, Maggie, Casey, and Lisa, the participants all commented that the group was more productive and cooperative than the last group they worked in. They suggested that the reason for this was that they were all girls. Throughout the interview, the girls expressed that they “all worked together” and that they “agreed on things and then just stuck to it.” Later they made it apparent that gender was a primary reason for social discomfort in the other groups. As Casey described it, the all-girl group wasn’t “mushy” and that the collaboration was successful because they were all girls, and “girls really don’t fight a lot” (interview, March 16, 2011). During the interview, the girls all agreed that getting along better helped them to write a better piece.

It is important to distinguish the sentiment of the all-girl group from the observed reality however. Although the all-girl group felt that they collaborated easily, it seemed that their collaboration was less productive than some of the mixed gender groups. Although the girls may have enjoyed a relief from social discomfort, a lack of boys in the group was not cause for a more fruitful collaboration.

Assumed roles within the group. Wiggins (2007) cited the influences of “personal agency” in her visual models of compositional process. Personal agency refers to “how much control an individual feels over his or her own circumstances and ability to act” (p. 462). In this study, the degree of personal agency experienced by each participant seemed to be observable through the manifestation of four group roles: the leaders (Casey and Kenny), the advocate (Ali), the attention-seekers (Maxwell, Maggie, and Felix), and the followers (Lisa, and Theresa). Although the role of the follower had little to no
influence on the compositional process, the other three roles impacted the collaborations significantly.

**Leader.** Green (2002) found that leaders emerge within informal learning experiences. In this study, Casey and Kenny both attempted to lead their collaborative groups, but the reception of their leadership efforts varied greatly. Kenny’s group descended a downward spiral of conflict, and Casey’s groups were marked with group cooperation. Remarkably, there were many similarities in their leadership approach. Observation of the cases revealed that Kenny and Casey were equally demanding and bossy. Both leaders spent a great deal of time trying to organize the musical ideas of the group, telling others when and what to play, and calling frequent rehearsals. The term “bossy” was also used as a descriptor for both Kenny and Casey during the interviews. Kenny’s bossiness was cited in an interview with Ali who stated, “He’s bossy. He wouldn’t let me tell my idea” (interview, March 7, 2011). Felix found an equal degree of bossiness in Casey. In the interview, Felix told me that, “they [the girls] were kinda bossy.” He then specifically singled out Casey as the bossy one (interview, February, 17, 2011).

It should be noted that citations of bossiness only occurred from a participant of one gender in response to the leadership of a participant of the other gender. Perhaps the aforementioned differences in the creative approach of boys and girls, and the social discomfort present in coeducational collaboration played a role in the acceptance or rejection of leadership. Furthermore, in the case of the all-girl collaboration, there was no mention of bossiness.
In my observations, the difference between Casey and Kenny’s approach to leadership was the acceptance, approval, or acknowledgement given by the leader to the contributions of each participant. Casey was supportive of others in their presentation of ideas, a quality that may have aided in earning acceptance as a leader. When Lisa shared a musical idea with the group, Casey told her, “That’s really perfect.” When Theresa and Lisa shared their ideas, Casey looked at them and gasped with excitement. When Felix was finally able to share his idea, Casey listened and lent her support by saying, “You should do that” (group dialogue, February 10, 2011). Kenny did not give such acknowledgements. Although he did attempt to include the ideas of others, he did so with a sense of compromise, not excitement. Kaschub and Smith (2009) emphasized the importance of sensitivity in the delivery of feedback amongst young composers. They suggested a “three and one” approach to balance each suggestion for improvement with three compliments (p. 119). In Kenny’s case, a lack of enthusiastic approval may have led to a decreased desire for fulfilling the assigned task within the group. For Casey’s groups, her frequent encouragement may have served as inspiration.

**Advocate.** Ali most frequently took on the role of the advocate. In a sense, as an advocate Ali’s role was the leadership of individuals in need, not of groups. Although she worked hard, made contributions to the piece, and often reminded the groups to stay on task, Ali could not be categorized as a group leader because her approach did not yield a following by the group. She also worked in contrast to the attention-seeker by showing preference to work independently and quietly. Ali usually blocked out the rest of the group and worked out her musical ideas alone. She also did not always follow the lead of
others. In referring back to the concept of personal agency (Wiggins, 2007), Ali seems to have felt that her ability to act within the group was in the capacity of giving a voice to all participants.

When conflicts arose in the collaborative groups, Ali took action to find resolution and have everybody’s voice heard. In the collaboration between Ali, Maxwell, Maggie, and Kenny, the first day was plagued with group tension due to Maxwell’s attention-seeking behavior. The leader (Kenny) failed acknowledgement of others’ ideas and caused Maxwell to grow more obstinate and belligerent. As Maxwell’s intensity in the use of sustained, high-pitched tone clusters increased, the other participants were less able to concentrate on ideas of their own. At first, Ali tried to work with Kenny to, “think of something.” When this failed, Ali attempted to quietly alleviate the situation by unplugging the keyboard and turning the volume down, several times. For the next ten minutes, Kenny continued his attempt to lead the group with little input from the other participants. After 24’00”, when Maxwell showed signs of building frustration from the lack of acknowledgement, Ali stood up to Kenny on Maxwell’s behalf. Maxwell was not listened to for the entire first day until Ali interrupted the group and firmly stated, “Let him try.” Ali’s intervention was extremely effective in bringing Maxwell into the group, and had a major influence on the compositional process. For the remaining two days of the collaboration, Kenny and Maxwell continued to work very closely together. Consequently, this new partnership instigated a division of ideas in the group between the boys and the girls. Maggie repeatedly insisted that the boys’ ideas were, “annoying” and “weird.” Kenny and Maxwell paid little attention to her requests to try something else. A
great deal of tension arose between Maggie and the boys. By the third day, Ali again played the role of advocate by standing up for Maggie.

Throughout the other cases, signs of advocacy were common and influential on the compositional process. The all-girl collaboration began with Casey acting as an advocate for Lisa and Ali advocated for Maggie. The support offered by an advocate allowed these otherwise hesitant participants to have their voices heard. In another collaboration, Theresa took interest in Felix’s ideas when their leader (Casey) repeatedly passed him over.

**Attention-seeker.** Maxwell, Maggie, and Felix each took on the group role of attention-seeker. These participants generated little to no musical material during their collaborations. Despite the lack of musical contributions, they were not passive in their participation. Each of them influenced the compositional process considerably in different ways.

Maxwell spoke very little during the collaboration. However, during the first day he called constant attention to himself by holding out extended ear-piercing, high-pitched, pipe organ tone clusters. Without saying a word, Maxwell was able to make it virtually impossible for the group to make progress. The group frequently stopped working all together, turned the volume down, and even unplugged the keyboard to try to get Maxwell to stop. However, the only thing that worked was giving him the attention he needed. After 24’00” Ali firmly insisted that the group listen to Maxwell’s ideas. After giving him a voice, Maxwell’s attention-seeking behavior stopped.

Maggie behaved similarly, although in a less belligerent manner than Maxwell.
Throughout the collaborations, Maggie seemed less concerned about the progress of the assigned task, and more focused on letting other participants know who she was and what she could do. Maggie seemed to be still transitioning from what Lamont (2002) termed the self-understanding to the self–other understanding. Musical identity at this stage is based upon observable external factors. Maggie spent most of her time “showing off” by repeating familiar songs such as, “Ode to Joy” and her band music, “Raider’s March.” Showing others her membership in the school band was so important to Maggie that she spent an entire day with a clarinet reed in her mouth to inspire conversation on the topic. The remarkable difference between Maggie’s behavior and the other attention-seekers is that when the group took time to listen for Maggie’s contributions, Maggie often remained silent and seemed uncomfortable playing anything at all.

Felix adopted the attention-seeking role in a different way. In my observation, there did not appear to be any negativity prompting Felix’s search for attention; rather, Felix just simply enjoyed receiving attention from the others in his group. He seemed comfortable working on his own when others were not including him, and often tried to just move to another keyboard to work out his ideas. Being the only boy in the group, however, Felix took on an attention-seeking role as a sort of coping mechanism while working with the rest of the group. He seemed to take pleasure in the attention he received from intentionally taking an oppositional stance to the girls. During the interview I asked Felix about the many times he commented on Day 2 and Day 3 that he was “scared” of the girls. Felix claimed, “they were like, they were like being so weird. They were like sitting on broken stools and falling down. It was scary.” Theresa
then interjected to suggest that Felix felt this way, “because he’s the only boy in the group” (interview, February 17, 2011). It is important to note that throughout this conversation, Felix was smiling, and seemed to be enjoying the attention he was getting from taking this point of view.

**Research Question #3**

*How is the compositional process influenced by the sociocultural relationship between the collaborative group and their intended audience (interpersonal-cultural)?*

McGillen (2004) described the inseparable relationship between the compositional product and the environment in which it was created with the term, “sociomusical engagement” (p. 290). This environment serves as the context in which the music was created. Wiggins (2003, 2007) divided compositional context into internal and external components. The internal context refers to the composer’s holistic conception of the work. The external context includes sociocultural influences and personal agency. The third research question in this study examined the influence of the group’s perception of an intended audience. In a sense, the shared holistic vision served as an internalized intended audience. Task structure and flow surfaced as external sociocultural influences. Personal agency was previously discussed in response to the second research question due to the intrapersonal-interpersonal nature of the topic.

**Guidance of holistic conception.** Faulkner (2003) found that “shared understanding is the mark against which pupils’ individual ideas are assessed and by which they are developed to become corporately owned” (p. 118). Similarly, Wiggins (2007) found that composers generally “work from a preconceived image of where they
are headed and accept or reject ideas based on how they fit that image” (p. 460). This guidance by a shared holistic vision was present throughout all of the collaborations in this study. The holistic vision took on several different forms varying from a simple adherence to a predetermined form, to the creation of a particular mood or color, to imaginative, elaborate, theatrical presentations.

For Ali, Maggie, Casey, and Lisa, verbal sharing of musical form was adequate for a shared group understanding. For this group, the ideas and structure of the piece were talked about and rehearsed immediately without a need to play the parts first. For example, within the first four minutes of Day 1, the group had discussed and performed an elaborate plan without practicing any of the parts first. The form alone served as a shared holistic perception. Furthermore, actual musical ideas were far less important than the participant’s adherence to the verbalized form. Wiggins (1999a) research supports these findings by showing that the holistic vision of the end product is larger than the ideas of any individual.

In the collaboration between Ali, Maxwell, Maggie, and Kenny, a particular mood served as the inspiration for musical ideas. However, not all members of the group shared this same holistic concept, and consequently, the group regularly disagreed in their creative decisions. Whereas Kenny insisted that his idea was, “making it mysterious” and that “mysterious seems to be better,” Maggie did not want any part of it and insisted that their idea was “weird” (group dialogue, February 10, 2011). Maggie seemed to have a different holistic concept of the work than the boys. Whereas Maggie shared in the interview her awareness that I would be listening to the final composition, the boys both
claimed to have no audience in mind. This may have been cause for the separation between Maggie and the boys in their desire to compose formal and informal musical styles. Throughout the collaboration, Maggie sought inspiration from familiar melodies and seemed to desire the creation of music more appropriate for a formal or institutional setting. The differences in their holistic conception were most apparent on Day 2, when Maggie and Kenny sought approval from their classroom music teacher. Although the music teacher did not respond to the participants, Maggie seemed confused when I interjected that the idea was “interesting,” suggesting that the practice of informal music at school was uncomfortable for Maggie. Most importantly, there was a divide in the group in the conception of a holistic vision that resulted in a considerable degree of conflict. During the interview, Kenny shared that, “it was challenging for all of us to agree on one thing” because “we all had like different tastes and stuff” (interview, February 16, 2011). In this particular collaboration, the compositional process was negatively influenced by a disagreement between members of the collaborative group in regard to the shared holistic perception.

Casey, Felix, Lisa, and Theresa shared a strong holistic vision of the work that served as the central focus for creative decision-making. Although the collaboration began well, the level of motivation increased significantly after a shared holistic vision came into existence. Halfway through Day 1, Theresa and Casey began to introduce theatrical elements into the piece. After repeating a glissandi/cluster idea, Casey suggested they fall to the ground. As this idea grew during Day 2 and Day 3, and began to include more theatrical elements, the group’s excitement also grew. Casey often
laughed and stated that, “it’s like a performance, too” (group dialogue, February 15, 2011).

During the interviews, the group revealed the shared holistic vision of the piece. When asked what kind of music they had composed there seemed to be agreement among the participants. Although Casey stated that they composed, “scary, haunted house” music, Theresa shared that their music was, “mixed between like scary and fun.” Although Felix responded that he did not think of their piece as haunted house music, further questioning revealed the reasoning for his disagreement. Later in the interview, Felix clarified his position by stating that the music composed by the group was not scary enough to pass as haunted house music. He stated, “I liked it. I didn’t like it, but—because it didn’t sound like a haunted house. It sounded like rainbows and unicorns.” Therefore, even though Felix did not feel that the musical material exactly fit the concept, he may have still shared the same holistic concept. Felix’s problem with categorizing their composition as haunted house music was derived from the opinion that the music didn’t have enough “scary stuff” (interview, February 17, 2011). Nonetheless, in this particular collaboration then, the shared holistic vision positively influenced the compositional process, despite a lack of agreement on the suitability of the chosen musical material.

The importance of task structure. Wiggins’ (2007) visual model of compositional process included the influence of external forces such as task structure and the energy and momentum of the composer. This momentum could be equated to the concept of “flow” (Csikszentmihalyi, 1975). Flow represents the intersection of challenge
and skill. Csikszentmihalyi (1975) found that when there is a high level of skill, but a lack of challenge, boredom is experienced. The presence of challenging material, however, to those with a low level of skill will result in worry.

The collaborative groups exhibited varying levels of flow. Whereas the groups under Casey's leadership appeared at times to have reached optimal experience, the group under Kenny's attempted leadership never did. An explanation for varying levels of flow is that the intentional absence of teacher input and guidance in this study introduced the need for self-sufficient groups. Heterogeneous groups that contain high-achievers and low-achievers establish teacher-student relationships on their own, and so require less guidance (Webb, Nemer, Chizhik, & Sugrue, 1998). Casey, a high-achiever, took on a leadership role in both collaborative groups, and thereby embodied the necessary teacher-student relationship. The success of these collaborations were due in part to the establishment of this group dynamic. Webb et al. (1998) also noted that while middle-achievers work better in homogeneous groups, they lack the teacher-student guidance on their own needed for success. Kenny, who was not a high-achiever, attempted to lead his group. The group, however, struggled with the absence of teacher guidance. In light of this, the relationship between the group composition (interpersonal) and the external force of task structure (cultural) was evidently a strong predictor of a successful, productive collaboration in all cases.

Research Question #4

How do collaborative composers negotiate differences among intrapersonal, interpersonal, and cultural influences? This research question examines the devices used
by the participants to manage contrasting sociocultural influences. Two themes emerged that are relevant to the question: the use of extended breaks for avoidance, and the inclusion of all participants. The inclusion of all participants was made possible through a systematic approach, the listening and acknowledgement of ideas, or the breakdown of the form into separate, individually created parts.

**Extended Breaks.** In Webster’s (1987) model of creative thinking, incubation is a natural component of creativity. The necessity of “stepping away from the creative problem” (Hickey & Webster, 2001, p. 20) occurred frequently throughout the individual and group activities. Although the use of breaks allowed for the settling of musical ideas, they were commonly utilized in the group activities for both the alleviation of social discomfort and the reinforcement of positive social interactions.

One of the most frequently employed devices for dealing with conflict was taking breaks. Breaks from the compositional process were utilized either as celebration for a job well done, or as an escape from an uncomfortable social environment. By walking away from the keyboard, participants were able to temporarily avoid the rising tension caused by disagreement. When Maggie was becoming frustrated with Kenny and Maxwell, she often walked away stating, “I wanna go get a Munchkin, anybody want to take a break?” (group dialogue, February 10, 2011.) At times Ali joined Maggie in her avoidance of the boys. At times of frustration, Ali threw her hands up and shook her head saying, “I’m just gonna take a break.” (group dialogue, February 15, 2011).

While the girls were away from the keyboard, they began to tell me of the troubles they were having. This suggested that the need to “take a break” was really a
need to vent out mounting frustration. Although taking breaks may appear unproductive, they seemed necessary and were often followed by a more productive period of time. Maggie took breaks and turned her back to the keyboard several times on Day 2. Then after 15’00” Kenny finally asked Maggie what contribution she would like to make to the piece.

Maggie’s time away from the group seemed to make the other participants aware of her frustration and increase their sensitivity for the acknowledgement of her ideas. In this sense, using breaks as an avoidance mechanism had a marginally positive impact on the process. The rising conflict that preceded these breaks might have caused more damage to the social environment had they been left to develop further.

Sometimes breaks were taken as a celebration for group accomplishments. Casey, Felix, Lisa, and Theresa took breaks after rehearsals of their piece. These breaks were often celebratory in spirit. Casey offered high-fives to everyone after 25’00” on the first day while commenting that they had finished the whole piece. Ali, Maggie, Casey, and Lisa often followed rehearsals with breaks that consisted of the sharing of familiar songs (“Axel F”). The girls confirmed in the interview that these songs were independent of, and “totally unrelated” to the compositional task (interview, March 17, 2011). Celebratory breaks in the compositional process appeared to be healthy for the social climate of the group.

**Inclusion.** Throughout the collaborations there were several different methods of including the input of all group members: the systematic approach, the acknowledgement of ideas, and the working out of ideas separately.
The systematic approach. In the most productive collaborations, the leader of the group established a systematic approach to the compositional process. Casey organized a working plan early in the first day of both collaborations by which each member of the group would take turns working out their contribution to the piece. After working out their individual parts, Casey suggested that the group compose a part that included all participants simultaneously by stating that they “have to do something in sync (group dialogue, February 9, 2011).

The parts that were played simultaneously were also executed through a systemic working plan. In both cases, each participant would play the same motive, which consisted of a pattern that was repeated through either an ascent or descent of the entire keyboard. The entrance of the participants was staggered so that they remained at a spacing of approximately one and a half octaves.

Another essential component of the systematic approach was the calling of frequent rehearsals. Fautley (2004) found that collaborative composers spent 45% of their time on the formal or informal rehearsal of the piece. During the interviews, Felix recalled the frequency of group rehearsals, claiming that Casey, “kept telling us to do it over.” Casey’s reasoning for such frequency of rehearsal was that she “wanted to keep doing it instead of just stopping” (interview, February 17, 2011). Generally these rehearsals were premature in that they took place before each individual had practiced their part; however, the rehearsals often resulted in a step forward in the compositional process and also had the effect of refocusing the group.

The collaboration between Ali, Maxwell, Maggie, and Kenny lacked a systematic
working plan. This may have contributed to the difficulty the group had in including contributions from all members. On the third day of the collaboration, after the social conflict within the group had become paralyzing, I suggested a simplistic systematic working plan. By simply suggesting that, “the piece can have two different parts” and that they could “go back and forth,” an unproductive collaboration was able to move forward. This simple plan was enough to have the group proceed forward and prepare the composition for a final performance.

**Listening and acknowledgment of ideas.** One of the most influential factors in determining the social climate of the group was the degree of acknowledgment amongst its members. In the most productive collaborations, the musical contributions and ideas of all members of the group were regularly included. This acknowledgement is exemplified in the aforementioned systematic leadership approach taken by Casey. Groups that failed to listen to one another, however, were often unable to move forward in the compositional process.

Ali, Maxwell, and Maggie claimed that Kenny’s attempted leadership lacked an acknowledgement of musical contributions. Ali insisted that Kenny was “bossy,” told her what to do, and, “wouldn’t let me tell my idea.” Ali seemingly felt excluded in this particular collaboration. She stated in an interview that, “only really Maxwell and Kenny came up with ideas ‘cause they thought they were in charge” (interview, March 7, 2011). Without the necessary acknowledgement of others’ ideas, the collaboration was negatively impacted. Despite Kenny’s bossiness, the other participants made several attempts to contribute to the composition. These ideas, however, were also ignored.
Maggie stated that, "some of us have some ideas that we can do, but somebody's stopping me from working it out all together." Similarly, Ali shared her doubt "whether these people will let me show them what I did" (February 15, 2011). Clearly, by Day 3 of this collaboration, Ali and Maggie felt as if they were not being listened to. The final performance consisted of the boys and girls performing two separate, completely independent parts. In my estimation, the final product was unsuccessful in that the group members did not share a holistic view of the end product, and appeared to be performing separate works. The absence of a shared holistic view was likely due in part to the lack of listening and acknowledging of ideas within the group. Kenny's statement that the group found it "challenging to agree" (interview, February 16, 2011) was evidenced in the final performance.

*Working separately, but together.* The most fruitful collaborative groups in this study shared a holistic conception of the piece, but developed their parts independently. Wiggins (1994) found that collaborative composers worked through the compositional process in three stages: from whole, to part, and back to whole. Although the process begins with an initial plan or holistic vision, the individual members separate from the group to develop their parts independently. During this independent phase, the individual composers frequently check how their part fits with the parts of others, or the piece as a whole. In the third phase the members of the group reassemble and rehearse the final product. Whereas the more productive collaborations exhibited a similar process for the participants in this study, the collaborations that struggled seemed to lack the initial holistic vision. In the collaboration between Ali, Kenny, Maggie, Maxwell, the group
never agreed on a plan for the end product before developing their ideas independently. In the collaborations led by Casey, however, a plan for the end product was agreed upon by the group before the development of individual parts.

Casey, as a leader, seemed to have an innate awareness of the importance of developing parts individually. In both of her collaborations, she persuaded the group early on the first day to follow a form in which each participant played their own part for the piece, and then the group played a part together. After 5'00" Casey first suggested that everyone should make up their own parts. She then turned to each member of the group, one at a time, and gave them the opportunity to develop their own part for the piece. Her instructions were clear as she assigned each member a separate part to work on: “OK, you (Lisa) have to make something up while you guys (Maggie and Ali) are practicing.” In her collaboration with Felix, Lisa, and Theresa, Casey took a similar approach. On Day 2, Casey told everyone they would be playing two parts each. Time was then given to the participants to develop their ideas independently.

Although the independent development of ideas may be a natural part of collaborative composition, the division was also utilized at times to relieve social discomfort. There were several instances in which the keyboard was divided into zones, often to allow the boys and girls to develop their parts independently. In one case, Kenny split the keyboard to allow the girls to work with the “fantasy” patch while the boys work with the “rock organ” patch. In another case, Casey drew an imaginary line on the keys to separate Felix from the three girls in their group. When Lisa suggested, “We should split it” Casey agreed. The keys were split so Felix could have one sound, and the girls have
another.

Whereas the more productive groups utilized the independent development of ideas to make a positive contribution to the whole group work, the struggling groups used the independence as an escape from conflict to develop separate holistic perceptions. At times, Maggie and Ali walked to a different keyboard to work out their own composition. When Maggie suggest to Ali, “Do you want to work together on this piano?” Ali responded excitedly, “Yeah!” (group dialogue, February 15, 2011). The girls’ facial expressions clearly displayed the relief they felt by working together without Maxwell and Kenny.

**Chapter Summary**

The cross-case analysis presented in this chapter examined the themes that emerged by looking across the data from the five selected cases (see Figure 4). Ten themes were discussed with specific relation to the four research questions. The themes that emerged in reference to the first research question included the influence of external cultures, perceptions of acceptable work, persistence in task completion, and the emergence of a musical voice. The second research question was addressed through a discussion of compatibility and the assumed roles within the group. For the third research question, the guidance of a holistic perception, and the importance of task structure were highlighted. Research question number four was addressed through the topics of extended breaks, and inclusion. In the chapter that follows, a discussion of these findings leads to implications for music educators, and suggestions for further research.
Chapter 6: Discussion

The main purpose of this study was to examine sociocultural influence on the compositional processes of collaborative groups of young, inexperienced composers. In educational settings, composition is almost always collaborative (Wiggins, 2007), and therefore necessitates a pedagogical approach that is understanding of, and sensitive to social influences. Although the design of this study required an intentional absence of teacher guidance, the conclusions drawn from the analyses of data carry important implications for compositional pedagogy. In this study, the concept of sociocultural influence was subdivided into three domains: intrapersonal, interpersonal, and cultural. These three components have been recognized in prior research (Boer & Fischer, 2011; Wiggins, 2007). For the purpose of this study, the intrapersonal influence was defined as any element of a composer’s own musical background, experience, preference, or relationship of self to music, that has demonstrated the capacity to guide the production of musical ideas. An interpersonal influence refers to any aspect of the interrelationship within the collaborative group that has demonstrated the capacity to guide the production of musical ideas. Finally, cultural influence was defined as the composer’s presumptions regarding the expectations of the intended audience that has demonstrated the capacity to guide the production of musical ideas.

A survey of related literature was divided into four parts. First, the creative capacities and compositional processes of young composers were reviewed. Next, an exploration of the intrapersonal influence included research on music identity and
compositional voice. The third section surveyed literature regarding the interpersonal influence such as peer interaction, collaborative music-making, and “flow.” The final part of the literature review discussed the influence of external cultures and comparisons of formal and informal learning.

An explanatory, embedded multiple case study design was utilized for an in-depth examination of intrapersonal, interpersonal, and cultural influences in collaborative composition. Eight participants were selected through maximum variation purposeful sampling. Each of the participants was placed into three different collaborative groups. Collaborative groups were given 30-60 minutes per day, for three days, to compose and perform an original piece of music using electronic keyboards. Three of the collaborations were selected as cases for this study. The selection of cases for inclusion in the study was also based upon a maximum variation strategy: One group was highly productive, one was highly unproductive, and one group was an all-female collaboration. Additionally, to better understand issues relevant to intrapersonal influence, such as musical identity and compositional voice, two of the participants were also examined as solo composers. Casey and Ali were selected as target composers to contrast how the musical voice of both a leader and a non-leader were made manifest throughout the compositional process and final product. Wiggins (1994) also considered differences in work styles in the selection of target composers.

A within-case analysis was then provided in Chapter 4 for each of the five cases. The research questions and purpose of the study were addressed through the analyses of the three collaborative cases. The other two cases, the compositional process of the target
composers Ali and Casey, had a different rationale: to provide understanding of their compositional voices and the emergence of their voices within the collaborative groups. Each target composer was included as a participant in different collaborative groups, and in the last case, as participants in the same collaboration. The individual cases of the target composers were included to provide support and additional insight for the three collaborative cases.

Chapter 5 provided a cross-case analysis that revealed the emergence of ten salient themes. The themes were organized and discussed in relation to the four research questions. For the first question, themes included the influence of external cultures, perceptions of acceptable work, persistence in task completion, and the emergence of a compositional voice. Themes regarding compatibility and assumed roles within the group were discussed in response to the second question. The third research question highlighted the importance of holistic conception and the structure of the given task. Finally, for question four, the incorporation of extended breaks and methods of participant inclusion were discussed. This chapter provides a discussion of the findings, implications for music educators, and suggestions for further research.

Discussion

In this section, each of the areas in Figure 1 are considered with reference to the analysis of resultant data from this study. Following the discussion of the intrapersonal-cultural influence, the interpersonal-cultural influence, and the intrapersonal-interpersonal influence, I address the a priori question of the study in the conclusion section.
Intrapersonal–cultural influence. The first research question sought to better understand how the compositional process might be influenced by the sociocultural relationship between the individual composers and their intended audience. Some participants declared an influence from parents and siblings. Although such influences may have existed and contributed to the specific creative decisions each participant made, they had little influence on the overall collaborative experience. Likewise, the influence of peers was evident in both interviews and observations, but only appeared to serve as a source of inspiration for individual ideas, or as a measurement of individual progress. For the participants in this study, the primary source of intrapersonal–cultural influence was teacher approval.

The need for teacher approval was manifest in the participants' perceptions of acceptable work and their persistence in task completion. As a result of the intentional absence of teacher feedback in this study, the participants at times sought clarification or verification of the requirements of the task. A persistent need to verify the acceptability of their work demonstrates the prominence of teacher influence for these young composers. The literature has shown the importance of teacher feedback and assessment (Hickey, 1999; Kaschub & Smith, 2009; Leung, 2004; Webster, 2003; Wiggins, 2005), and task structure (Kaschub, 1999; Kaschub & Smith, 2009; Smith, 2004), in the teaching of composition to children. This study confirmed the same findings from an alternate perspective: Groups of young children seek out teacher guidance, or establish an internal teacher–student relationship when it is absent. Furthermore, the lack of teacher input resulted in an incompatibility amongst group members due to inconsistent perceptions of
successful task completion. Whereas some participants placed a great deal of value in the organization of content, others disregarded form in favor of a focus on the specific content of their compositions. Issues also arose concerning the use of formal or informal musical styles.

The final topic with regard to the intrapersonal–cultural influence is the existence of an individual compositional voice for each participant. For the two participants that were studied in-depth through the completion of additional individual composition activities, their methods of composing and musical choices remained consistent throughout all solo and collaborative activities. Although the existence of compositional voice was identified, it did not appear to have a significant influence on the creative decision-making process within the collaborative groups.

**Interpersonal–cultural influences.** The third research question sought to better understand how the compositional process might be influenced by the sociocultural relationship between a collaborative group of composers and their intended audience. For the participants in this study, the role of an intended audience was filled by the demands inherent in the structure of the task. Despite the participants’ claims during interviews to have thought about external cultures such as family while composing, there was no directly observable evidence to support these claims. Instead, the creative decision-making processes for the participants in this study were guided by the expectations implied by the assigned task. This culture, the environment within which the piece is created, is referred to by Wiggins (2003, 2007) as the compositional context, and has two components: internal (holistic conception) and external (task structure and flow).
For the participants in this study, the compositional process was guided by a holistic conception. Collaborative groups that shared a holistic vision generally enjoyed a collaboration in which its members worked cooperatively and without a great deal of struggle toward the shared goal. Those who disagreed in their holistic conception experienced difficulty in making progress toward any final product. The holistic perception was often simplistic, and generally consisted of a verbal description of the form, or an attempt to recreate a specific mood. These internalized compositional contexts served to give direction to the members of a group, and greatly influenced the compositional process.

Likewise, the external compositional context (task structure) was also a considerable interpersonal-cultural influence on the compositional process. The lack of teacher guidance for the assigned task created a need for groups to establish internal teacher-student relationships for success (Webb, et al., 1998). These relationships were established in groups that had leaders that were high-achievers, and consequently periods of “flow” (Csikszentmihalyi, 1975) were experienced. On the other hand, groups that lacked a high-achieving leader did not experience “flow.” It should be noted, however, that the high level of disagreement that surfaced within one particular collaboration in this study (Ali, Kenny, Maggie, and Maxwell) may be atypical. Green (2008b) found that informal, student-directed groups generally experience a high level of flow, and that they are better able to approach the Vygotskian Zone of Proximal Development. It is likely that the intentional lack of guidelines for the assigned task initiated this discrepancy.
Intrapersonal-interpersonal influences. The second research question sought to better understand how the compositional process might be influenced by the interaction between individuals within a collaborative group. For the participants in this study, the intrapersonal–interpersonal relationship exhibited the strongest influence on the compositional process. Two main subcategories arose: compatibility and group roles. Issues of compatibility that emerged were related to differences in ability level, communication, and gender. The group roles assumed by the participants included the leader, attention-seeker, and advocate. The interaction amongst participants caused by their compatibility and assumed roles served as the main source of each group’s accomplishments or failures.

Compatibility was a major component of the intrapersonal–interpersonal influence. First, participants within each group had different levels of musical ability. The participants in this study that exhibited higher levels of creative ability stimulated ideas in other group members. Conversely, participants with similar ability levels at times stood in conflict with one another. A second aspect of compatibility is the level of communication within the group. Collaborative groups that were able to communicate effectively exhibited greater productivity. This was most observable amongst participants that had built friendships with one another. Likewise, the inability to convey the meaning of one’s ideas was often the source for frustration amongst group members. A final component of compatibility was the differences in gender, which arose as an issue in each of the collaborative cases. Boys and girls often divided themselves into sub-groups, and often developed ideas independently of one another. The approach to motivic
development also appeared to differ greatly. However, although the division by gender was detrimental to one group, it had little to no negative effect on another. This may have been due to the manner in which the separation was handled. In the more productive boy/girl collaboration, members of each gender did not try to “meet in the middle” and compromise their own ideas. Rather, the participants in this group were accepting of each other’s contributions to the piece, and took pride in their differences in approach.

All participants in the collaborative groups adopted one of four roles: the leader, attention-seeker, advocate, or follower. Whereas the followers had seemingly no impact on the compositional process, the leaders appeared to be the main source of accomplishment or failure within each group. All leaders were viewed by their peers as bossy. However, the leaders who were able to acknowledge, support, and include the contributions of others yielded group cooperation. Attention-seekers made very few musical contributions, but still had a major impact on the compositional process. The role of the advocate was to stand up to the group leader for those whose voice was not being acknowledged. Advocates also played an important role in the interrelationship of group participants.

Conclusions. As previously discussed, the research questions of this study were all consequent of an a priori question: with regard to social and cultural influences, how do confluences and divergences affect the compositional process of a collaborative group? It is essential at this point to note the manner in which confluence and divergence emerged throughout the study. Although sociocultural divergence often resulted in conflict, it also appeared at times as the presentation of different, though equally valid
and equally respected, ideas made by the participants within a collaborative group. Likewise, confluence was present throughout the collaborations in both positive and negative forms. Although group participants often shared excitement about the same musical ideas, there were also times when arguments, stubbornness, and negativity led participants to join together for the sake of just simply finishing the project. Nonetheless, in this study, the compositional process was found to move forward only when the conceptions of group members converged. In other words, a certain degree of confluence was necessary to move the group forward.

Figure 5 depicts the relationship between sociocultural confluences and divergences, and a shared holistic conception. The center of the sphere represents a shared holistic conception of the work. When the sociocultural interaction within the collaborative group exhibits confluence, the group focuses in on a shared holistic conception of the work, and the volume of the sphere is reduced. Conversely, conflict within the group increases the volume of the sphere. Conflict yields a loss of focus and the collaboration is moved further from a shared holistic conception. The sphere may be thought to contain the number of sociocultural divergences within the collaborative group: Whereas a larger sphere is the result of a greater number of divergences, a smaller sphere represents the collaboration’s movement toward a shared holistic vision.

The sphere depicted in Figure 5 could represent any one of the three sociocultural interactions of this study: intrapersonal/interpersonal, intrapersonal/cultural, or interpersonal/cultural. The confluences and divergences within a group may be the result of the acceptance or rejection of the individual musical ‘selves’ within the group.
(intrapersonal-cultural). The literature in compositional process has considered the sociocultural contexts of composition (Wiggins, 2007). Researchers have acknowledged that composition is a culturally situated practice (Folkestad, 1996), and that musical identity plays a role in its conception (Stauffer, 2003). Consequently, when the individual members within the group differ in their conception of what the composition should be conflict may arise. Sociocultural confluences and divergences within a group may also be rooted in the interpersonal relationships within the group (intrapersonal–interpersonal). The compositional process is likely to be more coherent when participants understand and accept their role within the group.
Figure 5. A sphere representing the relationship between sociocultural confluence/divergence and a shared holistic conception of the work.

Another way that sociocultural confluences and divergences may be made manifest in collaborative composition is in the group perception of the cultural norms of the intended audience (interpersonal-cultural). Whereas Figure 5 illustrates the relationship between divergence and a shared holistic conception for any one of the sociocultural interactions of this study, Figure 6 expands upon this by presenting a composite sphere of sociocultural interaction. In this illustration, the three sociocultural influences are found to act simultaneously to impact the volume of the outer sphere. It is this outer sphere that represents the composite confluence and divergence within the group.
Figure 6. Sphere of composite sociocultural confluence/divergence.

Figure 7 shows how a sphere of composite sociocultural confluence/divergence may pass through the compositional process toward an end product only if a certain degree of sociocultural confluence is obtained. This visual depicts the effect that conflict
in any one of the sociocultural interactions may have on enabling the collaboration to

move through the compositional process toward an end product.

*Figure 7.* Depiction of the need for a degree of sociocultural confluence in order to arrive at an end product.

Considering this figure, it is essential to discuss which of the individual social influences had the greatest impact on the size of the composite sphere. For the
participants in this study, the intrapersonal–interpersonal relationship was the strongest sociocultural influence on the compositional process. When members within a collaborative group demonstrated incompatibility or challenged the assumed group roles, the compositional process was unable to move forward. During times of interpersonal divergence, issues regarding a shared holistic vision, task structure, compositional voice, peer/family/teacher influence, perceptions of acceptable work, and persistence in task completion were irrelevant. An extended metaphor might help to summarize the findings of this study. Imagine the compositional process as a boulder being moved across the ground. The terrain (uphill/downhill) would represent the intrapersonal–interpersonal influence. An uphill terrain is akin to conflicts in group compatibility and acceptance of assumed roles. When these issues do not pose a conflict, the compositional process can move forward freely as a boulder downhill. The intrapersonal–cultural influence is represented by the individuals attempting to push the boulder along the terrain. An individual would have little effect pushing the boulder up or down a hill, as the terrain will have a much greater effect on its movement. Likewise, the intrapersonal–interpersonal influence has a far greater impact on the compositional process. Finally, the actual size of the boulder depicts the interpersonal–cultural influence. More specifically, the size of the boulder would represent the level of the challenge in the assigned task. When presented with a low level of challenge, the compositional process could be moved forward, despite conflict within the group.
Implications for Music Education

This study highlights several important factors for music educators who choose to include collaborative composition in their classes. First, considering the significance of the intrapersonal–interpersonal influence found in this study, it would seem beneficial for music educators to carefully select members for the collaborative groups. Compatibility should be a key factor in selecting participants for a group. In this study, participants who seemed to possess a more innate sense of musical understanding served as inspiration for others in their groups who may have lacked such gifts. Similarly, previous research has found that low-achievers benefit from placement within groups that contain high-achievers (Webb & Palincsar, 1996). Consequently, students may benefit from being placed in groups of differing levels of creative ability.

Also, in light of the productivity of highly verbal groups, teachers should allow students ample time to talk out their ideas. Chizhik (1998) emphasizes the importance of high-level verbal interaction for success within collaborative groups. Even at times when the conversations might appear unproductive, this study highlights the importance of bonding amongst group members for successful task completion. The participants in Green’s (2008) studies on informal music report that working with friends encourages communication and cooperation. Friendship groups have also been shown to more accurately solve complex problems (Azmitia & Montgomery, 1993). To this end, it is recommended that members of collaborative groups have established friendships, or are given such opportunity during the collaboration.
Once group members have been established, it is essential for music educators to convey the importance of supporting, acknowledging, and using ideas from all members of the group. Conflict often arose when ideas were not acknowledged by the group. Considering the natural inclination demonstrated by the participants of this study to create a division along gender lines, this point bears particular importance when assigning coeducational groups. Any negativity caused by a lack of acknowledgement could be exaggerated by gender separation. Boys and girls in this study were able to collaborate effectively, but only when accepting of their differences in approach and opinion. Whereas the lack of acknowledgement and gender division in a coeducational group led to a negative collaboration, the all-girl group worked more positively through similar conflicts.

Within each collaborative group in this study, a leader emerged. For music educators, it would be beneficial to identify the leader that surfaces in each collaborative group and make them aware of the importance of their role. A good leader who was able to listen to others was the key to a productive collaboration.

These recommendations for music educators are centered on the careful design of a task to provide an appropriate level of challenge for the group. In this study, groups that lacked clear leadership or experienced social discomfort found the task of collaborative composition to be most challenging. Therefore, when assigning groups, it may be beneficial if educators keep in mind that the challenge of a task may be reduced by assigning groups with an awareness of the social structure of its members. By following the above recommendations, the level of challenge is greatly reduced due to the potential
increase in group productivity. The biggest challenge presented to participants in this study was the need to negotiate differences of opinion and working style. A proactive educator could alleviate much of this in order to make the task more manageable.

**Suggestions for Further Research**

There is still much to contribute to this growing body of research that aims to better understand how children approach composition. In particular, sociocultural influence on the creative decision-making process of children is complex and in need of further study. The themes that emerged through the cross-case analysis in this study served as the impetus for the following suggestions for further research. This study found that the intrapersonal-interpersonal influence had the most significant impact on the accomplishments of a collaborative group. To build on this, it is recommended that the topics of compatibility and assumed group roles be further investigated. The final area recommended for further research calls for a repeat of the study with different age groups to examine how the emphasis on the intrapersonal–interpersonal might change. I have subdivided the suggestions for further research into three categories: studies that focus on compatibility, studies that further investigate the roles assumed by group members, and studies that examine sociocultural influence with respect to age.

**Studies that focus on compatibility.** A component of compatibility that emerged repeatedly throughout this study was gender difference. Males and females behave differently within groups as a consequence of the roles imposed upon them by their culture (Shaw, 1976). The issue of gender within collaborative groups of child composers needs to be investigated further. It is important to note that in this study
students frequently divided themselves along gender lines. This suggests that students of this age may experience a certain level of discomfort when working in groups together. However, of the two coeducational groups in this study, one was highly unproductive and the other was productive. Therefore, although a division by gender may occur naturally at this age, it does not imply that the collaboration will be negatively impacted. On the contrary, Shaw (1976) suggests that heterogeneous groupings exhibit more conformity. Further research on this topic may illuminate patterns within coeducational group interaction that lead to both success and failure in the completion of a given task.

**Studies that investigate assumed group roles.** This study found that the roles assumed by members of the group had a significant impact on the compositional process. Leaders, advocates, and attention-seekers were identified consistently throughout each of the collaborations in this study. Further investigation is needed to better understand their impact on group composition. An individual’s participation within a group is dependent in part upon their reaction to the individual others within the group (Shaw, 1976). Therefore, an individual that acts as an attention-seeker in one group may adopt the role of leader in another. A study of the factors that cause the adoption of these group roles could lead to a number of different research questions. Are there more roles that could emerge from a group of collaborative composers? What if multiple leaders or multiple attention-seekers were placed in one group? Is it more beneficial for such roles to emerge naturally, or to be assigned by a teacher? Further research in this area might help music educators in assigning more effective groups for composition activities.
Studies that examine sociocultural influence with respect to age. Lamont (2002) notes that musical identity cannot be developed until the shift (around the age of 7) from self (early childhood) to self-other (middle childhood) understanding. This study was conducted with participants in the fourth grade. Due to the fact that children at this age have just begun to develop their musical identities, it would be interesting to see how a repeat of this study with a group of adolescent children might change the outcomes. At the outset of this study, I had anticipated that participants with similarities in their musical identity would collaborate more easily than those whose identities stood in conflict with one another. Data analysis revealed that, at least in this age group, musical identity played an inconsequential role in group progress toward the established goal. However, with consideration of studies that emphasize the importance of musical identity to adolescents (e.g. Green, 1999; Hargreaves et al., 2000), a repeat of this study with an adolescent group may reveal very different results. Because adolescents are more aware of how peers may judge them, the intrapersonal-cultural influence may play a more vital role in the making of musical decisions. Furthermore, the decreased “open-earedness” discussed by Boal-Palheiros and Hargreaves (2001, p. 104), exhibited through early adolescence and adulthood may also have a major impact on this aspect of sociocultural influence.

Conclusion

Despite music educators’ recognition of music composition as an important classroom activity, implementation remains an area of concern (Byo, 1999; Orman, 2002; Wang & Sogin, 1997). To complicate matters, the inclusion of composition in public
school general music programs often necessitates the grouping of students (Wiggins, 2007), and so requires an understanding of sociocultural influence. This multiple case study sought to better understand how sociocultural confluences and divergences affect compositional process within collaborative groups of child composers. Interactions amongst three subdivisions of sociocultural influence (interpersonal, intrapersonal, and cultural) were observed during the collaborative and individual composition sessions of eight selected fourth grade participants. Cross-case analyses revealed ten themes (see Figure 4) that were discussed with relation to each sociocultural interaction.

For the participants in this study, the intrapersonal–interpersonal influence was the greatest determinant of group productivity. The compositional process progressed more effectively when participants exhibited effective communication, acceptance of their assumed group roles, and inclusiveness of the ideas of all group members. It is also interesting to note that although gender greatly influenced group behavior, it did not appear to be an issue that determined successful task completion. The next strongest sociocultural influence for the participants of this study was the interpersonal–cultural. Group accomplishments appeared to be related to the level of the challenge present in the assigned task. Participants in this study regularly sought teacher approval and direction to overcome uncertainty regarding successful task completion. On the other hand, participants quickly became bored and resorted to unproductive behaviors when they perceived the task as being too easy. The intrapersonal–cultural influence was found to be minimal for the participants in this study. A repeat of the study at an adolescent age level
is recommended for a more in-depth understanding of this facet of sociocultural influence.
Appendix A: School District Letter of Support

December 2, 2009

Boston University
Institutional Review Board
25 Buick Street
Boston, Ma. 02215

To Whom It May Concern:

I hereby grant permission for Paul Kosak to conduct research for his doctoral dissertation in the [-]

I have been informed of the details and procedures of the study. Any questions or concerns regarding the study have been addressed.

Approval to conduct the study was granted by the Board of Education on November 4, 2009.

Sincerely,

[-]

Superintendent of Schools
Appendix B: Institutional Review Board (IRB) Approval Form

IRB File # 2091E
Title: “Intrapersonal, Interpersonal, and Cultural Identities in Collaborative Composition”

May 25, 2010

Mr. Paul Kosak
Doctoral Candidate
College of Fine Arts, Department of Music

Home Address:

Dear Mr. Kosak:

The Charles River Campus Institutional Review Board has completed its review of your research protocol referenced above. Expedited approval was granted in accordance with Federal Regulations 63 FR 0364 (6) and (7) and 45 CFR 46. I am enclosing originals of the consent and recruitment material for this project. They have been stamped for your current use in keeping with IRB procedures (also enclosed).

This approval is valid for one year, and will expire on 5/24/11. Any changes or modifications to the protocol as now approved must be reported to and acted on by the IRB prior to implementation. Please call me at [redacted] if you have any questions or if I can be of further assistance.

Sincerely,

Ed Szkutak, CRC-IRB

Enclosures

cc: Professor Jay Dorfman, CFA
Appendix C: Student Survey

NAME______________________________________________________

Directions: You will hear short pieces of music from each of the styles on the list. For each style you will connect the musical style to the face that best matches the feelings about the music. Use the RED crayon to show how you will feel. Use the GREEN crayon to show how your parents would feel. Use the YELLOW crayon to show how your best friend would feel. Use the PURPLE crayon to show how your teacher would feel.
List all of the instruments you can play.

List the instruments you would like to learn how to play.

Make a list of some of your favorite music (songs or bands).

Make a list of the music you dislike most.

How long do you listen to music each day?
Have you ever created any kind of music of your own? If so, describe it.

Would you like to create your own music?
What kind of music would you create?
List four other students in the fourth grade you would like to write music with.
Appendix D: Student Assent for Research Study

Boston University College of Fine Arts
855 Commonwealth Avenue
Boston, Massachusetts 02215
www.bu.edu/cfa

STUDENT ASSENT SCRIPT

Title of Project: Intrapersonal, Interpersonal, and Cultural Identities in Collaborative Composition

My name is Paul Kosak and I am the music teacher at Birchwood Intermediate School. I am writing a research paper about how fourth-grade children compose music in groups and I could use your help. Do you know what a "composer" does? A composer is the person who writes or creates a piece of music. The composer makes decisions about how to put the notes and rhythms together in a way that they think would "sound good." A composer's idea of what "sounds good" is shaped by many things, such as, the musical experiences they have had, the music that they are surrounded by in their culture, and their idea of what the audience might like to hear. What "sounds good" to one composer might be very different than what "sounds good" to another. What would happen if two composers with the same idea of what "sounds good" work on a music composition together? What about composers with different ideas of what "sounds good"? These are the types of questions I am trying to answer in my research study. I would like to learn more about how your own musical experiences and preferences control the decisions you make when composing music, especially when you compose music with other students. I am studying this topic and writing a research paper in order to complete a doctoral degree in music education.

If you agree to take part in this research, you will first be given a short survey to complete during your music class. The survey will only take 10 minutes to complete, and will ask questions about your musical preferences and experiences. You will also be asked about your friends and families musical preferences and experiences. After everybody has taken the survey, I will select eight students to continue with the study. If you are one of the eight students selected, you will be asked to complete six music composition activities. Using electronic keyboards, you will compose three pieces of music by yourself, and three pieces of music in a group with other students. To complete each composition you will attend as many as three sessions that last 30-60 minutes each. Also, after each composition you completed, I will interview you to discuss the musical decisions you made. Each interview may also last 30-60 minutes. All of the composition sessions and interviews will be video recorded.
If you agree to participate in this research project, and you are one of the eight students chosen by me, you will have to come to school early to work on your compositions. All of the composition sessions and interviews will take place before school at 8:15 am. To complete all of the composition projects and interviews, you may be required to attend as many as two before-school sessions each week for the duration of the study. The entire study will be completed in approximately 12 weeks. You will be allowed to take the early bus to school. If you are already in any early morning programs (band, orchestra, chorus, etc.) I will be sure to schedule your composition sessions so that there are no conflicts.

The video recordings of all composition activities will be observed by Mr. Kosak and an additional music teacher. However, in the research paper, I will not use any information that will make people able to identify you. This way, all of your work is confidential.

Participation in this research project will not have a positive or negative effect on your music grade. Before you agree to participate in this study, you should consider the fact that you are being asked to volunteer some of your free time. Also, you might feel uncomfortable while working in groups with your peers and discussing your musical preferences. It is important that you know that your participation is always voluntary, and that you can always take a break, skip a question, or withdraw from the research project at any time without penalty.

However, you should also consider that if you do agree to participate, you will have the opportunity to use the same professional equipment and sounds used by many current pop artists to create your own music. The style of music you choose to compose is entirely up to you. It may be an exciting opportunity to use this equipment for the composition of original music with your peers. This could be an enjoyable experience for you. Also, as a thank you gift, the eight selected participants will receive a $30 iTunes gift card after the completion of all activities. If any of the eight selected participants begin the study, but then decide to drop out for any reason before the study is complete, they will receive a $5 iTunes gift card.

I would like to encourage you to talk with your parents about participating in this study before you agree to do so. Also, you can ask me any questions you may have about the study at any time.
Appendix E: Recruitment Letter

Dear Parents,

My name is Paul Kosak. I have been privileged to serve as a music teacher in the xxxxx school district since 2001. I am currently conducting research to fulfill the dissertation requirement for completion of the Doctor of Music Arts in Music Education degree at Boston University. The purpose of the study is to better understand how children compose original music in collaborative groups. More specifically, I would like to examine how children negotiate (a) differences in their previous musical experience, and (b) differences in their perceptions of the intended audience. As a fourth grade student at xxxxxxx Intermediate School, your child is eligible to be one of eight students to take part in this research study.

Those who wish to take part in the study will be asked to complete a brief survey during the regularly scheduled music class regarding musical preferences and experiences. The survey is used as an aid for the selection of eight participants for the study. As a participant in this study your child will compose six original music compositions. Three of the compositions will be completed individually, and three in a collaborative group. Each composition may require as many as three 30-60 minute sessions to complete. Participants will also be interviewed after each composition activity. To complete all activities for the study, participants are asked to volunteer their time two mornings per week for 12 weeks. The composition activities and interviews will all be held in the general music classroom at 8:15am, before the start of the school day. The district has authorized use of the early bus, so transportation will be provided.

Benefits for the participants of this study may include the creation of personally meaningful original music, the opportunity to utilize the same high-end MIDI equipment used by many pop artists, the increased understanding of one’s musical decision-making processes, and a positive collaboration with peers. As compensation, the eight selected participants will receive a $30 iTunes gift card after the completion of all activities. If any of the eight selected participants begin the study, but then decide to drop out for any reason before the study is complete, they will receive a $5 iTunes gift card.
If you have any questions regarding this research study, please contact the Principal Investigator, Paul Kosak, at (xxx) xxx-xxxx. Participation in this study is voluntary. If you or your child decide not to participate in the study, there will be no penalty or consequence.

Sincerely,

Paul Kosak

(please detach here)

Please check the appropriate box below, sign, and return to your music teacher.

☐ I would like to take part in this research study.

☐ I would not like to take part in this research study.

Name of Child _____________________

Signature of Parent _____________________


Appendix F: Informed Consent for Research Study

Boston University College of Fine Arts
855 Commonwealth Avenue
Boston, Massachusetts 02215
T 617-353-3350 F 617-353-5331
www.bu.edu/cfa

INFORMED CONSENT FORM

Title of Project: Intrapersonal, Interpersonal, and Cultural Identities in Collaborative Composition

Purpose
I would like permission to include your child as a participant in a research study. The purpose of the study is to better understand how the process of collaborative musical composition is shaped by the interaction of personal and cultural identities. The results of this research may enable educators to develop teaching techniques that nurture creativity and better facilitate compositional activities in the music classroom. The researcher, Paul Kosak, is a student at Boston University and is completing the project to fulfill the dissertation requirement for the Doctor of Musical Arts (MusAD) degree.

Procedures
If you give consent for participation in the study, a survey will be administered during a ten-minute segment of the regularly scheduled general music class. The survey will ask students to identify how they feel about various musical styles. The survey will also ask students to identify how other important people in their life might feel about the various musical styles. The second part of the survey will require students to answer questions about musical preferences and previous musical experiences. The purpose of the survey is to aid in the selection of participants for the study. Only eight participants will be needed to take part in the remainder of the study.

After all surveys have been completed, eight participants will be selected to take part in a multiple case study of the topic. The data for the study are to be obtained through a variety of procedures including interviews, surveys, video and audio recordings, direct observations, and participant observations. The entire data collection phase will take 12 weeks to complete. During this 12 week period, participants will be expected to attend 2 sessions per week.

Selected participants will take part in three individual composition activities and three group composition activities. Each activity will take three 30-60 minute sessions to complete. All composition sessions will be video and audio recorded for analysis. During the composition sessions, the researcher will take on the role of an observer, and when necessary, of a participant-observer.

At the conclusion of each composition activity, a 30-60 minute interview will be conducted with the participant. The interviews will be open-ended, and contain questions regarding the participants’ perception of how the process and product of their compositional activity reflects
their musical identity. Part of the interview will include the participants' review of the video and audio recordings.

All composition activities and interviews will take place at 8:15am, before the start of the school day. Use of the early bus has been authorized by the district for the purpose of this research study. Therefore, transportation to school will be provided. To avoid conflicts, composition activities and interviews will be scheduled around any early morning programs that your child takes part in.

**Risks and Discomforts**
There are no known risks associated with participation in the study. The compositional activities that participants will engage in are not unlike the activities that take place in the general music classroom. As in most school settings, participants may experience discomfort due to the required peer interaction while working in cooperative groups. It is also possible that participants may experience some discomfort in discussing their musical identity. Participants will be made aware that they are always free to skip a question, take a break, or stop the interview.

**Benefits**
Benefits for the participants of this study may include the creation of personally meaningful original music, the opportunity to utilize high-end MIDI equipment, the increased understanding of one's musical decision-making processes, and a positive collaboration with peers. The benefits for society, particularly classroom music teachers and their students, may include more effective pedagogical practices in the music classroom, since music composition is currently an area of concern for many music educators. It is anticipated that the proposed study may lead to a deeper understanding of how children compose music in collaborative groups, and what roles their previous musical experiences and perceptions of the intended audience play in musical decision-making processes. Such an understanding may assist music educators in the planning and implementation of composition activities in the music classroom.

**Compensation**
As compensation, the eight selected participants will receive a $30 iTunes gift card after the completion of all activities. If any of the eight selected participants begin the study, but then decide to drop out for any reason before the study is complete, they will receive a $5 iTunes gift card.

**Confidentiality**
Your child’s answers will be kept confidential and may not be disclosed, unless required by law or regulation. No identifiable information will be included in any presentation or publication.

Data will be stored in locked files only accessible to the Principal Investigator, one additional certified music teacher, and his dissertation advisor and destroyed at the end of the research. The signed consent forms will be kept separate from the research data.

Audio recordings will be transcribed within six months. The audio and video tapes will then be erased.
Voluntary Participation
Participation in this research is purely voluntary. Refusing to participate or discontinuing participation will involve no penalty or loss of benefits to which your child is otherwise entitled. Should your child discontinue participation, they can request that all data previously collected be destroyed. Participants may refuse to answer any questions in the interview or on the survey.

Contacts
If you have questions regarding this research, either now or at any time in the future, please feel free to ask them. The Principal Investigator – Paul Kosak at xxx-xxx-xxxx or at xxxxx@xxxxx.xxx will be happy to answer any questions you may have. Questions may also be addressed to the faculty advisor. You may obtain further information about your rights as a research subject by calling the coordinator of the Boston University Institutional Review Board for Human Subjects Research.

Agreement to Participate
I have read this consent form. All my questions have been answered. I agree to participate in this study. I have been given a copy of this form.

__________________________
Name of Child

__________________________  _____________
Signature of Parent/Guardian   Date

Permission to Audio/Video Tape  Date

__________________________  _____________
Researcher                  Date
### Appendix G: Participant A, Ali, Individual Composition #1

<table>
<thead>
<tr>
<th>Time</th>
<th>E</th>
<th>R</th>
<th>D</th>
<th>S</th>
<th>Descriptive Notes</th>
<th>Reflective Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-00:12</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Ali not yet at keyboard</td>
<td></td>
</tr>
<tr>
<td>00:12-00:35</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>(Standing) 00:12 Randomly poking at keys with both index fingers</td>
<td>Ali does not seem to be listening to the sounds of her keyboard. She looks around the room while doodling. Seems she is just getting a “feel” for the keyboard without any attention to the sound.</td>
</tr>
<tr>
<td>00:36-01:00</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Ali walks away from the keyboard</td>
<td></td>
</tr>
<tr>
<td>01:01-01:13</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Tone clusters (hands) then alternating fingers 2/3</td>
<td>Not listening.</td>
</tr>
<tr>
<td>01:14-02:16</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Finds a 3-note motive (C#, D#, F#). Notes are performed holding down keys while ascending, and letting go of each key descending. 01:37 looks up with a smile. Repeated 3-note motive (G#, A#, C#) 01:58 quick break</td>
<td>Ali is very focused. She seems to have blocked out all other sounds in the room, and is staring at her right hand.</td>
</tr>
<tr>
<td>02:16-02:29</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Expands the 3-note motive into 4 notes (G#, A#, C#, D#).</td>
<td>All facial expression, and abrupt shift to a faster tempo suggest that she feels she is on to something.</td>
</tr>
<tr>
<td>02:20-02:44</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Original 3-note motive (C#, D#, F#)</td>
<td></td>
</tr>
<tr>
<td>02:45-03:02</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>3-note motive (G#, A#, C#) is played in different registers of the keyboard.</td>
<td></td>
</tr>
<tr>
<td>03:03-03:14</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>3-note motive moves to white keys. Then a new patch (timbre) is selected on the keyboard.</td>
<td>Ali is clearly satisfied with her 3-note motive, but is searching for a way to expand or vary the idea.</td>
</tr>
<tr>
<td>03:15-03:32</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Back to repetition of the motive (G#, A#, C#)</td>
<td></td>
</tr>
<tr>
<td>03:33-03:40</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Ali moves down to the white keys and begins to play repeated notes (B,B,B,B - D,D,D,D)</td>
<td>Looking away from the keyboard</td>
</tr>
<tr>
<td>03:41-04:01</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Ali has combined the repeated notes with the 3-note motive. (pitch = CC C-C CD E, rhythm = 1+2a3+4)</td>
<td></td>
</tr>
<tr>
<td>04:02-04:07</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Return to G#, A#, C#</td>
<td></td>
</tr>
<tr>
<td>04:08-04:19</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>All quickly abandoned the 3-note in favor of the new white-key motive. The new motive is quickly expanded. (pitch = CC C-C CD E) CC C-C E D, rhythm = 1+2a3+4</td>
<td></td>
</tr>
<tr>
<td>04:20-04:37</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>This new 2 measure motive is repeated several times.</td>
<td></td>
</tr>
<tr>
<td>04:38-05:21</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Ali is now trying to make changes to this 2-measure motive. Starting on different pitches, trying 4 notes, etc.</td>
<td></td>
</tr>
<tr>
<td>05:22-05:39</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G#, A#, C# repeating</td>
<td></td>
</tr>
<tr>
<td>05:40-06:02</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>2-measure motive repeating</td>
<td></td>
</tr>
<tr>
<td>06:03-06:38</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Attempts 2-measure on new starting pitches. Then moves higher on the keyboard, and borrows the short, long rhythm on pitches FG/FG/FG</td>
<td>Ali (mistakenly?) plays the motive starting on B instead of C. She pauses, and looks up at the camera with an “aha” facial expression. Then tries on G and F, but is clearly dissatisfied with the result. Quickly returns to C</td>
</tr>
<tr>
<td>06:39-07:18</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Repetition of G#, A#, C#</td>
<td></td>
</tr>
<tr>
<td>07:19-07:40</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Repetition (attempted) of the 2-measure motive</td>
<td>Ali seems content with her two motives, and seems to be rehearsing them rather than expanding at this point (even if the notes are not quite...</td>
</tr>
<tr>
<td></td>
<td>Time</td>
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<td>Notes</td>
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<td></td>
<td>07:41-08:23 X</td>
<td>Rhythm of the 2-measure motive is repeated, pitch becomes experimental.</td>
<td>the same).</td>
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<td></td>
<td>08:24-09:48 X</td>
<td>Repetition of the 3-note motive. Last note is extended through the borrowing of a rhythm from the two-measure motive. (Pitch G# A# C# - G# A# C# = G# A# C# C# C# C#). Rhythm = 1\times 2 \times 3 + 4 + 2 \times 3 + 4.</td>
<td>Ali appears to be getting restless at this point. This long section of repetition contains brief moments of silence as Ali takes a deep breath and looks away from the keyboard.</td>
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<td>09:49-10:00 X</td>
<td>Rhythm (1\times 2a 34) is repeated on individual pitches G and A. Then between keys.</td>
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<td>10:01-10:17 X</td>
<td>Glassand. First top to bottom, then with both elbows working in toward center.</td>
<td>Ali is clearly getting bored.</td>
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<td></td>
<td>10:18-11:08 X</td>
<td>Repetition of 3-note motive, interspersed with brief periods of silence.</td>
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<td>11:14-11:34 X</td>
<td>Ali is experimenting by trying the rhythmic motive on several different keys. Melody is not recognizable, although rhythm is intact.</td>
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<td></td>
<td>11:35-12:20 X</td>
<td>Repetition of 3-note motive, interspersed with silence. The rhythmic extension (08:24-09:48) of the three note motive has now been permanently accepted.</td>
<td>Bored</td>
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<td>12:21-12:37 X</td>
<td>Silence.</td>
<td>Ali appears bored and fatigued. She starts with a blank expression for 8 seconds. Then rests her chin down on the keys.</td>
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<tr>
<td></td>
<td>12:38-12:49 X</td>
<td>Repetition of the 3-note motive.</td>
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<td>12:50-15:04 X</td>
<td>Development of the rhythmic motive on the white keys. Pitch is centered on A at first. Pattern is played while ascending three keys, followed by three descending keys. Rhythmic motive (1\times 2a 34) changes (1\times 2 3e+4) 4(1e+2 34). This new 16-th-note rhythm is played ascending the C Major scale, followed by a 16-note descent. Stepwise motion on the white keys is explored, then abandoned for skips.</td>
<td>Focus is regained. Boredom seems temporarily relieved. Ali appears to feel as if she is on to something new.</td>
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<td>15:05-15:28 X</td>
<td>Ali now performs 2 ideas in succession. The 3-note motive is followed by the newly developed 16-th-note rhythm.</td>
<td>It appears that Ali is trying out the combination of her two ideas to see whether or not they go together.</td>
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<td>15:29-15:58 X</td>
<td>The newly developed white-key motive is further explored. The rhythm becomes repetition of 1e+a 2. This rhythm is performed at first ascending A,B,C, then descending A, G. Again this stepwise motion gives way eventually to larger skips.</td>
<td>Ali is clearly satisfied with the new faster rhythm, but appears to be searching for new pitches through which to express it. Again, focus remains during stepwise, but is lost when skips enter-as if she is dissatisfied with the resulting sound.</td>
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<td>15:50-16:49 X</td>
<td>Experimentation that utilizes the fast rhythm and large, random skips around the keyboard.</td>
<td>It seems that Ali is searching to make her fast (contrasting?) motive more exciting. As with the earlier attempts, Ali gravitates toward express this rhythm through leaps. She seems convinced that this disjunctive motion accurately expresses her intended sentiment, although, displeased with the actual sound.</td>
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<tr>
<td></td>
<td>16:30-17:00 X</td>
<td>3-note motive, and 16-th-note ideas are again performed in succession.</td>
<td>Ali seems to revert back to this as a sort of &quot;ground zero&quot; when experimentation leads to a dead end.</td>
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<td></td>
<td>17:01-17:11 X</td>
<td>The 16-th-note rhythm is now attempted on the</td>
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<tr>
<td>Time</td>
<td>Action</td>
<td>Notes</td>
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<tr>
<td>17:12-17:20</td>
<td>Silence</td>
<td>Ali rests her head on the keys.</td>
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<tr>
<td>17:21-17:41</td>
<td>Experimentation by random tone clusters. Ali is also changing keyboard patches frequently during this time.</td>
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<tr>
<td>17:42-18:16</td>
<td>Repetition of the two contrasting ideas.</td>
<td>It seems Ali has exhausted all ideas and is now rehearsing for a final performance.</td>
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<tr>
<td>18:17-18:23</td>
<td>Silence</td>
<td></td>
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<tr>
<td>18:23-18:44</td>
<td>Repetition of 3-note motive</td>
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<tr>
<td>18:45-19:17</td>
<td>Picking away at random keys with index fingers up and down the entire length of the keyboard.</td>
<td>Mid-way, Ali gives a look direct at the camera that suggests, “Are we done yet?”</td>
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<tr>
<td>19:18-19:23</td>
<td>Another repetition of the 2 contrasting ideas.</td>
<td>Again, back to “ground zero.”</td>
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<tr>
<td>19:24-21:17</td>
<td>Mostly random keys, up and down the keyboard, with index fingers. Ali frequently changes keyboard patches.</td>
<td>Ali is clearly “done” for the day, and wanting the clock to wind down.</td>
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<tr>
<td>21:18-21:45</td>
<td>Ali walks away from the keyboard</td>
<td>Ali is restless, bored, and exhausted. She steps away from the keyboard for a quick break.</td>
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<tr>
<td>21:46-23:22</td>
<td>Random keys, up and down, with index fingers.</td>
<td>Ali is not listening or paying much attention to the sound of her keyboard. Ali occasionally looks up at the camera, hoping it will soon be over.</td>
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<tr>
<td>24:04-24:22</td>
<td>Random keys, alternating left/right index fingers</td>
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<tr>
<td>24:23-24:45</td>
<td>Participants are asked to stop composing and to begin a performance of their ideas</td>
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<tr>
<td>24:46-26:00</td>
<td>Ali’s performance</td>
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</tbody>
</table>
Appendix H: Participant A, Ali, Individual Composition #2

<table>
<thead>
<tr>
<th>Time</th>
<th>E</th>
<th>R</th>
<th>D</th>
<th>S</th>
<th>Reflective Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-00:29</td>
<td>X</td>
<td></td>
<td></td>
<td>Descending white keys, with index finger, from treble A down 2 octaves.</td>
<td>Ali seems to look away and just feel her way around the keys until she stumbles onto something. Then focuses, looks at the keys, and listens.</td>
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<td>Then, B-C-D-E, with swing rhythm</td>
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<td></td>
<td>Then alternating index fingers in a pattern of up a 3\textsuperscript{rd}, down a 2\textsuperscript{nd}. White keys.</td>
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</tr>
<tr>
<td>00:30-00:47</td>
<td>X</td>
<td></td>
<td></td>
<td>All removes the headphone wires from her keyboard.</td>
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</tr>
<tr>
<td>00:48-00:53</td>
<td>X</td>
<td></td>
<td></td>
<td>Random poking at keys with RH index finger. Ascending white keys 2.5 octaves from middle 'C'.</td>
<td></td>
</tr>
<tr>
<td>00:54-00:59</td>
<td>X</td>
<td></td>
<td></td>
<td>Ali takes a deep breath and fixes her hair.</td>
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</tr>
<tr>
<td>01:00-01:06</td>
<td>X</td>
<td></td>
<td></td>
<td>RH plays lefthand 2	extsuperscript{nd} on 'B' below middle 'C'. LH answers with lowest keys-first 2 notes, then 6.</td>
<td>At 01:49 Ali makes a gesture with her right hand, turning it palm side up, as if to imply, 'hmmm... this musical idea is not so bad.' Ali places her LH on top of her RH, to help push the keys down. It seems that, although she likes the sound of the 3\textsuperscript{rs}, she is having technical difficulty playing them. Ali is so focused at this point that she apparently completely blocks out Felix's interruption, &quot;yayayayaya,&quot; in the background.</td>
</tr>
<tr>
<td>01:09-01:41</td>
<td>X</td>
<td></td>
<td></td>
<td>All changes patches on the keyboard. Finally settles on the 'piano' patch.</td>
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<tr>
<td>01:41-02:42</td>
<td>X</td>
<td></td>
<td></td>
<td>Harmonic 3\textsuperscript{rs} are repeated at length in the range just above middle 'C' using fingers 2 and 3. Rhythm is played as alternating long and short durations. Movement from one 3\textsuperscript{rd} to the next is by skip, not step.</td>
<td>Ali's focus is evident as she once again blocks out another interruption of Felix. This shift from 3\textsuperscript{rs} to 2\textsuperscript{nds} may be the result of a lack of technical facility. Ali seems to prefer the sound of the 3\textsuperscript{rs}; boredom because she does return to them. But, when 3\textsuperscript{rs} come back, she exhibits difficulty in executing them, as she pushes the RH down with the LH.</td>
</tr>
<tr>
<td>02:43-03:35</td>
<td>X</td>
<td></td>
<td></td>
<td>All begins by playing a melody a-a-a-a-g-b-c. RH encompasses a-c 3\textsuperscript{rd}. LH g is played as a 3\textsuperscript{rd} down from b.</td>
<td>The earlier rhythmic idea, alternating short/long, is repeated over and over while 'searching' for best pitches. Range middle 'C' and 1 octave above.</td>
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<td>This is quickly abandoned for rhythmic, pulsing ½ notes. RH and LH are now playing major 2\textsuperscript{nds} in this rhythm. However, the 2\textsuperscript{nds} are clearly a development from the 3\textsuperscript{rs} due to same fingering (2/3).</td>
<td>This original idea of harmonic 3\textsuperscript{rs} returns. Rhythm is now straight ½ notes rather than the long/short alterations.</td>
</tr>
<tr>
<td>03:36-03:58</td>
<td>+</td>
<td>X</td>
<td></td>
<td>The earlier rhythmic idea, alternating short/long, is repeated over and over while 'searching' for best pitches. Range middle 'C' and 1 octave above.</td>
<td>Ali's focus is evident as she once again blocks out another interruption of Felix. This shift from 3\textsuperscript{rs} to 2\textsuperscript{nds} may be the result of a lack of technical facility. Ali seems to prefer the sound of the 3\textsuperscript{rs}; boredom because she does return to them. But, when 3\textsuperscript{rs} come back, she exhibits difficulty in executing them, as she pushes the RH down with the LH.</td>
</tr>
<tr>
<td>03:59-04:10</td>
<td>X</td>
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<td></td>
<td>Patch is switched to 'electric piano'. The rhythm is changed to steady quarter notes E-D-F-E-D-E-D. This melodic idea encompasses a 3\textsuperscript{rd}.</td>
<td>Technical facility is still an issue. Although Ali aims to play harmonic thirds, her use of fingers 2/3, hand position, and low wrist make it difficult to execute.</td>
</tr>
<tr>
<td>04:11-05:06</td>
<td>X</td>
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<td></td>
<td>Ali is now developing both the rhythm (short/long) and the harmonic 3\textsuperscript{rs}. She performs with RH and tries different combinations (mostly skips). One particular pattern (DC-AC--) is repeated often.</td>
<td>It is interesting how Ali positions her</td>
</tr>
</tbody>
</table>
patch is switched to "organ." Ali now begins to build harmonic stacks of 3's. First ascending - DFAC, EGBD, then descending F-D-B-(A). hands to play these stacked chords. She crosses one hand over the other, and in the descending chord, she plays RH fingers 1, 2, 3 with her hand upside-down. This shows that the idea of stacking 3's dominates the compositional process, not just the "feeling" of the keys.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>06:09-06:32</td>
<td>X Patches are changed through the various &quot;organ&quot; type sounds.</td>
</tr>
<tr>
<td>06:33-06:47</td>
<td>X Same organ sound as before is selected. Another stack of 3's (ACEG) is played.</td>
</tr>
<tr>
<td>06:48-7:00</td>
<td>X While beginning a descent in 3's (A-G-F), Ali suddenly plays &quot;Mary Had A Little Lamb&quot;</td>
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<tr>
<td>07:01-07:08</td>
<td>X 8 seconds of silence.</td>
</tr>
<tr>
<td>07:09-07:23</td>
<td>X Same short/long harmonic 3's as 04:11-05:06. But, this time it starts on B. (B-CB-GB-CB-CD-DC-CDB---)</td>
</tr>
<tr>
<td>07:24-07:28</td>
<td>X Silence</td>
</tr>
<tr>
<td>07:29-07:46</td>
<td>X The short/long harmonic 3's are now attempted simultaneously in both hands.</td>
</tr>
<tr>
<td>07:46-07:59</td>
<td>X Silence</td>
</tr>
<tr>
<td>08:00-08:32</td>
<td>X A melodic idea is played that generally covers the range of a 3rd (e-f-g). The alternating short/long rhythmic idea is utilized but performed at double speed.</td>
</tr>
<tr>
<td>08:33-08:36</td>
<td>X Silence</td>
</tr>
<tr>
<td>08:37-08:48</td>
<td>X The short/long alterations are now performed in both hands simultaneously. Hands skip randomly around the keys, 'searching'. Hands move in mirror image of one another.</td>
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<tr>
<td>08:49-09:28</td>
<td>X The above idea is reduced to a single note in each hand. Hands move in contrary motion, stepwise, from the center, out to the ends of the keyboard, and back again.</td>
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<tr>
<td>09:29-09:35</td>
<td>X The short/long rhythm is performed on random keys.</td>
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<tr>
<td>09:35-09:45</td>
<td>X The idea of 04:11 is repeated again. (E---FE----CE---)</td>
</tr>
<tr>
<td>09:45-10:02</td>
<td>X Random stepwise melodic ideas are explored in 1.5 octave range above middle C.</td>
</tr>
<tr>
<td>10:03-10:46</td>
<td>X The idea of 08:49-09:28 is revisited. Single notes are performed in each hand simultaneously. Motion begins at the ends of the keyboard and works in toward middle C.</td>
</tr>
<tr>
<td>10:46-11:06</td>
<td>X Random keys are explored in the upper range of the keyboard. While exploring, Ali begins to experiment with the black keys.</td>
</tr>
<tr>
<td>11:07-11:34</td>
<td>X This chromatic motion is repeated, and explored. Perfomed first with alternating index fingers, then holding keys down, then return to alternating fingers.</td>
</tr>
<tr>
<td>11:34-12:12</td>
<td>X Return to 'ground zero'.</td>
</tr>
<tr>
<td>12:12-14:40</td>
<td>X The idea of harmonic 3's is developed. Ali begins by playing a harmonic 3, then the single note in the middle. This pattern then moves up by step and repeats. As Ali works up the keyboard, the idea of the harmonic 3's is lost to the performance of melodic 3's. The pattern then descends to the bottom of the keyboard.</td>
</tr>
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</table>
| 14:40-15:01 | X Further development of the idea of the 3's takes place as Ali plays melodic 3's up the entire
<table>
<thead>
<tr>
<th>Time</th>
<th>Action</th>
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<tbody>
<tr>
<td>15:01-15:38</td>
<td>X Ali plays a few random keys then repeats (F-A-B-C, C-B-A-F) over and over. This is performed</td>
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<tr>
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<td>by holding down the keys.</td>
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<tr>
<td>15:39-16:16</td>
<td>X Random exploration, using RH index finger. Several patch changes are made.</td>
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<tr>
<td>16:16-17:22</td>
<td>X Through the previous exploration, an ascending, stepwise melody is performed. This is repeated</td>
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<td>several times. The each begin the same way (GABC—DEF) then have different endings to them.</td>
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<tr>
<td>17:22-17:45</td>
<td>X Return to ground zero. This is followed by repetition of the descending pattern (down a 3rd up a</td>
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<td>2nd) to the bottom of the keyboard.</td>
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<tr>
<td>17:45-17:53</td>
<td>X Ali builds a tone cluster with her left hand, adding one note at a time, from C-G.</td>
</tr>
<tr>
<td>17:54-18:06</td>
<td>X Silence</td>
</tr>
<tr>
<td>18:06-18:49</td>
<td>X The stepwise ascending motive of 16.16 is repeated several times. Again—same beginning, but</td>
</tr>
<tr>
<td></td>
<td>different endings</td>
</tr>
<tr>
<td>18:49-19:10</td>
<td>X Silence</td>
</tr>
<tr>
<td>19:10-19:22</td>
<td>X The stepwise ascending motive is repeated, and interspersed with periods of silence.</td>
</tr>
<tr>
<td>19:22-19:52</td>
<td>X Silence</td>
</tr>
<tr>
<td>19:53-19:59</td>
<td>X The stepwise ascending motive repeats again (CDEF—GAB—BCDE—FGA-B-C)</td>
</tr>
<tr>
<td>20:00-20:32</td>
<td>X Different pitch combinations are attempted on the stepwise ascending motive, but, the rhythm</td>
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<tr>
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<td>remains the same.</td>
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<tr>
<td>20:32-20:51</td>
<td>X Ali listens to what others are doing, and mimes them. Glissandi.</td>
</tr>
<tr>
<td>20:51-21:00</td>
<td>X Another attempt at the ascending, stepwise motive.</td>
</tr>
<tr>
<td>21:00-22:00</td>
<td>X Ali calls participant C, Maggie, over for assistance.</td>
</tr>
<tr>
<td>22:01-22:08</td>
<td>X Another repetition</td>
</tr>
<tr>
<td>22:08-22:15</td>
<td>X Silence</td>
</tr>
<tr>
<td>22:15-22:43</td>
<td>X Descending black keys, from the top of the keyboard are performed. A patch change is made (elec.</td>
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<td>piano), and the descent is played again.</td>
</tr>
<tr>
<td>22:43-24:02</td>
<td>X Ali walks away from the keyboard</td>
</tr>
<tr>
<td>24:02-24:07</td>
<td>X Random keys are pressed while Ali recites “Peter Piper picked—”</td>
</tr>
</tbody>
</table>

**Notes:**
- Ali may be searching for inspiration from her peers. Earlier, the Raider's March was copied. Now she copies Felix's tongue-twisters, and incorporates into her composition. Ali's mood is silly and restless.
<table>
<thead>
<tr>
<th>Time (24:00)</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24:07-24:14</td>
<td>X</td>
<td>Random keys are pressed. All is done. She is not paying any attention to what she is playing.</td>
</tr>
<tr>
<td>24:14-24:19</td>
<td>X</td>
<td>Black keys descending motive is repeated. Off camera, Felix is heard reciting “Peter Piper.”</td>
</tr>
<tr>
<td>24:19-24:45</td>
<td>+ X</td>
<td>Ali looks toward Felix. Felix walks over. The two sit facing each other and recite “Peter Piper.” During the interaction, Ali briefly plays the black keys descending motive.</td>
</tr>
</tbody>
</table>
## Appendix I: Composition Activity for Ali, Maxwell, Maggie, and Kenny

<table>
<thead>
<tr>
<th>Time</th>
<th>E</th>
<th>R</th>
<th>D</th>
<th>S</th>
<th>Group Activity</th>
<th>Alt' Activity</th>
<th>Reflective Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-</td>
<td>AG</td>
<td></td>
<td></td>
<td></td>
<td>Kenny and Maggie (in center of keyboard are discussing some ideas involving 3 keys, while Maxwell (top) and Ali (bottom) are playing their own thing)</td>
<td>Ali is playing random keys at the bottom of the keyboard.</td>
<td></td>
</tr>
<tr>
<td>00:25</td>
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<td>Maggie suggests playing Mary Had a Little lamb. Kevin and Maggie attempt playing the song together. Maxwell is holding the last three keys at the top of the keyboard that plays a piercing sound that interrupts the group</td>
<td>Ali watches Maggie and Kevin perform.</td>
<td>Kevin physically removes Maxwell's hands from the keys. Already there are signs of frustration in the group.</td>
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<td>00:35-</td>
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<td>Kenny asks the groups to try playing &quot;Twinkle, Twinkle&quot; - Maggie and Ali quickly reply, &quot;No.&quot; Maxwell continues to hold out high C and Maggie continues &quot;Mary Had.&quot; Maxwell continues holding out the highest keys.</td>
<td>Ali watches</td>
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<td>01:06-</td>
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<td>ALL four participants are experimenting independently. All are playing stepwise motion with one hand</td>
<td>Ali plays three rapid ascending notes, followed by a single pitch repeated twice.</td>
<td>Initially Kenny/Maggie sought to find common ground by playing songs they all knew. It's becoming clear that this would be harder than they originally thought.</td>
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<td>01:45-</td>
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<td>Paper was given to the group as a tool to use. Kenny takes the paper and signals the group to start putting some ideas together. The other three in the group ignore Kenny, and continue repeating their own ideas. Kenny now suggests that the boys hold down the top keys (Maxwell's idea) while the girls play something else.</td>
<td>Ali continues to repeat the motive from the above example.</td>
<td>At this point a division between the boys and the girls begins. Kenny starts to play similar ideas as Maxwell, and Maggie and Ali play similar ideas. Kenny is trying to take control, the other three ignore him.</td>
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<td>02:05-</td>
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<td>Kenny tries a patch change. Maxwell and Maggie then join in. All three are changing patches. Kenny splits keys into fantasy/rock organ. Maggie comments, &quot;this is so annoying.&quot;</td>
<td>Ali continues to repeat her last idea and ignores patch changes being made.</td>
<td>The group is not working together- all 3 at the same time changing patches seems more like fighting.</td>
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<td>03:09-</td>
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<td>Everyone but Kenny plays new stepwise motion ideas. Maxwell descends on the white keys from the top to the middle of the keyboard. Kenny gently pushes his hand off of the keys.</td>
<td>Ali plays descending stepwise motion on the black keys</td>
<td>The boys and girls seem to have different opinions of what sounds good.</td>
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<td>03:17-</td>
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<td>Kenny and Maxwell hold out tone clusters at the top of the keyboard. Then Kenny attempts to combine the boys/girls idea and plays a cluster in the RH and &quot;Mary Had&quot; in the LH. After holding another cluster, Maggie comments to the boys, &quot;I don't get how you—that is so annoying!&quot;</td>
<td>Ali keeps repeating the same ideas and pays no attention to what the others are doing.</td>
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<td>03:44-</td>
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<td>Maggie alternates between changing patches and playing clusters. Maxwell still holds out top three keys. Kenny pokes randomly at the keys with both index fingers. Maggie keeps searching</td>
<td>Ali continues to repeat the same stepwise ideas.</td>
<td>Maggie's purpose is to find a sound where the boys' tone clusters become less annoying. Ali still does not appear annoyed or</td>
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<td>04:08-05:04</td>
<td>G</td>
<td>A</td>
<td>Maggie says, &quot;Hmm. Let's see,&quot; then suggests that someone plays glissandi in contrary motion and another plays a melody in the center of the keyboard. Kenny then interrupts and suggests a similar idea, &quot;I know... we go like that [gliss] and play [sings rhythm and motions to center of keyboard].&quot; Maggie mumbles sarcastically, &quot;Yeah, OK.&quot; The group tries the idea.</td>
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<td>05:04</td>
<td>G</td>
<td>A</td>
<td>Everyone in the group repeats previous ideas. Kenny repeats four ascending notes. Maggie plays &quot;Happy Birthday.&quot; Maxwell begins another round of patch changes. Maggie says, &quot;Stop.&quot;</td>
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<td>05:20-05:58</td>
<td>G</td>
<td>A</td>
<td>Maggie says, &quot;Let's do something like this&quot; and changes the patch to &quot;Rock Organ&quot; and then &quot;Pipe Organ.&quot; Maggie and Maxwell play clusters. Kenny plays as rapidly as possible with 4 fingers from both hands (e.g. guitar solo) and bows his head down. Maggie laughs at Kenny. Maxwell continuously holds down a cluster at the top of the keys. Eventually, the sound becomes overwhelming to all (except Maxwell) and they all stop and stare at Maxwell. Maggie finally turns the volume off to stop the piercing tone. Maxwell still holds the keys. Kenny lifts his hand off of the keyboard and Maggie says, &quot;Stop it.&quot;</td>
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<td>05:58-06:26</td>
<td>G</td>
<td>A</td>
<td>Maggie makes a series of patch changes. Maggie and Kenny agree that &quot;E. Piano&quot; sounds great.</td>
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<td>06:26-06:41</td>
<td>G</td>
<td>A</td>
<td>Maxwell, Maggie, and Kenny repeated previous ideas with the newly selected &quot;E. Piano&quot; patch. The volume is turned off. When it is restored Maggie laughs and Ali jumps.</td>
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<td>06:41-07:06</td>
<td>AG</td>
<td>A</td>
<td>Kenny attempts to focus the group and conduct the ideas they are already playing. He says, &quot;One person goes like this [cluster] and you keep going like that [Maxwell plays repeated high 'e'].&quot; No one is listening to Kenny. He then tries to include the girls- Iffy Maggie's hand off of the keys. As the girls continue to play independently, Kenny motions several times with a 'time-out' sign.</td>
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<td>07:06-07:31</td>
<td>G A</td>
<td>Maggie makes many patch changes. Kenny now reaches over her to make patch changes also. When an organ patch is selected, Maxwell plays his top 3 notes. Kenny plays his guitar solo material. Maggie plays a cluster, Ali is silent. Eventually the girls stop playing. Maxwell holds a Bb, and Kenny holds a D. Ali watches the whole time and does not play a note. Kenny's patch changes interrupted Kenny's conducting. Kenny answers this by changing her patch changes. Rivalry is evident. Maggie's cluster seems to be played out of frustration, and without musical purpose. The 'D-Bb' harmony seems to give Kenny an idea.</td>
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<td>07:31-08:22</td>
<td>G A</td>
<td>Kenny conducts the group again. He physically picks up and places down Maxwell's hand on the high 'e'. Kenny holds the 'e'. He now begins to include the girls' ideas. Again, Kenny lifts Maxwell's LH from the keys, Maxwell holds down high 'e' anyway with his RH. Maggie tells Maxwell to stop. Ali lisens to Kenny, and tries to cooperate, but seems bothered by Maxwell. There seems to be an attempt at the simultaneous performance of the boys' and girls' ideas. However, now that the girls seem willing to listen, Maxwell is making it nearly impossible to move forward due to the piercing pipe organ high 'e' that he holds for this entire segment.</td>
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<td>08:22-09:00</td>
<td>AG</td>
<td>Maggie makes a patch change to &quot;Choir.&quot; The group is quiet and listening to Maggie play. Kenny changes to &quot;Rock Organ.&quot; Everyone plays randomly and independently. Maxwell holds high 'e' again. Ali quickly changes to &quot;E. Piano&quot; and Maxwell holds a Bb, and Kenny holds a E. Maxwell prefers the organ patches. Kenny enjoys them, Maggie can tolerate them with a sense of humor, and Ali despises them. Maggie and Kenny have a dialogue about what they've accomplished and what we've done so far is bang on the keyboard. We've got so much time left. Maggie: &quot;Kenny: It seems like all we've done so far is bang on the keyboard. We've got so much time left. Maggie: Seriously? [Kenny and Maggie look at the clock] Too bad Kenny: 20 minutes. Ali: We have to think of something.&quot; At this point Ali seems concerned whether they will get anything accomplished, and is willing to work with Kenny's ideas.</td>
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<td>09:09-09:12</td>
<td>AG</td>
<td>Maggie attempts to further develop Kenny's earlier idea. &quot;Maggie: How about somebody goes like this [gliss] somebody else goes [cluster in center of keyboard]&quot; Ali remains independent and continues to play her stepwise motion idea.</td>
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<td>09:12-09:39</td>
<td>AG</td>
<td>Maggie and Kenny have a dialogue about what they've accomplished and the amount of time left. &quot;Kenny: It seems like all we've done so far is bang on the keyboard. We've got so much time left. Maggie: Seriously? [Kenny and Maggie look at the clock] Too bad Kenny: 20 minutes. Ali: We have to think of something.&quot; Ali lisens to the dialogue and looks at the clock. She turns to the group and states, &quot;We have to think of something.&quot; Maxwell begins to bang clusters up and down the upper half of the keyboard. Ali is switching patches. When an organ patch is selected, Maxwell holds another piercing cluster at the top of the keyboard. Maggie holds her ears. Ali stops paying altogether and expresses concern for their progress. She states, &quot;Guys we have to come up with something to do.&quot; Maxwell is clearly being defiant. Perhaps he feels that he has been excluded, and so he is forcing his ideas to be heard. Perhaps this is Maxwell's attempt to take leadership from Maggie and Kenny. Either way, he is...</td>
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<td>12:00-12:23</td>
<td>A G</td>
<td>Kenny now includes Maxwell and pulls the group together and develops their ideas. He says, &quot;[to Maggie] Do that and [to Maxwell] do that twice.&quot; Maggie and Maxwell respond to Kenny's request. Kenny improvises new material over them. Maxwell was very quick to follow Kenny once his ideas were included in the piece.</td>
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<td>12:23-12:39</td>
<td>AG</td>
<td>All four participants explore independently. Ali is really just Maxwell was very quick to repeating her ideas, not really developing with the group. Kenny enjoys new ideas. Again, the comfort of independent exploration follows the uncomfortable group collaboration.</td>
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<td>12:39-13:10</td>
<td>AG</td>
<td>Kenny physically removes Maxwell's hands from the keys again. Maxwell returns to playing random clusters up and down the upper half of the keyboard. Kenny makes many attempts to stop Maxwell. Ali and Maggie watch the negative interaction. At this point, the collaboration has turned from a boys/girls division to a unified detachment from Maxwell. The group is frustrated, annoyed, and unproductive.</td>
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<td>13:10-13:18</td>
<td>AG</td>
<td>Kenny tries again to rehearse the ideas that were discussed earlier by the group. No one listens. Maggie's move may be to avoid physical altercation between Kenny and Maxwell.</td>
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<td>13:18-13:37</td>
<td>AG</td>
<td>Maggie physically moves between Kenny and Maxwell. Kenny comments, &quot;You have to do have subtle control of the group by simply changing volume.&quot; Maggie, when it stops. Ali has seemingly removed herself from the collaborative activity, and says, &quot;I have my own piece.&quot;</td>
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<td>13:37-14:06</td>
<td>G A</td>
<td>The group continues to explore randomly. Ali announces that she has her own piece, then unplugs the keyboard. Ali remains silent and watches the other three in the group. Kenny is the only one who seems to think they are playing the same piece. He is desperately trying to make it work.</td>
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<td>14:06-14:26</td>
<td>G A</td>
<td>Keyboard is plugged back in, exploration continues. Kenny tries again to lead a rehearsal. He begins by removing Maxwell's hand from the keys. He turns to Maggie, &quot;You- play right there&quot; and turns to Ali, &quot;You- do the volume.&quot; Maggie, Maxwell, and Kenny play randomly. Ali then tunes the volume all the way down, and the group stops playing. They all turn to look at the clock. Maggie slams her keys on the keyboard. Maggie plays an interesting melody. Kenny plays along on two keys in a drum-beat rhythm. They all turn to look at the clock. Maggie slams her keys on the keyboard.</td>
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<td>14:26-14:56</td>
<td>G A</td>
<td>Kenny tries again to lead a rehearsal. Kenny comments, &quot;You have to do the volume 'cause these are still lit when it stops.&quot; Ali has found that she can have subtle control of the group by simply changing volume. Kenny shows interest in one of Maggie's ideas. &quot;Maggie: I don't know, I just pressed one of these [cluster] Kenny: Kenny and Maggie seem to be working together. However, although Maggie</td>
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<td>14:56-15:25</td>
<td>G A</td>
<td>A patch change is made to &quot;Synth. Brass.&quot; Maggie plays an interesting melody. Kenny plays along on two keys in a drum-beat rhythm. They all turn to look at the clock. Maggie slams her keys on the keyboard. Ali rehearses her piece. Kenny is the only one who seems to think they are playing the same piece. He is desperately trying to make it work. Maggie plays an interesting melody. Kenny plays along on two keys in a drum-beat rhythm. They all turn to look at the clock. Maggie slams her keys on the keyboard.</td>
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<td>15:25-16:14</td>
<td>AG</td>
<td>Everyone repeats previous ideas, but works independently. Ali continues to rehearse her piece. Kenny is the only one who seems to think they are playing the same piece. He is desperately trying to make it work.</td>
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<td>16:14-16:45</td>
<td>AG</td>
<td>Kenny shows interest in one of Maggie's ideas. &quot;Maggie: I don't know, I just pressed one of these [cluster] Kenny: Kenny and Maggie seem to be working together. However, although Maggie</td>
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<td>16:45-17:22</td>
<td>G A</td>
<td>Maxwell continues playing the 3 highest keys. Kenny continues his guitar solo ideas. Maggie begins a previous stepwise ascending idea. Maxwell begins bangs clusters again, which brings up the intensity level of Kenny and Maxwell's ideas. Maggie again is displaying frustration through the clusters. Kenny and Maxwell, however, are going with the increased energy level and playing along as if it is a good thing.</td>
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<td>17:22-18:01</td>
<td>G A</td>
<td>Kenny again begins to conduct. He hears what Ali and Maggie are playing and seems to want to organize them together. He picks up Maxwell's hand and Maggie's hand from the keyboard. Maggie slams both hands down on the keyboard and eyes Kenny. Kenny's insistence to take charge is making many in the group angry. His decision to physically remove others hands from the keyboard is not well received. Maggie and Maxwell are both angry with Kenny at this point.</td>
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<td>18:01-18:24</td>
<td>G A</td>
<td>Kenny tries again to control the group and says, &quot;Guys.&quot; Maxwell and Maggie went out their anger with Kenny by slamming the keys repeatedly. He calms Maxwell by instructing him (non-physically) to &quot;press that key,&quot; Maxwell cooperates. Kenny pays no attention to the situation between Maggie, Kenny, and Maxwell. She just continually repeats her own ideas.</td>
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<td>18:56-19:06</td>
<td>AG</td>
<td>Everyone explores their own ideas.</td>
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<td>19:06-19:27</td>
<td>AG</td>
<td>While everyone explores independently, Kenny suggests, &quot;Kenny: Guys, Maggie: How many more seconds? Kenny: How 'bout we do something where one person presses one note and another person presses a different one?&quot; The girls both stop playing, look at each other. The girls suggest that they are fed up with Kenny.</td>
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<td>19:27-19:45</td>
<td>G A</td>
<td>More independent exploration Ali is silent</td>
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<td>19:45-20:21</td>
<td>AG</td>
<td>More exploration Ali is experimenting</td>
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<td>20:21-20:44</td>
<td>AG</td>
<td>While Ali turns the volume up and down rapidly, it catches Kenny's attention: &quot;Kenny: Keep on doing that Ali: This? Maggie: That's weird.&quot; Ali is turning the volume up and down rapidly The first positive group interaction in a long time.</td>
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<td>20:44-21:04</td>
<td>AG</td>
<td>Ali repeats the volume swells while the other 3 work out their parts Playing the volume swells for the group. Ali seem interested in this idea.</td>
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<td>21:05-21:56</td>
<td>Kenny again takes charge to try to develop this idea. He tells Maxwell what note to play. Then takes Maggie's position on the keyboard to show his idea. Maxwell, Maggie, and Ali all stop playing, and Kenny is left alone on the keyboard while the others look away.</td>
<td>Ali is silent. Again Kenny wants to take charge, and it backfires. He means well, and was only trying to re-focus the group with the new found positive energy. The response of the group was to turn away.</td>
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<td>21:56-22:16</td>
<td>Maggie now suggests that each person plays on a group of 2 black keys. &quot;Maggie: How about one of us presses these two--see every two--one of us should press these two Kenny: everyone presses two.&quot;</td>
<td>Ali is rehearsing her own piece again. Maggie could be upset again that her ideas were ignored. On the other hand, the volume swell idea is the first that got Ali and Maxwell involved at all.</td>
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<td>22:40-22:50</td>
<td>Maggie stops the volume swell idea. &quot;Maggie: That's so weird.&quot; She switches to a piano patch and turns the volume to an appropriate, constant level. The rest of the group stops playing.</td>
<td>Everyone explores independently. It seems they are just running down the clock.</td>
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<td>22:50-23:41</td>
<td>Everyone explores independently. Maxwell says, &quot;It's 9:05.&quot; and begins banging black-key clusters across the range of the keyboard. Kenny repeatedly tries to stop Maxwell and says, &quot;I want to finish this, stop.&quot;</td>
<td>Ali keeps to herself and rehearse her own piece.</td>
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<td>23:41-24:14</td>
<td>Dialogue: &quot;Maxwell: Why can't I play it? Kenny: Yeah, because that's [clusters] all you're doing. Maxwell: Well you're not doing anything else. Ali: Well he could show his idea. Kenny: OK Ali: Let him try. Kenny: OK--well just—tell us what you are doing. Tell us what you're doing Maxwell: Just playing all the black keys. Kenny: Hitting all the black keys. See how it sounds, nobody else play.&quot; Maxwell plays descending black-key clusters in a rhythm long-long-long-long-short-short-short-short.</td>
<td>Ali stands up to Kenny, and gives Maxwell a chance to contribute to the group. Ali, who so quietly kept to herself throughout the whole process, now puts Kenny in his place, and opens the door for Maxwell to make his contribution to the group. Maxwell plays his idea without hesitation for the group. I feel that all of his disruptions up to this point were a call for his voice to be included.</td>
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<td>24:14-24:45</td>
<td>Kenny once again attempts to take over the group, and develop the group's ideas. He directs Maxwell to &quot;do his thing,&quot; and tells Maggie to play her part when he says &quot;go.&quot; Maggie looks up in the air. He tells Ali to play when it, &quot;get's down there.&quot; Everyone in the group makes an attempt to play the piece.</td>
<td>Ali plays her of the piece, and then turns away from the keyboard and yawns. Maggie looks up and smiles as if to suggest that Kenny still does not understand that he is being bossy.</td>
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<td>24:45-25:37</td>
<td>Kenny once again attempts to take over the group, and develop the group's ideas. He directs Maxwell to &quot;do his thing,&quot; and tells Maggie to play her part when he says &quot;go.&quot; Maggie looks up in the air. He tells Ali to play when it, &quot;get's down there.&quot; Everyone in the group makes an attempt to play the piece. Kenny is still trying to conduct, moving Maxwell's hand over the black keys and informing him to &quot;keep playing that.&quot; Nobody is responding to Kenny's suggestions.</td>
<td>Ali plays her of the piece, and then turns away from the keyboard and yawns. Maggie looks up and smiles as if to suggest that Kenny still does not understand that he is being bossy.</td>
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<td>25:37-27:05</td>
<td>Everyone is just repeating their ideas. Maxwell is still trying to conduct, moving Maxwell's hand over the black keys and informing him to &quot;keep playing that.&quot; Nobody is responding to Kenny's suggestions.</td>
<td>Ali rehearse her own piece.</td>
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<td>BEGIN DAY 2</td>
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<td>00:00-00:25 G Now Maggie and Maxwell have switched spots. Kenny is in the middle. Ali is absent on day 2. Kenny immediately stops Maggie and Maxwell and tries to have them re-play their parts. &quot;Kenny: OK, time out—[snaps his fingers.] Stop. Let's think. [To Maggie.] You do the idea and Maxwell and I will—Maggie: I don't know. Kenny: Play Mary Had A Little Lamb.&quot; Maggie plays &quot;Mary Had.&quot;</td>
<td>Just as day 1, Kenny still sees his role as leader of the group and is making an effort to organize everybody.</td>
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<td>00:25-00:48 G As Maggie is finishing &quot;Mary Had.&quot; Maxwell begins playing up the entire length of the keyboard stepwise on the groups of 3 black keys. When he reaches the area of the keyboard where Maggie is playing, Maggie says, &quot;OK, that's just too annoying.&quot; Maxwell continues anyway, and while descending back down the keyboard, Kenny joins in. Maggie holds down the top two keys; looks up at the ceiling and says, &quot;We have no ideas.&quot; Kenny says, &quot;It sounds good.&quot;</td>
<td>Maggie is annoyed that Maxwell interrupted her. She tries to do the same to Maxwell by holding out the top two keys and insisting they have no ideas. Kenny stands up for Maxwell, validating his idea.</td>
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<td>00:48-01:17 G All three experiment independently.</td>
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<td>01:17-01:52 G Maxwell turns on a drum pattern. Maggie laughs, &quot;We should totally use this.&quot; Kenny and Maggie experiment for ideas while Maxwell continues to press all of the buttons on the keyboard.</td>
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<td>01:52-02:04 G Kenny motions his hands into a &quot;time-out&quot; sign. He tells Maxwell to stop.</td>
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<td>02:04-02:15 G When Kenny asks Maxwell to stop, Maxwell is playing with both hands rapidly wiggling on the white keys. After the group is quiet, Kenny plays Maxwell's idea, then asks Maggie to copy it, the Maxwell copies it. Maggie says, &quot;I stick at this.&quot;</td>
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<td>02:15-02:25 G Independent experimentation.</td>
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<td>02:25-02:31 G Maggie turns on the drums. Kenny gives her a look and then Maxwell turns them off.</td>
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<td>02:31-03:30 G The group pays little attention to what they are playing. Lots of buttons are being pushed by all three. Casual conversation takes place.</td>
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<td>03:30-04:27 G Kenny signals Maggie to stop. Then holds down Maxwell's hand. Maxwell tolerate being physically restrained from playing for a short while, then states, &quot;Are we really missing someone?&quot;</td>
<td>At the end of day 1, Ali was the one who stood up for Maxwell and let his ideas be heard by the group. Now that Kenny is physically stopping Maxwell again, Maxwell may be searching for her rescue once again.</td>
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<td>04:27-04:39 G The group experiments with tone clusters.</td>
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<td>04:39-05:16 G Many patch changes are made. The group is generally silent.</td>
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<td>05:16-06:23 G Maggie leaves the keyboard to go get a Munchkin. &quot;Maggie: I wanna go get a Munchkin, anybody want to take a break? Kenny: I'm gonna go brainstorm [waves Maggie away with his RH].&quot; Kenny works with Maxwell &quot;OK Maxwell,&quot; and places Maxwell's LH hand on a cluster. Kenny then holds Maxwell's RH on another cluster and improvises a melody. When Maggie returns, Kenny looks at her with a smile. Maggie starts to play randomly at the top of the keyboard. Kenny says to Maggie, &quot;Kenny: We got something. Maggie: I have no idea what's going on.&quot; Maggie walks away. Kenny waves her over, &quot;Come here.&quot; Maggie does not come back. Maxwell walks away. Kenny is left alone at the keyboard.</td>
<td>As soon as Maggie left, Kenny's demeanor changed. He seemed sure that he and Maxwell could get something accomplished in her absence. Although their idea was no different than anything they had played in the past, Kenny confirms to Maggie that they &quot;have something.&quot; Maggie does not buy in.</td>
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<td>06:23-06:48</td>
<td>G</td>
<td>Kenny works alone. He holds a tone cluster in the LH and plays randomly in the RH. This is basically a repetition from his work with Maxwell.</td>
<td>I have to give Kenny credit for trying so hard. He even worked through instead of having a Munchkin.</td>
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<td>06:48-07:03</td>
<td>G</td>
<td>Maggie walks over to the keyboard while Kenny is playing, and slams her hand down in the upper octave. Kenny points his finger at her and says, “Stop.” Maggie continues to rapidly play random keys. Kevin begins to copy Maggie.</td>
<td>This is a fairly positive interaction.</td>
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<td>07:02-07:47</td>
<td>G</td>
<td>Maggie says, “This is so weird.” She plays “Mary Had.” Kevin and Maxwell begin a rhythmic accompaniment to the song by each playing a pulsing eighth-note rhythm on a single note.</td>
<td>Maggie seemed willing to go along with the last idea, until it turned into clusters. As the intensity level of the boys increased, Maggie’s interest decreased.</td>
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<td>07:47-08:40</td>
<td>G</td>
<td>Maggie, then Kenny, then Maxwell each make a patch change. After piano is selected, the pulsing single notes turn into pulsing clusters. The keyboard is being approached percussively, as a drum. Maggie turns her back to the keyboard, then walks away. Maxwell moves to Maggie’s spot. Kenny and Maxwell spend time developing this idea. Kenny brings back the volume swells and guitar solo ideas from yesterday.</td>
<td>The argument between Maggie and Kenny is to define what kind of music is to be composed. Kenny and Maggie do not agree on this. They ask for confirmation from their school music teacher. In order to help extinguish the flames, I walked past the group and said, “interesting, that’s what I was doing yesterday, right? Turning the volume up and down?” Maggie laughed, and started to bite her nails. She looked confused that I could think this type of music was acceptable. She eventually said, “I am going to get another munchkin.”</td>
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<td>08:40-09:07</td>
<td>G</td>
<td>Their classroom music teacher briefly enters the room. Maggie quickly returns to the keyboard. They all repeat previous ideas. The music teacher comments that they all have some good ideas.</td>
<td>It is evident that they are showing off their ideas for their classroom music teacher. Kenny says, “I know what I’m doing.”</td>
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<td>09:07-10:34</td>
<td>G</td>
<td>While they repeat their musical ideas, an important dialogue takes place. “[Kenny to Maxwell] Keep doing that. Maggie, you’re ruining it. Kenny: This isn’t ruining it. Maggie: Yes it is. Kenny: It’s making it mysterious. You’re making it mysterious. Mysterious seems to be better. Maggie: OK, that’s just weird. Kenny: It doesn’t matter what it sounds like. Maggie: Yeah it does—that’s what the whole entire thing is supposed to be about.” Maggie changes the patch, Maxwell changes it back to piano. Kenny asks his classroom music teacher, “Do you think changing the volume makes it better?” The music teacher does not answer and exits the room.</td>
<td>The argument between Maggie and Kenny is that music is to be composed. Maggie and Kenny do not agree on this. They ask for confirmation from their school music teacher. In order to help them extinguish the flames, I walked past the group and said, “interesting, that’s what I was doing yesterday, right? Turning the volume up and down?” Maggie laughed, and started to bite her nails. She looked confused that I could think this type of music was acceptable. She eventually said, “I am going to get another munchkin.”</td>
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<td>10:34-10:55</td>
<td>G</td>
<td>Kenny and Maxwell switch spots. They repeat the volume swell idea.</td>
<td>It is evident that they are showing off their ideas for their classroom music teacher. Kenny says, “I know what I’m doing.”</td>
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<td>10:55-11:36</td>
<td>G</td>
<td>While Kenny and Maxwell continue this idea, Kenny invites Maggie to, “play some keys in the middle.” Maggie reluctantly tries, then eventually turns her back to the keyboard, then walks away again.</td>
<td>Maggie is having a tough time participating in this type of composition.</td>
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<td>11:36-11:51</td>
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<td>Kenny and Maxwell are looking away from the keyboard, and playing no attention to any keys they are pressing.</td>
<td>Kenya controls the volume, Kenny comments, “perfect.”</td>
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<td>11:51-12:35</td>
<td>G</td>
<td>Kenny and Maxwell rehearse the volume swell motive.</td>
<td>Their piece is making progress, however, not all members of the group are on board.</td>
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<td>12:35-13:35</td>
<td>G</td>
<td>Kenny and Maxwell switch sides. Kenny “has an idea.” A patch change is made to an organ sound. Long, sustained tone clusters replace the rapid single notes of before. The volume swell continues. Maxwell moves up and down the entire length of the keyboard with sustained clusters while Kenny controls the volume. Kenny comments, “perfect.”</td>
<td>Even though Kenny makes an attempt to include Maggie, she seems embarrassed by taking part in this piece.</td>
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<td>13:35-15:13</td>
<td>G</td>
<td>Kenny and Maxwell have another rehearsal of the volume swell idea. Maggie plays along at the beginning, but Kenny gives her a stare and she walks away. Maggie comes back a minute later and plays along again. Kenny nods his head yes as she plays. He says to Maggie, “This is our piece, you keep doing that.” Maggie turns her head, palm facing up, shakes her head, then walks away. “Kenny: What’s your idea then? Maggie: Maybe something with piano.”</td>
<td>Even though Kenny makes an attempt to include Maggie, she seems embarrassed by taking part in this piece.</td>
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<td>15:13-15:36</td>
<td>G</td>
<td>As Kenny and Maxwell continue their repetition of the volume swells, Maggie looks over to the other group. They are laughing, and Maggie laughs too.</td>
<td>I wonder if Maggie wishes to join the other group.</td>
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| 15:36- | G | Kenny and Maxwell continue. Maggie turns to me and asks, “Do you think changing the volume is going to make it better?” | For some reason Maggie feels it is...
Wait, is today a Spanish day? [Smiles] Oh PK: Are you in dual-language? Maggie: Yeah, but I don't like Spanish days.

Important that I know she is in the school's dual-language program. She knows I would not know whether it was a Spanish day or not.

As Kenny and Maxwell continue, Maggie and Kenny look at the clock and realize how much time is left. Kenny tells Maggie while pointing at the upper keys, "You do that." Maggie asks Kenny to "leave the volume."

This is the longest stretch that the group works together. However, Maggie's participation is still reluctant. Also, Kenny is the one who switched the patch to piano, and he also stopped the volume swells. He could be doing this at Maggie's previous request.

A long period of focused experimentation takes place. Maxwell maintains a steady rhythm by playing pulsing clusters on the lowest keys. Kenny improvises random single-note melodies in treble clef range. Maggie joins in from time to time, playing mostly black-key clusters. When Maggie drops out, Kenny instructs her to, "keep it up."

When Kenny says "back to work," Maggie is clearly frustrated. It seems that she wanted to spend more time with the "Synth Brass" sound.

The group rehearses the piece as they performed it at 16:16.

Kenny says, "I think this is where we should end the piece." Maggie turns on the drums, and the group develops the previous idea. At the end of this segment, Maggie says, "We should all stop right there."

The group rehearse again. As chaotic as the composition is, Kenny is now becoming more accepting of the ideas of Maxwell and Kenny. It may not be what she originally had in mind, but, she is now willing to participate.

The group repeats the previous idea, again with the drums. Although they are each doing their own thing, the drums tie them together rhythmically. The performance sounds like a rhythmic background performed by Maxwell and the automatic drums, and two simultaneous soloists (Maggie and Kenny) with contrasting ideas.

A patch change is made to "Synth Brass." Random exploration takes place. Maggie says, "What are you trying to do? Do you guys have Mario Brothers? This kinda reminds of something in there." Kenny and Maxwell do not answer Maggie.

More random exploration. Some patch changes.

Kenny says, "Guys, this is how we should end the song." As he begins to play, Maggie interrupts, "Just end it [cluster]." The group gets quiet.

Kenny and Maxwell rehearse again. When Maggie walks away from the keyboard, Kenny signals for her to play the upper keys.

As chaotic as the composition is, Kenny is very aware that a part is missing when Maggie walks away.

Kenny and Maxwell switch places and rehearse the part with volume swells.

A attempt is made to develop this idea. Kenny tells Maxwell to, "bang on the keys here [in the middle]." Maxwell plays rapid clusters. Kenny stops him and shows him the tempo he wants. Maxwell still does not play the idea as Kenny describes.

Kenny says, "OK, let's go back to our old song [taps Maggie] We're going back to our old song." They rehearse again.

During these rehearsals, Kenny is very enthusiastic. Maxwell is happy to participate. Maggie takes part, but clearly thinks the piece should be better than this.

The boys listen back to a sequencer recording of their rehearsal.

The boys take part in random, independent exploration. Maggie is off-camera.
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<th>Time</th>
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<th>Group Activity</th>
<th>Ali’s Activity</th>
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<td>BEGIN DAY 3</td>
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<td>00:00-00:30</td>
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<td>Drums are turned on. Maggie makes a patch change to piano. The boys then make several more patch changes. Maggie walks over to the next keyboard and plays a few random notes.</td>
<td>Ali stands back from the keyboard, arms folded. She then turns the drums off.</td>
<td>Before anything has happened, Ali is already approaching the group with negativity.</td>
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<td>00:30-00:52</td>
<td>AG</td>
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<td>Kenny and Maxwell are beginning to get back to work. They play some random notes.</td>
<td>Ali strikes up a conversation with Maggie. She repeats, twice, “I can’t wait ‘till next week, ‘cause we get to do our own thing.”</td>
<td>Maxwell is now reaching out to Maggie to include her in the rehearsal.</td>
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<td>00:52-01:22</td>
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<td>Kenny and Maxwell begin to repeat some ideas from day 2. While they are rehearsing, Maxwell says to Maggie, “You know you’re playing on the wrong keyboard?”</td>
<td>Ali repeats a pattern on the top 4 keys (GBAC) using the index fingers of both hands.</td>
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<td>01:22-01:40</td>
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<td>Adjustments are made to the keyboard by the researcher.</td>
<td>Everyone in the group returns to what they were doing before adjustments were made.</td>
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<td>01:40-01:55</td>
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<td>The boys continue to work together. Ali turns keyboard, bw and watches Ali. Now, on day 3, Maggie makes repeated attempts to have Ali side with her, because on day 2 she was generally overruled.</td>
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<td>01:55-02:25</td>
<td>AG</td>
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<td>[Maggie to Ali] “See changing the volume is so annoying. [Maggie to Kenny] Can you stop?” Kenny does not respond to Maggie, and says to Maxwell, “What do you think?” The boys continue to work together. Ali turns to Maggie, and motions toward Kenny with her LH, palm facing up, and mumbling audibly. “Maggie: Yeah, ‘cause we don’t get to decide as a group. He just starts to bring it up.”</td>
<td>Ali is listening to Maggie vent about Kenny. Ali does not play anything on the keyboard, but watches Kenny and Maxwell. She then continues her conversation with Maggie.</td>
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<td>02:26-02:39</td>
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<td>[Kenny] “OK, let’s do like we were doing yesterday, Ali. Yesterday? What did we do yesterday? Maggie: What were doing the other day was really annoying.” Kenny continues to attempt a rehearsal anyway. “Ali: See? He doesn’t let us do anything.” The conversation is interrupted by a loud crashing sound from the other group.</td>
<td>Ali does not play any keys, but engages in conversation that supports Maggie, and challenges Kenny.</td>
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<td>02:39-03:25</td>
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<td>Kenny says to Ali, “Do you realize that we have to get 3, 4 minutes together?” He turns and looks at the clock, then says to Maxwell, “Let’s do this. So, if we can play it right, we can record it.”</td>
<td>Ali does not play any keys, and does not respond to Kenny when he speaks to her.</td>
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<td>03:25-03:48</td>
<td>G</td>
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<td>The boys begin a rehearsal of the day 2 ideas. Ali turns to Maggie. “Maggie: Do you want to work together on this piano? Ali: Yeah!”</td>
<td>Ali jumps at the chance to work alone with Maggie on a different keyboard.</td>
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<td>03:48-04:33</td>
<td>A</td>
<td>G</td>
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<td>The boys and girls are now working on 2 different keyboards. The boys develop their volume swell technique. Maxwell shows Kenny a ‘better’ way to do it. The girls play some random exploration.</td>
<td>Ali is playing some random clusters at the bottom of her keyboard as Maggie tries to find a better patch.</td>
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<td>It is interesting how Kenny is now very willing to listen to Maxwell’s ideas, but completely ignores the girls’ input.</td>
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<td>04:33-04:44</td>
<td>AG</td>
<td>The researcher tells the girls they have to, “try and stay on one keyboard.”</td>
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<td>04:44-04:54</td>
<td>AG</td>
<td>Maxwell holds down the 3 lowest keys. Maggie says to the boys, “Can you stop with the volume?” Maxwell starts turning the volume up and down again.</td>
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<td>04:54-05:43</td>
<td>G</td>
<td>Maxwell, Kenny, and Maggie play randomly. Ali expresses her desire to get something done. She is somewhat willing to make an attempt to work with the boys. She challenges Kenny to be specific about exactly what he wants her to play. Kenny is unable to be specific, but just plays a few random notes as an example.</td>
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Is Maxwell intentionally trying to increase Maggie’s frustration?

Kenny seems to think everything is done, and the group just needs a rehearse. Ali understands Kenny’s form for the piece, and is somewhat willing to work with it, but wants to know specifically what to play. Maggie has ideas she wants to share to fill that void, but is being ignored by the boys. Maxwell has chosen to just follow Kenny for today.

Ali must be referring to the work from day 1, in which she essentially composed her own piece, independent of the rest of the group.

Ali’s presence in the group brings a reasonable voice of challenge. She doesn’t just shut down Kenny, but tries to improve the ideas. Kenny, however, is unwilling to listen.

The group has become so polarized, that even when Kenny finally asks the girls, “What do you want?” they are unwilling to play anything. The girls are refusing to identify with the volume swell idea as part of their piece. Rather than telling the boys what they DO want, they keep insisting that they DON’T want the boy’s idea to be part of the piece. At the same time, they argue that ideas from all participants be included.

The girls take a break and begin to tell me of the troubles they are having. The situation was becoming quite intense, and so I had to intervene for the sake of maintaining civility within the group. The girls are heard venting off-camera to me, "We haven't touched the piano at all." I stand between the boys (on-camera) and the girls (off-camera) and begin a dialogue. "PK: So what's going on? Kenny: We had something to do, they didn't like it, I asked them if they wanted it and they didn't want it. PK: OK, so you're trying to think of ideas? You guys have some ideas that you wanted to do? Kenny: Well, yesterday we got it pretty well going, but Ali wasn't here so we didn't have the whole group, we only had 3 people, and umm, basically, what we tried today, which to me sounded very good, but to them, it didn't sound so good so we stopped. Maxwell was like umm...over here." The boys demonstrate their volume swell motive. "[Researcher to the boys] So that's an idea that you guys liked, and that they didn't like, right? Maybe the piece can have two different parts. [Researcher to the girls] Do you want to try something like that? You know, where they have a part where they do that and you guys can come up with something else? And you can go back and forth? How's that for a suggestion? Girls: OK. Boys: Alright PK: This way everyone can get their ideas in. So we'll have two different parts. You don't have to all four play at the same time. It can be one person at a time. See how they're like [pointing to the other group of participants], one person plays, another one stops. It's hard to play four people at the same time." I re-emphasize the point. Then Kenny says, "The thing is, they think this part is too low." I confirm that they can play that part on their turn, and the girls will do something else. The boys take a break and let the girls compose first because their part is already established.

14:06-14:38 X Ali and Maggie explore for new ideas. Ali looks over to Maggie quietly says, "Do you have any ideas?" Maggie replies, "Kind of?" Ali says, "We have to do this"

14:38-15:04 X Ali and Maggie are both repeating ideas they played previously. Maggie is playing "Happy Birthday" and Ali is repeating four notes (BCAD)

15:04-15:36 X Both girls are exploring randomly, and independently. Maggie changes to a choir patch, pretends to sing, looks at Ali and laughs. Ali does not react, but remains focused on her work.

15:36-15:43 X A suggestion made by Felix is heard (off-camera) asking to have groups of four boys and four girls. Everyone reacts positively to this.

15:44-16:04 X Maggie walks away from the keyboard. Ali remains at the keyboard. She still seems to want to get her work done.

16:04-16:55 M A Maggie is repeating a previously used 5-note motive and "Happy Birthday" Ali is silent.
<table>
<thead>
<tr>
<th>Time</th>
<th>Actor(s)</th>
<th>Event Description</th>
<th>Ali's Experience</th>
<th>Motivation level</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:55</td>
<td>X</td>
<td>Both girls are randomly searching for ideas. Ali says, &quot;I wish motivation level is very low. Ali knows she has very little time to work out new ideas.&quot;</td>
<td>Ali says, &quot;I wish today was day 2.&quot;</td>
<td>Very low</td>
</tr>
<tr>
<td>17:19</td>
<td>X</td>
<td>Maggie begins playing an ascending, stepwise chromatic motive. Ali copies, and repeats it.</td>
<td>Ali is working with Maggie’s idea. They have finally found an idea to work together on.</td>
<td></td>
</tr>
<tr>
<td>17:52</td>
<td>X</td>
<td>Maggie says, &quot;We could meet right here [in the middle] and go [cluster].&quot; After trying it once, Maggie says, &quot;We should speed it up as we go, like this.&quot;</td>
<td>Ali is focused on this idea, and working on performing it 'correctly'. She does not respond to Maggie’s suggestions.</td>
<td></td>
</tr>
<tr>
<td>18:49</td>
<td>X</td>
<td>Ali and Maggie search for more ideas.</td>
<td>Ali seems comfortable with the last motive and is now searching for a contrasting idea.</td>
<td></td>
</tr>
<tr>
<td>18:58</td>
<td>X</td>
<td>The boys walk back to the keyboard. &quot;PK: So you have an idea of what you might like to do? Maggie: Kind of PK: Talk to each other and see if you can put those two parts together somehow.&quot;</td>
<td>It seems that Ali is aware of the short amount of time remaining. So she is very focused on her work.</td>
<td></td>
</tr>
<tr>
<td>20:47</td>
<td>AG</td>
<td>The first complete rehearsal takes place.</td>
<td>Ali tries to explain to Kenny that by splitting the keyboard, she and Maggie will not be able to play their part.</td>
<td></td>
</tr>
<tr>
<td>21:41</td>
<td>AG</td>
<td>Kenny asks me to split the keys so that piano is in the bottom half and strings are on the top.</td>
<td>It seems that everything Kenny does is now being met with great resistance, particularly from Ali.</td>
<td></td>
</tr>
<tr>
<td>22:22</td>
<td>AG</td>
<td>Ali argues that she and Maggie need strings for the entire length of the keyboard. Kenny says he’ll switch the sound back after they play.</td>
<td>Ali is sure to let Kenny know that the patch change to strings did not go smoothly.</td>
<td></td>
</tr>
<tr>
<td>23:57</td>
<td>AG</td>
<td>Another rehearsal of the complete piece takes place. A drum beat was added. Also the girls try playing their part on top of the boys’ part.</td>
<td>The piece is starting to take form. There is a clear form, and contrasting ideas. The piece is performed very similarly each time.</td>
<td></td>
</tr>
<tr>
<td>26:29</td>
<td>G,A</td>
<td>The boys begin another rehearsal. Maxwell continues to correct Kenny’s volume swell technique. The girls walk away from the keyboard. When the boys part is finished, they signal to the girls to come play their part. The girls choose not to rehearse again.</td>
<td>Ali and Maggie whisper to one another then walk off-camera.</td>
<td></td>
</tr>
<tr>
<td>26:29</td>
<td></td>
<td>Camera is turned off. Performances take place.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix J: Participant B, Casey, Individual Composition #1

<table>
<thead>
<tr>
<th>Time</th>
<th>E</th>
<th>R</th>
<th>D</th>
<th>S</th>
<th>Reflective Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-00:19</td>
<td>X</td>
<td></td>
<td></td>
<td>Casey begins by exploring varies timbres. First she selects the &quot;Choir&quot; patch, and pretends to sing the notes she plays. Then a patch change to &quot;Fantasy.&quot;</td>
<td></td>
</tr>
<tr>
<td>00:20-00:28</td>
<td></td>
<td>X</td>
<td></td>
<td>Casey is now watching Kenny who is playing 3 descending notes followed by a tone cluster. Kenny comments, &quot;You're staring at me.&quot;</td>
<td></td>
</tr>
<tr>
<td>00:28-00:45</td>
<td></td>
<td></td>
<td>X</td>
<td>Patch change to a layering of piano and rock organ. Casey plays same rhythm in both hands (long, long, short, short, long). Pitch moves stepwise in contrary motion. RH plays C, D, E, F and LH plays G, F, E. Each note is held out.</td>
<td>Casey seems to be happy with this idea. After playing it she throws her arms out into the air and shouts, &quot;Awesome.&quot;</td>
</tr>
<tr>
<td>00:45-01:00</td>
<td></td>
<td></td>
<td>X</td>
<td>Casey repeats the last idea. Now RH plays D, E, F, G and LH plays B, A, G, F.</td>
<td></td>
</tr>
<tr>
<td>01:00-01:09</td>
<td></td>
<td></td>
<td>X</td>
<td>A playful glissando, then Casey stops herself, holds her hands up with palms facing out and says, &quot;OK now- now I give time to the piece.&quot; Then another patch change and some random notes.</td>
<td>Her attitude and words suggest that she feels it is time to get down to work.</td>
</tr>
<tr>
<td>01:09-01:14</td>
<td></td>
<td></td>
<td>X</td>
<td>A motive is borrowed from the previous group composition (F#, C#, C#, A#, G#).</td>
<td>This was the motive used by Casey in the opening of the first group composition. Perhaps this musical idea signals her to &quot;begin&quot; as it did in the last piece.</td>
</tr>
<tr>
<td>01:14-01:44</td>
<td></td>
<td></td>
<td>X</td>
<td>Casey plays harmonic 3rds (EG, DF, CE, DF). Then attempts to alternate between CE and DF quickly, but has technical difficulty and plays CF and DE instead.</td>
<td>After having technical trouble, I turned down the volume on Casey’s keyboard. She does not seem pleased with this, as she plays 2 glissandi and bangs randomly on the keys why giving me a serious look. She then turns to the camera and laughs.</td>
</tr>
<tr>
<td>01:44-01:47</td>
<td></td>
<td></td>
<td>X</td>
<td>A rhythm of alternating long and short notes is performed (on compound 3/4).</td>
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</tr>
<tr>
<td>01:47-01:50</td>
<td></td>
<td></td>
<td>X</td>
<td>The rhythm is repeated.</td>
<td></td>
</tr>
<tr>
<td>01:50-01:59</td>
<td></td>
<td></td>
<td>X</td>
<td>Casey begins to conduct her ideas through hand gestures. While singing the long/short rhythm, she motions her right hand out to right side of her body, palms facing up. Then she repeats this gesture with the left hand.</td>
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<tr>
<td>02:00-02:07</td>
<td></td>
<td></td>
<td>X</td>
<td>Now the rhythm is repeated, but played with RH/LH in contrary motion. (DF, CG, BA). She then looks up and says, &quot;No.&quot;</td>
<td>When Casey looks up and says, &quot;No&quot; it seems that she has a musical idea in mind already, but it is able to replicate the idea on the keyboard.</td>
</tr>
<tr>
<td>02:07-02:20</td>
<td></td>
<td></td>
<td>X</td>
<td>Same rhythm performed again, but attempted with new pitches. RH (starting on C) and LH (starting on B) play stepwise contrary motion with the long/short rhythm. Casey then throws her arms over her head and shouts, &quot;Arrgh!&quot;</td>
<td>Her frustration shows when she throws her arms above her head. Her ideas are bigger than her ability to perform them.</td>
</tr>
<tr>
<td>02:20-02:40</td>
<td></td>
<td></td>
<td>X</td>
<td>Casey repeats the previous idea.</td>
<td>After playing this idea again, she accepts this as her motive with a nod of approval.</td>
</tr>
<tr>
<td>02:40-03:01</td>
<td></td>
<td></td>
<td>X</td>
<td>Casey now works to develop the harmonic 3rds idea by skipping around with the long/short rhythm (DF, CE).</td>
<td>Even though she uses the alternating long/short rhythm, her facial expression suggests that this is a separate idea from</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
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<tr>
<td>03:01-03:05</td>
<td>Silence, patch change to piano</td>
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<tr>
<td>03:05-03:13</td>
<td>Hands in stepwise, contrary motion (RH starts on C, LH starts on G). Rhythm is long, short, long.</td>
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<tr>
<td>03:13-03:24</td>
<td>Patch changes. First back to piano/organ layer, then to Fantasy/choir layer.</td>
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<tr>
<td>03:25-03:38</td>
<td>More harmonic 3(^{rd})'s. Casey again attempts to end by alternating rapidly between two 3(^{rd})'s, but is restricted by technique.</td>
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<tr>
<td>03:39-03:43</td>
<td>Glissandi. Casey seems frustrated once again due to the technical limitations that make her unable to accurately reproduce her ideas.</td>
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<tr>
<td>03:43-03:56</td>
<td>Repetition of the contrary motion idea</td>
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<tr>
<td>03:57-04:12</td>
<td>Casey turns on the drums, then looks toward me and remembers the instructions to not use drum beats. Then a series of patch changes takes place.</td>
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<tr>
<td>04:12-04:39</td>
<td>Casey searches for new ideas on the extreme ranges of the keyboard. First by playing harmonic 3(^{rd})'s at the top of the keyboard, then pulsing tone clusters at the bottom.</td>
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<tr>
<td>05:10-05:42</td>
<td>Casey appears to be rehearsing her piece. First she performs the stepwise contrary motion idea. This is followed by an immediate patch change (which seems to be part of the piece) and the performance of the harmonic 3(^{rd})'s.</td>
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<tr>
<td>05:42-05:56</td>
<td>The previous performance is followed by a quick mental break as Casey plays with fist on black keys and makes a few more patch changes.</td>
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<tr>
<td>05:58-06:36</td>
<td>Another performance of the two contrasting ideas. Performed almost identically to 03:10.</td>
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<tr>
<td>06:36-07:17</td>
<td>Casey expands the 3(^{rd})'s idea by attempting triads in both hands. Awkward fingerings (2.3.4 or 1.2.3) make the triads difficult to perform.</td>
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<tr>
<td>07:17-07:53</td>
<td>Further development on the 3(^{rd})'s motive. Rhythmic intensity is increased. Tempo increases. When Casey becomes unable to perform the 3(^{rd})'s at the desired tempo, notes are not played together. Casey turns this into a new idea (BCBCBCBC, DEDEDEDE, FGGFGFGF) Again, when Casey is unable to perform the 3(^{rd})'s at the desired tempo, she shows signs of frustration. This time, however, she embraces the wrong notes and turns them into a new idea.</td>
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<tr>
<td>07:53-08:18</td>
<td>Casey takes a mental break. Glissandi, patch changes. She accidently turns the drums on then begins to dance. She smiles and says, &quot;Samba!&quot;</td>
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<tr>
<td>08:18-08:30</td>
<td>Contrary stepwise motion is repeated.</td>
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<tr>
<td>08:30-09:20</td>
<td>Another rehearsal of her ideas. The piece seems to be established as 1) contrary stepwise motion while holding down the keys, 2)a patch change, 3)harmonic 3(^{rd})'s, 4) glissando.</td>
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<tr>
<td>09:20-09:46</td>
<td>Casey continues to search for a new contrasting idea for her piece. She revisits the idea of holding out a harmonic 3(^{rd}) at the top of the keyboard. She now develops the idea by adding a</td>
<td></td>
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</tbody>
</table>
09:46-10:28  X  Casey rehearses the piece again. She is distracted by another participant who has turned on the drums.

10:28-10:51  X  Casey listens to and copies another participant who performs an ascending stepwise melody (long, long, short, short, short.)  
Casey seems to be searching for inspiration for a third idea. This motive that she copies was also part of her last group composition.

10:51-11:21  X  A series of patches and glissandi.

11:21-11:40  X  A repetition of the stepwise contrary idea.

11:40-11:56  X  Patch change and glissandi

11:56-12:32  X  Another rehearsal

12:32-12:46  X  Casey tries to add another section to her piece. A new idea, up a 3rd, down a step, is performed in RH. LH plays a mirror image of this idea.

12:46-13:05  X  This new idea is repeated.

13:05-13:35  X  A patch change is made to synth brass. Casey tries new ideas.

13:35-13:50  X  Repetition of the new up a 3rd, down a step motive is performed.

13:50-14:44  X  Case takes a break. She makes many patch changes, plays glissandi and tone clusters, rests her arms and chin down on the keys.

14:44-15:02  X  More experimentation with hands in mirror image of one another.

15:02-15:07  X  Silence  
Casey begins to appear tired and out of ideas.

15:07-15:12  X  Once again a motive is borrowed from the last group composition (F#, C#, A#, G#). As in the beginning of this activity, this motive seems to be used by Casey as a signal to begin. It was the opening phrase of her last group composition.

15:12-15:20  X  Casey experiments with some black key tone clusters.

15:20-15:40  X  A return to triads in both hands. Still awkward to execute.

15:40-16:12  X  Adjustments are made to the volume. Random keys are played, followed by glissandi.

16:12-16:38  X  An attempt is made to rehearse the piece. However, stepwise parallel motion is played instead of contrary motion.
It has been nearly 7 minutes since the last rehearsal of the piece. Perhaps Casey has forgotten exactly what was played.

16:38-17:02  X  Random poking at the keys. Casey then makes a face at the camera, and rests her chin on the keys. Casey is clearly losing focus, and has past her peak of productivity.

17:02-17:35  X  The piece is rehearsed again. Casey now performs the first motive as stepwise, parallel motion.
Casey must have forgotten about the contrary motion in the opening motive.

17:35-17:43  X  Casey rests her left arm on the lower half of the keyboard. She lays her head on top of her arm. The rests both arms and her chin on the keys, and yawns.
Casey is clearly fatigued.

17:44-17:57  X  A series of patch changes are made.

17:57-18:18  X  A return of the stepwise contrary motion in both hands. Repeats several times.

18:18-18:33  X  Triads in both hands
<table>
<thead>
<tr>
<th>Time</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:33-18:50</td>
<td>X</td>
</tr>
<tr>
<td>18:50-19:05</td>
<td>X</td>
</tr>
<tr>
<td>19:05-19:15</td>
<td>X</td>
</tr>
<tr>
<td>19:15-19:19</td>
<td>X</td>
</tr>
<tr>
<td>19:20-19:47</td>
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<tr>
<td>19:47-19:56</td>
<td>X</td>
</tr>
<tr>
<td>19:56-21:00</td>
<td>X</td>
</tr>
<tr>
<td>21:07-21:25</td>
<td>X</td>
</tr>
<tr>
<td>21:25-21:53</td>
<td>X</td>
</tr>
<tr>
<td>21:53-22:02</td>
<td>X</td>
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<tr>
<td>22:03-22:26</td>
<td>X</td>
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<tr>
<td>22:26-22:42</td>
<td>X</td>
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<tr>
<td>22:42-22:54</td>
<td>X</td>
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<tr>
<td>23:54-23:02</td>
<td>X</td>
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<tr>
<td>23:02-23:29</td>
<td>X</td>
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<tr>
<td>23:29-23:47</td>
<td>X</td>
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<tr>
<td>23:47-24:11</td>
<td>X</td>
</tr>
<tr>
<td>24:12-25:25</td>
<td>X</td>
</tr>
</tbody>
</table>

18:33-18:50: Glissandi. Casey performs a gliss on the keys with one hand, and a "gliss" on the patch selector buttons with the other. I wonder what sound she hears in her head at this point. A rainbow of tone color. I feel that Casey has vivid musical imagination, but is restricted by technical limitations.

18:50-19:05: The drums are turned on once again. Perhaps Casey is searching for inspiration? Or fighting boredom?

19:05-19:15: Randomly poking at the keys.

19:15-19:19: Triad in RH only.


19:47-19:56: A new idea (F, Eb, D) is attempted.

19:56-21:00: Five repetitions of the song "Axel F" are performed. Patch changes, glissandi, and the first few notes of her own composition are performed between each repetition.

21:07-21:25: The first half of her piece is rehearsed. After the patch change, she stops.

21:25-21:53: Two repetitions of Axel F are performed.

21:53-22:02: Rapidly alternating 4ths (Bb-Eb and Db-Gb)

22:03-22:26: More Axel F

22:26-22:42: Casey starts each of the motives in her piece, but does not play them through. Casey is clearly done for the day.

22:42-22:54: Both arms and chin are resting on the keys.

23:54-23:02: Two-arm tone clusters and glissandi.

23:02-23:29: A descending chromatic scale is attempted from the top to the lower 1/3 of the keyboard.

23:29-23:47: Axel F is repeated 2 more times. Casey gets frustrated when she makes a mistake- shakes her arms in the air, then tries again.

23:47-24:11: Participants are told to stop composing and asked to give a final performance of their piece.

24:12-25:25: Casey's final performance. Casey does struggle with the opening motive- she seems unsure whether to play parallel or contrary motion. It seems that she hears contrary motion, but due to an incorrect placing of her fingers, has difficulty in properly executing her idea.
### Appendix K: Participant B, Casey, Individual Composition #2

<table>
<thead>
<tr>
<th>Time</th>
<th>E</th>
<th>R</th>
<th>D</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-00:42</td>
<td>X</td>
<td></td>
<td></td>
<td>Glissandi. First alternating LH from top to bottom, then RH from bottom to top. A patch change is made from Rock Piano to Grand Piano</td>
</tr>
<tr>
<td>00:42-00:51</td>
<td>X</td>
<td></td>
<td></td>
<td>Casey plays a simple melody using the index fingers of both hands. (CE CE CE BF BF BF BF - D D D D D Eb)</td>
</tr>
<tr>
<td>00:51-01:01</td>
<td>X</td>
<td></td>
<td></td>
<td>This idea is repeated, but not played exactly the same.</td>
</tr>
<tr>
<td>01:01-01:07</td>
<td>X</td>
<td></td>
<td></td>
<td>Turns and leans with back against the keyboard.</td>
</tr>
<tr>
<td>01:07-01:31</td>
<td>X</td>
<td></td>
<td></td>
<td>Casey expands her musical idea. It is now performed in all quarter notes, first hands together, then hands separately. (FA FA FA FA EB EB EB EB EB EB EB EB EB EB EB EB EB E E E).</td>
</tr>
<tr>
<td>01:31-01:42</td>
<td>X</td>
<td></td>
<td></td>
<td>Patch changes from Piano to E Piano back to Piano. Finding the right sound seems to be very important to Casey.</td>
</tr>
<tr>
<td>01:42-01:52</td>
<td>X</td>
<td></td>
<td></td>
<td>Repetition of the first motive.</td>
</tr>
<tr>
<td>01:52-02:10</td>
<td>X</td>
<td></td>
<td></td>
<td>Settings on the keyboard were adjusted by the researcher, because the lower half of the keyboard was not making sound (keyboard was changed back from Auto Accompaniment mode to Normal).</td>
</tr>
<tr>
<td>02:10-02:32</td>
<td>X</td>
<td></td>
<td></td>
<td>The first motive is expanded (CE CE CE CE BF BF BF BF AG AG AG AG D--). This repeated, but the second time, Casey inserts a quick patch (Bells) change before the D. The patch change before the D is clearly intentional and part of the song. It is apparent that Casey is preparing to press the “Bells” button before the D so that she can make the change without interrupting the rhythm.</td>
</tr>
<tr>
<td>02:32-02:45</td>
<td>X</td>
<td></td>
<td></td>
<td>Glissando. Patch change to Honky-Tonk Piano.</td>
</tr>
<tr>
<td>02:45-03:01</td>
<td>X</td>
<td></td>
<td></td>
<td>Silence. Casey looks around the room at the other participants. Off-camera, a similar motive is heard that consists of quarter-note thirds. Perhaps Casey is comparing her motive to the ideas of the other participants.</td>
</tr>
<tr>
<td>03:16-03:27</td>
<td>X</td>
<td></td>
<td></td>
<td>The motive is repeated 2 more times. The last note (D) is preceded by DbEb at first. Then replaced with a tone cluster the second time.</td>
</tr>
<tr>
<td>03:27-03:44</td>
<td>X</td>
<td></td>
<td></td>
<td>LH plays triads in quarter notes.</td>
</tr>
<tr>
<td>03:34-03:50</td>
<td>X</td>
<td></td>
<td></td>
<td>Silence. Casey fixes her shoe.</td>
</tr>
<tr>
<td>03:50-04:04</td>
<td>X</td>
<td></td>
<td></td>
<td>Silence. Casey fixes her shoe again.</td>
</tr>
<tr>
<td>04:04-04:11</td>
<td>X</td>
<td></td>
<td></td>
<td>Axel F</td>
</tr>
<tr>
<td>04:11-04:33</td>
<td>X</td>
<td></td>
<td></td>
<td>The same pitches from her motive are played, but different rhythmic variations are attempted. First Casey plays just each pair of notes as whole notes, and then tries 4 beats worth of eighth notes on each pair.</td>
</tr>
<tr>
<td>04:33-04:38</td>
<td>X</td>
<td></td>
<td></td>
<td>Glissandi</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
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<tr>
<td>04:38-04:46</td>
<td>Silence. Looking around the room at other participants.</td>
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<tr>
<td>04:46-05:15</td>
<td>Casey rehearses her ideas up to this point. First plays the motive in eighth note rhythm followed by a gliss. Then, she puts the whole thing together by playing the slower quarter note rhythm first, then an energetic gliss, then the motive in eighth notes.</td>
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<tr>
<td>05:15-05:36</td>
<td>Casey searches for new ideas. First she plays the first 3 notes of her motive, in half notes. Then switches to fast repeated eighth notes. This turns into a quick performance of Jingle Bells.</td>
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<tr>
<td>05:36-05:46</td>
<td>Silence.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05:46-06:03</td>
<td>Rehearsal of the piece so far.</td>
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<tr>
<td>06:03-06:19</td>
<td>Patch is changed to Vibes. The opening of the piece is performed slowly in half notes.</td>
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<tr>
<td>06:19-06:36</td>
<td>Volume adjustments are made. Casey is trying to bring up the volume of the Vibes sound, which is soft in comparison to another participant that is using the Rock Organ patch.</td>
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<tr>
<td>06:36-06:52</td>
<td>Interesting rhythmic variation of the motive is performed. Instead of playing the notes together, each interval is performed alternating RH/LH with a short/long, short/long rhythm.</td>
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<tr>
<td>06:52-07:27</td>
<td>Glissandi—mostly performed with her elbow while resting her head in her hand. This is another example of Casey taking a long mental break after a brief period of development.</td>
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<tr>
<td>07:27-07:37</td>
<td>Casey tries a new idea. She creates a rhythmic pattern, alternating RH/LH as RLRRL. Hands move in contrary motion (mirror image).</td>
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<tr>
<td>07:37-08:56</td>
<td>Casey says, “Mine’s gonna be a really short piece because I can’t think of any ideas.” Casey rehearses the piece from the beginning. She adds the new RLRRL idea. The piece is becoming more consistent and organized.</td>
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<tr>
<td>08:56-09:08</td>
<td>Silence. Casey watches the other participants. I wonder if Casey is making comparisons or getting ideas. My hunch is that she is comparing her work to that of other participants.</td>
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<tr>
<td>09:08-09:21</td>
<td>Casey tries both hands, playing random notes, in the rhythm long, long short, short, long.</td>
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<tr>
<td>09:21-10:04</td>
<td>Another long break. Casey plays elbow glissandi, and whole-arm tone clusters.</td>
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<tr>
<td>10:04-10:19</td>
<td>Casey plays the faster eighth-note portion of her piece with glissandi, twice. This is performed with a sudden burst of energy.</td>
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<tr>
<td>10:44-10:49</td>
<td>Axel F</td>
<td></td>
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<tr>
<td>10:49-11:09</td>
<td>Rehearsal of the piece. The RLRRL is not included this time.</td>
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<tr>
<td>11:22-11:28</td>
<td>Axel F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:28-11:44</td>
<td>Casey tries harmonic 3’s in the rhythm long, long, short, short, long.</td>
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<tr>
<td>11:44-12:20</td>
<td>Silence. Participant F, Felix, walks by. It is becoming evident that Casey is exploration. Perhaps she is aware of the large amount of time she has left, and is running down the clock.</td>
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</tr>
</tbody>
</table>
and Casey laughs. becoming very distracted by the fact that she needs a tissue. She has been rubbing her nose since 10:19, and clearly unable to focus since then.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:20-12:33</td>
<td>Random keys, alternating RULH.</td>
</tr>
<tr>
<td>12:33-12:40</td>
<td>Silence</td>
</tr>
<tr>
<td>12:40-12:46</td>
<td>Gliss</td>
</tr>
<tr>
<td>12:46-12:51</td>
<td>Axel F.</td>
</tr>
<tr>
<td>12:51-13:39</td>
<td>A long period of silence while Casey turns her back to the camera. She itches her nose and fixes her shoe again. These non-musical issues are having an impact on her compositional process. She is clearly more attentive to fixing the runny nose situation than to finishing the composition.</td>
</tr>
<tr>
<td>13:30-13:35</td>
<td>Casey repeats the first motive twice</td>
</tr>
<tr>
<td>14:36-14:48</td>
<td>Silence, yawn.</td>
</tr>
<tr>
<td>14:47-15:02</td>
<td>Axel F.</td>
</tr>
<tr>
<td>15:02-15:21</td>
<td>Rehearsal of the piece.</td>
</tr>
<tr>
<td>15:21-15:40</td>
<td>Silence</td>
</tr>
<tr>
<td>15:40-15:44</td>
<td>Axel F.</td>
</tr>
<tr>
<td>15:44-15:51</td>
<td>Silence. Casey is speaking (inaudibly) and mouinting with her hands.</td>
</tr>
<tr>
<td>15:51-15:58</td>
<td>Casey plays just the first few notes of her piece.</td>
</tr>
<tr>
<td>15:58-16:29</td>
<td>Silence. First Casey (inaudibly) mouths the words to a song, while mouinting with her hands. Then she just presses all the patch change buttons (without playing the keys).</td>
</tr>
<tr>
<td>16:29-16:42</td>
<td>Axel F. This time, Casey used the keyboard's sequencer to record and listen back to her performance.</td>
</tr>
<tr>
<td>16:42-17:31</td>
<td>A rehearsal of her piece. The keyboard's sequencer was used to record and play back several times. Casey &quot;air plays&quot; the piece along with the recording.</td>
</tr>
<tr>
<td>17:31-17:58</td>
<td>Patch changes are made. After testing the sounds on the keys, Casey plays back the recording and listens.</td>
</tr>
<tr>
<td>17:58-18:27</td>
<td>A rhythmic variation on Axel F. is performed, recorded, and listened to. Casey dances to the playback of this. At the end she smiles and shakes her head with a nod of approval.</td>
</tr>
<tr>
<td>18:27-19:21</td>
<td>The RLRRL motive is played again, and recorded. Casey listens to the playback. Other participants are also trying to play the Raider's March at this point. It is a piece that the 4th grade school concert band is learning.</td>
</tr>
<tr>
<td>19:22-19:29</td>
<td>Casey plays the &quot;Raider's March&quot;</td>
</tr>
<tr>
<td>19:29-19:45</td>
<td>Silence. Casey is listening to another participant play the Raider's March.</td>
</tr>
<tr>
<td>19:45-19:51</td>
<td>Axel F.</td>
</tr>
<tr>
<td>19:51-20:01</td>
<td>Silence.</td>
</tr>
<tr>
<td>20:01-21:42</td>
<td>Casey rehearses the entire piece. All parts are present (Quarter note motive, eighth note motive, gliss, RLRRL). Casey turns the volume of the recording down. Maybe she does not want everyone to hear that part?</td>
</tr>
<tr>
<td>Time</td>
<td>Action</td>
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</tr>
<tr>
<td>21:42-21:50</td>
<td>X</td>
</tr>
<tr>
<td>23:01-23:10</td>
<td>X</td>
</tr>
<tr>
<td>23:52-24:35</td>
<td>X</td>
</tr>
</tbody>
</table>
Appendix L: Composition Activity for Casey, Felix, Lisa, and Theresa

<table>
<thead>
<tr>
<th>Time</th>
<th>E</th>
<th>R</th>
<th>D</th>
<th>S</th>
<th>Group Activity</th>
<th>Casey's Activity</th>
<th>Reflective Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00-</td>
<td>C</td>
<td>LFT</td>
<td></td>
<td></td>
<td>Casey plays a black key melody. (F♯, C♯, G♯) The group then has a discussion about how they will approach the compositional process. “Casey: How ‘bout everyone does their own part.” The dialogue becomes inaudible. Felix mentions that it doesn’t need to be fancy, and that, “We all do the same thing.”</td>
<td>Casey initiates the dialogue. Felix engages in conversation with her. Lisa and Theresa just listen in. Casey presents a musical motive on the black keys.</td>
<td>Dialogue is difficult to hear due to the initial position of the video camera.</td>
</tr>
<tr>
<td>00:56-01:00</td>
<td>C</td>
<td>LFT</td>
<td></td>
<td></td>
<td>Casey presents another musical motive to the group (E, F, D, C)</td>
<td>Casey plays an idea for the group.</td>
<td>It seems that this motive is something Casey made up earlier, not on the spot.</td>
</tr>
<tr>
<td>01:06-01:39</td>
<td>L</td>
<td>LFT</td>
<td></td>
<td></td>
<td>The motive is repeated several times. Everyone in the group is listening to Casey’s idea, but not playing anything on the keyboard.</td>
<td>Casey is teaching the part to the others. She shows them how to find the notes on the keyboard.</td>
<td></td>
</tr>
<tr>
<td>01:39-02:04</td>
<td>L</td>
<td>C</td>
<td></td>
<td></td>
<td>Lisa picks up the pencil and paper.</td>
<td>Casey comments, “That’s really perfect.” While Lisa works out her idea, Casey works out her idea on paper.</td>
<td></td>
</tr>
<tr>
<td>02:04-02:36</td>
<td>L</td>
<td>C</td>
<td></td>
<td></td>
<td>Lisa stops while Casey plays her part. Then Lisa begins working out a new part (C, D, E). Felix and Theresa still watch and listen.</td>
<td>Casey repeats her opening black-key motive. Then, start writing her ideas down on paper.</td>
<td>It is interesting how the group works so systematically already in the opening 2 minutes.</td>
</tr>
<tr>
<td>02:36-03:13</td>
<td>LC</td>
<td>FT</td>
<td></td>
<td></td>
<td>Lisa repeats her new part so that Casey can write it down.</td>
<td>Casey plays her opening motive once more. Then tries to write down Lisa’s part on paper.</td>
<td></td>
</tr>
<tr>
<td>03:13-03:24</td>
<td>C</td>
<td>LFT</td>
<td></td>
<td></td>
<td>Lisa and Theresa listen to Casey.</td>
<td>Casey repeats her part again. Then holds a low key on the choir patch and pretends to sing.</td>
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<tr>
<td>03:24-03:24</td>
<td>CLT</td>
<td>F</td>
<td></td>
<td></td>
<td>Lisa continues to repeat her part. Theresa tries to figure out her part and write it down on paper. The part she plays is Casey’s 2nd motive that was played at 00:56.</td>
<td>Casey helps Theresa to remember how to play the part, and helps her write it down.</td>
<td>Casey and Theresa have tremendous difficulty writing their part down. The note names they write down are incorrect.</td>
</tr>
<tr>
<td>03:24-03:36</td>
<td>T</td>
<td>CFL</td>
<td></td>
<td></td>
<td>Theresa tries to expand her motive by adding one extra note at the end. She tries several different options.</td>
<td>Casey is writing down Theresa’s part.</td>
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<tr>
<td>03:36-06:10</td>
<td>C</td>
<td>FLT</td>
<td></td>
<td></td>
<td>The paper and pencil are handed to Felix. Casey repeats her part several times while the rest of the group listens patiently.</td>
<td>Casey tries her part in different octaves, with different patches.</td>
<td>Casey seems to be preparing for a rehearsal.</td>
</tr>
<tr>
<td>06:10-06:17</td>
<td>T</td>
<td>CFL</td>
<td></td>
<td></td>
<td>Theresa plays her part again.</td>
<td>Casey gazes, and runs to the low end of the keyboard.</td>
<td>Casey has been struck with inspiration.</td>
</tr>
<tr>
<td>06:17-06:41</td>
<td>C</td>
<td>FLT</td>
<td></td>
<td></td>
<td>Theresa and Lisa listen to Casey’s development of ideas. Felix is off-camera working on his part alone.</td>
<td>Casey excitedly tells Lisa her idea of playing her part in different octaves up the keyboard. She plays the idea for the group.</td>
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<tr>
<td>06:41-07:26</td>
<td>CFL</td>
<td></td>
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<td>Theresa plays something similar to Casey’s motive, then walks to</td>
<td>Casey asks Felix, “Are you making up yours?” Felix The group clearly has an idea that working</td>
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<tr>
<td>Time</td>
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<td>Description</td>
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<tr>
<td>07:26-08:15</td>
<td>CFLT</td>
<td>Everyone continues to explore independently on separate keyboards. PK: Actually, I need you guys to stay on one keyboard. Let's stay on one keyboard. I know it's difficult - that's kind of the fun. That's what I want to see. I know it's difficult to have four people on one keyboard. I'm curious how you work together.</td>
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<tr>
<td>08:15-08:47</td>
<td>CF</td>
<td>Casey and Felix explore new ideas. Felix alternates LH/RH index fingers on the low keys in a steady rhythm. Lisa and Theresa walk away from the keyboard and get the group's paper and pencil.</td>
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<tr>
<td>08:47-09:08</td>
<td>FCT</td>
<td>Lisa helps Casey remember her motive. Felix continues to repeat his alternating LH/RH. Lisa just listens.</td>
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<tr>
<td>09:08-09:26</td>
<td>CFLT</td>
<td>Everyone begins to explore in their zone. Felix tries to turn on the drums, but is stopped by Casey.</td>
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</table>
| 09:26-09:36 | CFLT | Exploration continues. Lisa Felix wants to change patches, but Casey doesn't want to. "[Casey] We have to make up a really cool thing. Felix: What? Felix patch changes. Casey appears frustrated. Lisa: We should split it. Casey: Oh yeah - split. The keys are split so Felix can have one sound, and the girls have another. "Casey: Yeah - now you have your half."

**Interesting note:** Interesting that the keys are split so that Felix "has his half" and the girls have theirs. Again, division by gender. |
| 10:21-11:07 | CFLT | Now that the keyboard is split, Casey searches for the 'correct' patch. Lisa, Theresa, and Felix explore randomly. Felix comments that he thought they were doing "one at a time."

**Casey:** "You can't see that. Felix: Who said? He didn't say we can't use 'em. Casey: Yeah he did. He said we can't use them because they're not ours." |

**Nobody seems to mind:** Casey taking complete control of the keyboard - even when she reaches others' hands. |
| 11:07-11:17 | FLT | Lisa, Theresa, and Felix continue to explore randomly. Casey tries to focus the group. "Ok guys - we have to think. I have to make up something that everyone can remember that we can all play in sync."

**Casey:** "Something easy that everyone can do." She then plays a chromatic descent, alternating twice on..." |
| 11:17-11:43 | CFLT | Felix says, "listen to this" as he plays ascending glissandi on the low keys. The group continues to explore, and does not pay much attention to his idea. As Felix repeats his part, Casey decides to give it a try. She plays descending glissandi. |
| 11:43-11:51 | C F | The group listens to Casey's suggestion to play something easy, and seem interested in the musical idea she is playing for..."
<table>
<thead>
<tr>
<th>Time</th>
<th>Group</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:43</td>
<td>FLT C</td>
<td>Lisa and Theresa discuss the group's ideas. Theresa continues to talk about the keyboard.</td>
</tr>
<tr>
<td>12:04</td>
<td>CFL T</td>
<td>A discussion takes place regarding the form of the piece. &quot;Felix: Can't we each do our own piece. Casey: Yes, but then we have to do something in sync. It just makes sense, right? Felix: &quot;</td>
</tr>
<tr>
<td>12:11</td>
<td>CFL F</td>
<td>Everybody in the group engages in a long period of exploration. Several ideas are suggested: Casey suggests they all play a triad. Theresa suggests &quot;all just make a dance.&quot; Felix plays with both hands, two short clusters followed by one long one. Casey plays &quot;Ode to Joy.&quot; &quot;Felix to Felix: What is your part? Felix: I have no clue. I'm still trying stuff, but you guys keep playing and I can't hear.&quot; Felix suggests writing the ideas down. The group then discusses their individual parts, and where they fit into the form.</td>
</tr>
<tr>
<td>15:51</td>
<td>CFL C</td>
<td>Casey again tries to focus the group. Although the previous exploration did not yield any new ideas, Casey suggests a rehearsed piece, &quot;Casey: How about we just go through it one time.&quot; Each member of the group plays their individual part- one at a time. After Felix makes up his part on the spot, Theresa comments to Felix, &quot;Whatever, just do that.&quot;</td>
</tr>
<tr>
<td>16:31</td>
<td>CFL T</td>
<td>Theresa reminds the group about Casey's idea. Although the previous exploration did not yield any new ideas, Casey suggests a rehearsed piece, &quot;Casey: How about we just go through it one time.&quot; Each member of the group plays their individual part- one at a time. After Felix makes up his part on the spot, Theresa comments to Felix, &quot;Whatever, just do that.&quot;</td>
</tr>
<tr>
<td>17:00</td>
<td>CFL F</td>
<td>The group takes a break, and looks out the window at the busses. Lisa points her bus out to the group. All four then explore randomly.</td>
</tr>
<tr>
<td>17:13</td>
<td>CFL T</td>
<td>Theresa suggests they all play a triad. Theresa suggests they &quot;all just make a dance.&quot; Felix plays with both hands, two short clusters followed by one long one. Casey plays &quot;Ode to Joy.&quot; &quot;Felix to Felix: What is your part? Felix: I have no clue. I'm still trying stuff, but you guys keep playing and I can't hear.&quot; Felix suggests writing the ideas down. The group then discusses their individual parts, and where they fit into the form.</td>
</tr>
<tr>
<td>17:28</td>
<td>CFL F</td>
<td>Lisa, Theresa, and Felix stop what they are doing and listen to Casey's new idea.</td>
</tr>
<tr>
<td>17:58</td>
<td>CFL F</td>
<td>&quot;Theresa: OK, everybody try it on their part of the keyboard. Five, six—Casey: What's five, six?&quot; They all play Casey's idea simultaneously. As they ascend the keyboard Casey suggests, &quot;How about everybody goes to the end. Everybody goes 'til they stop.&quot;</td>
</tr>
<tr>
<td>18:02</td>
<td>CFL F</td>
<td>&quot;Theresa: Everybody start over. Casey: OK, scoot over. Theresa: Five, six, seven, eight.&quot; They play through the part successfully again.</td>
</tr>
<tr>
<td>18:02</td>
<td>CFL F</td>
<td>Casey follows Theresa in the rehearsal of the second part.</td>
</tr>
<tr>
<td>18:02</td>
<td>CFL F</td>
<td>&quot;Casey: How about we just go through it one time.&quot; Each member of the group plays their individual part- one at a time. After Felix makes up his part on the spot, Theresa comments to Felix, &quot;Whatever, just do that.&quot;</td>
</tr>
<tr>
<td>18:38</td>
<td>CFL T</td>
<td>The group takes a break, and looks out the window at the busses. Lisa points her bus out to the group. All four then explore randomly.</td>
</tr>
<tr>
<td>18:54</td>
<td>CFL T</td>
<td>The group takes a break, and looks out the window at the busses. Lisa points her bus out to the group. All four then explore randomly.</td>
</tr>
<tr>
<td>19:26</td>
<td>CFL F</td>
<td>Theresa: Let's do it again, let's do it again. From Casey's part. From the beginning. &quot;Felix to Felix: What is your part? Felix: I have no clue. I'm still trying stuff, but you guys keep playing and I can't hear.&quot; Felix suggests writing the ideas down. The group then discusses their individual parts.</td>
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<tr>
<td>20:41</td>
<td>CFL F</td>
<td>Theresa: Let's do it again, let's do it again. From Casey's part. From the beginning. &quot;Felix to Felix: What is your part? Felix: I have no clue. I'm still trying stuff, but you guys keep playing and I can't hear.&quot; Felix suggests writing the ideas down. The group then discusses their individual parts.</td>
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<tr>
<td>21:27</td>
<td>CFL F</td>
<td>Theresa: Let's do it again, let's do it again. From Casey's part. From the beginning. &quot;Felix to Felix: What is your part? Felix: I have no clue. I'm still trying stuff, but you guys keep playing and I can't hear.&quot; Felix suggests writing the ideas down. The group then discusses their individual parts.</td>
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<td>Time</td>
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<td>22:17-22:57</td>
<td>CFLT</td>
<td>The group then rehearses the second part the old way. Everybody starts simultaneously.</td>
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<tr>
<td>22:57-24:56</td>
<td>CFLT</td>
<td>A rehearsal of the whole piece takes place. The rehearsal is directed by Casey. She tells everyone when to play their part. She helps Felix remember his part, and plays along with him. At the end, Casey has everyone play a final note (any note) together to end the piece. Everybody in the group is aware of their part, and where it fits into the overall form.</td>
</tr>
<tr>
<td>24:56-25:32</td>
<td>CFLT</td>
<td>The group takes a break. Participants turn their backs to the keyboard. There is laughter, and Casey offers high-fives to everyone. They comment that they have finished the whole thing. Casey states that she will be in charge of patch changes, and asks Felix which sound he wants.</td>
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<tr>
<td>25:32-27:08</td>
<td>CFLT</td>
<td>Another rehearsal of the complete piece takes place. There seems to be confusion at the end. Everyone thinks they are done, but Casey is expecting them to play another part.</td>
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<td>02:13-</td>
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| 05:31-07:47 | CFLT | Lisa steps away from the keyboard. The rest of the group develops previous ideas. 
| | | “Casey: Wouldn’t this be so cool, like” Casey plays the gliss/cluster, but lands (as if dead) with her head on her arms. Theresa copies this. 
| | | “[Casey excitedly] Like this, like this.” Casey repeats the idea. Felix jumps in and says, “Oh, Hi Mommy” as he drops his head. Casey hits her funny bone during the gliss and drops to the floor. 
| | | “Casey: I hit my funny bone— and it’s not so funny, Lisa.” Then Casey’s new idea is developed. 
| | | “Casey: Let’s do that dying song.” Felix holds a high-pitched cluster while Casey plays, and likes the sound. He calls Casey back to the keyboard to have her try it again, and asks the group to listen. This tune he says, “Felix: That doesn’t sound good.” Theresa and Casey now play the gliss/cluster idea. Casey that they fail to the ground at the end, and demonstrates for the group. “Casey: That will be the end of you. And then, this one’s gonna be the end of me. Felix: The end of you? Seriously, what do you mean the end of you?” 
| | | Casey then suggests that at the end they all jump back up and play an ending. |
| 07:47-09:45 | CFLT | The group attempts to rehearse the whole piece. Casey and Theresa remember their parts. Lisa and Felix seemed to be unsure of what they were supposed to play. When playing the new ideas, they included the theatrical ideas of falling down after each part. They all were unsure of what to do at that point and the rehearsal stops. |
| 09:45-10:22 | CFLT | The group works on the ending. They start by waving their hands over the keyboard, while still on floor. Theresa then suggests they jump up. Casey suggests they all play their first notes at the same time to end the piece. They try Casey’s idea. “Casey: This is gonna be so funny. Theresa: Let’s try it again from the beginning.” |
| 10:22-12:20 | CFLT | Another rehearsal of the whole piece. The ending is somewhat more organized now. Felix, who still has not had the chance to work out his first part, announces, “Felix: I’m just gonna do a different one every time. Casey: OK.” As they are playing parts two, “Casey: I can’t wait for the dying part. I go first. I have to die first.” Felix tells Lisa that he should be playing the high pitch cluster. As they play the newest part, “Felix: Sounds so bad, so bad, Too much bad.” |
| 12:20-12:47 | CFLT | Felix is sometimes left out. He gave up trying to get time to come up with a part. The cluster he added to Casey’s part is now being played by Lisa. He doesn’t seem to mind, though, and participates fully. 
| 12:47-15:22 | CFLT | “Casey: Let’s start over. Felix: Start over? This is like the 5th time.” The rehearsal begins. Felix yells. “Felix: What is happening?” During the ‘dying’ Felix keeps commenting that it is scary. The rehearsal gets off-track at the ending. The group is still unsure of how to end. They all jump up, but then do not play. The rehearsal ends. |
| 15:22-15:57 | CFLT | As Casey pretends to sing the low notes. “Felix: Who’s barbing? Casey: We should do this. Felix: That’s not funny, that’s just scary, I need another group, I’m scared.” Casey laughs. 
| 15:57-17:36 | CFLT | “Casey: Let’s practice it one more time.” Another rehearsal takes place. Felix yells. This rehearsal is slightly less organized. The mood of the group is silly. A good deal of laughter is heard. Felix skips his first part, and plays part two instead. Casey signals Felix to play his cluster during her ‘dying’ part. The end by playing their parts simultaneously while still ducking down under the keyboards. They pop up together. “[Casey laughs] It’s like a performance, too.” 
| 17:36- | CFLT | The group takes a quick break. Casey turns her back to
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<tr>
<th>Time</th>
<th>Participant(s)</th>
<th>Action/Dialogue</th>
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<td>17:48</td>
<td></td>
<td>The keyboard.</td>
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<td>17:49-</td>
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<td>Another rehearsal begins. Felix yells. As the girls fall down at the end of the</td>
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<td>19:39</td>
<td>CFL</td>
<td>piece, Felix pretends that he is knocking them down.</td>
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<td>The piece seems well established now.</td>
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<td>19:39-</td>
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<td>Lisa explores. Theresa repeats her part, and tries different patches. When</td>
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<td>20:27</td>
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<td>she finds one she likes, she asks the group if she can use that sound.</td>
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<td>CF</td>
<td>Casey talks to Felix away from the keyboard. The dialogue is mostly inaudible,</td>
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<td>but they are discussing theatrical, not musical ideas.</td>
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<td>20:27-</td>
<td>CFL</td>
<td>The group has another rehearsal. Felix has fully incorporated the theatrics into</td>
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<td>22:29</td>
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<td>his part of the performance. At the end, he waves his hands above the girls'</td>
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<td>heads, as if putting a magic spell on them. He motions his hands down as they fall.</td>
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<td>Once they all fall, “Felix: Out of my way, ladies.” He steps through the girls</td>
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<td>and plays his last part.</td>
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<td>22:45</td>
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<td>Casey talks to Felix away from the keyboard again and talks to Felix.</td>
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<td>Everyone but Lisa walks away from the keyboard. They take a break. Lisa practices</td>
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<td>CFT</td>
<td>her part.</td>
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<td>22:45-</td>
<td>CFL</td>
<td>The group decides that they need to practice the ending. “Felix: We need a</td>
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<td>23:23</td>
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<td>bigger space if we’re gonna fall down. Casey: That was pretty cool, right.”</td>
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<td>Casey copies Felix and waves her hands over Lisa during her part.</td>
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<td>23:23-</td>
<td>CFL</td>
<td>The group takes a mental break. They randomly explore the keyboard, but are not</td>
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<td>23:48</td>
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<td>paying much attention to the sound. [Casey to researcher] We’re tired. We did our</td>
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<td>song a couple times ago.” She then refocuses the group and prepares them for</td>
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<td>another rehearsal.</td>
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<td>23:48-</td>
<td>CFL</td>
<td>The group rehearses again. They are aware that the researcher is watching this</td>
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<td>25:54</td>
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<td>time. The rehearsal goes very well, everybody plays the ‘correct’ parts, and they</td>
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<td>are aware of their place in the form. The theatrical ending now includes everyone</td>
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<td>waving their hands over the person playing, not just Felix.</td>
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<td>25:54-</td>
<td>CFL</td>
<td>The group asked to let a drum rhythm play while they perform their piece. “Felix:</td>
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<td>29:21</td>
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<td>I want to do that- [Felix to researcher] Why can’t we use that? We can’t we add</td>
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<td>drums to the music? PK: Add what to the music? Like if we do the rhythms and we</td>
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<td>do the thing? PK: You want to put that in there? It’s up to your group.” The play</td>
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<td>an unfocused rehearsal while the drums play in the background.</td>
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<td>The participants were told that drum beats were not allowed. However, in this case</td>
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<td>I allowed it because they were adding it as background to an already established</td>
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<td>piece.</td>
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<td>00:00- 01:39</td>
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<td>02:10- 03:59</td>
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<td>03:59- 04:29</td>
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<td>04:29- 05:01</td>
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<td>05:19- 07:01</td>
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<td>07:01- 07:02</td>
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<td>08:02- 09:01</td>
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<td>11:09-13:23</td>
<td>Another rehearsal begins. Each participant sits in the stool while they play their part. Casey has to remind Felix to play the cluster again. “[Casey to Felix] Hey!” Felix howls like a wolf as he plays. “[Felix to Casey] Wow, that was funny (claps hands). Good girl.” Felix recognizes that Casey has taken over his theatrical role as the finale. He pulls her off-camera. “Felix: Get out of here. You don’t stand up. Casey: Yeah I do.” Felix kneels on the windowsill behind the girls and waves his hands. “Felix: I am the haunter.” The interaction between Casey and Felix is playful. Everyone in the group is working well together, and they seem to be enjoying their time.</td>
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<td>13:23-17:30</td>
<td>Casey: Hey, Felix, Felix: Yeah go over here. Theresa: I have the coolest idea ever. How about each of stand on one edge here, and we go (clap hands). Casey: Sure Felix: No!” Felix walks off-camera. The girls try several poses for the finale. The girls call Felix over to the keyboard. Felix refuses to pose. The girls tell him to just stand still and touch the piano. “Casey: You could scary music.” Felix turns on drums and alternates A and C. The group works together to develop the ending pose. The girls want to pose, but Felix does not. The girls are very accommodating to Felix, and help him find something he is comfortable with. The group is still unclear how to end the piece. They attempted the ending twice, but still seemed unsure.</td>
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<td>17:30-20:38</td>
<td>The group rehearses the piece from the beginning. Everything goes smoothly until the finale. Casey reminds Felix again to play the 3-note cluster. “Casey: Get over there. [Felix to Lisa] Ya Mova, Ja Mo Moma.” Felix misses his turn because he is staring out of the window. The group restarts the finale. Felix shouts, “Hallelujah” as he approaches the keyboard. When Lisa falls in the finale, Felix knocks the video camera over. The group laughs. The rehearsal stops. Theresa puts the camera back. “Theresa: That was Felix. Felix: That was Theresa. Casey: No that was Felix, we watched him.” The group has one final rehearsal of the whole piece. They are aware when they start that they have three minutes until performance time. This is the first rehearsal that incorporated the new ending ideas that were developed on Day 3. The girls played the gliss part, Felix played the A-C alternating pattern with the drums to end the piece. “Casey: Yes! We did it.”</td>
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<tr>
<td>20:38-21:56</td>
<td>Lisa plays randomly on the keyboard. Theresa checks to see if the camera is broken. When she goes to check, she knocks it over. The group laughs. Researcher fixes the camera. Felix gives Casey some Skittles, and the group takes a short break. Casey laughs when the camera falls again. “Casey: That time it was Theresa.”</td>
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<tr>
<td>21:56-25:00</td>
<td>The group has one final rehearsal of the whole piece. They are aware when they start that they have three minutes until performance time. This is the first rehearsal that incorporated the new ending ideas that were developed on Day 3. The girls played the gliss part, Felix played the A-C alternating pattern with the drums to end the piece. “Casey: Yes! We did it.”</td>
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## Appendix M: Composition Activity for Ali, Maggie, Casey, and Lisa

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<tr>
<th>Time</th>
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<th>D</th>
<th>S</th>
<th>Group Activity</th>
<th>Ali’s Activity</th>
<th>Casey’s Activity</th>
<th>Reflective Notes</th>
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<tr>
<td>00:00-</td>
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<td>Maggie, Lisa, and Casey do not play. Ali explores by playing randomly on</td>
<td>Ali is randomly poking a pattern with the index fingers of both hands on pitches</td>
<td>Casey states, “that’s so random” makes a patch change then turns the volume to zero, turns to Ali and says, “stop.”</td>
<td>All seems excited to be working in this group, and explores with random ideas. Casey already appears to be taking charge.</td>
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<td>00:15</td>
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<td>keys B, C, D. Casey switches patches while Ali plays, then says, “Wait—first</td>
<td>that’s so random” makes a patch change then turns the volume to zero, turns to Ali and says, “stop.”</td>
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<td>thing we should—,” then turns the volume to zero. Ali continues to play</td>
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<td>randomly. Casey states, Ali seems excited to play.</td>
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<td>Lisa watches from the highest side of the keyboard as the other girls work</td>
<td>All continues to poke randomly at the keys with two index fingers while patch</td>
<td>Casey is searching for a patch. When Maggie says to change and says, “practice your part.”</td>
<td>Casey again seems to be trying to take charge, asking the others to practice their parts. The group seems to maintain a positive and energetic attitude.</td>
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<td>out their patch changes. Maggie plays clusters randomly on the lowest keys</td>
<td>changes are being made. When Casey switches it off of the “Piano” sound. Ali</td>
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<td>of the keyboard to test while patch put on their parts. The group seems to</td>
<td>says, “Stop.”</td>
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<td>watch Casey perform her idea. Maggie begins to suggest something, “Somebody</td>
<td>All watches Casey perform her idea.</td>
<td>Everyone in the group seems to be interested in Casey’s idea, and is listening actively.</td>
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<td>else should.”</td>
<td>All watches Casey perform her idea.</td>
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<td>The group is working together to develop Casey’s harmonic 3’s motive. First,</td>
<td>Ali looks as Casey repeats her idea. Maggie begins to suggest something,</td>
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<td>as Casey is finishing her idea. Ali tries adding a few ending notes to it</td>
<td>“Somebody else should.”</td>
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<td>and laughs. Casey says, “You can do anything you want.” Then Maggie</td>
<td>Ali listens to Casey</td>
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<td>suggests, “No wait—you should teach us all that, and we’ll all do it on</td>
<td>Casey repeats her harmonic 3’s idea.</td>
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<td>different—.” Casey plays it again. This time Ali copies Casey and says, “I</td>
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<td>did it.” Casey says, “Kinda.” Maggie then tries to play it using fingers 2</td>
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<td>and 3 instead of both hands. Lisa begins to play 2 alternating notes. Casey</td>
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<td>says to her, “You can change the thing if you want.” Maggie says Casey’s</td>
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<td>arm and says, “No—I think I know what we should do.” Casey does not</td>
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<td>respond to Maggie, but plays her idea again. All joins in, and Lisa works</td>
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<td>out a different idea. Maggie now walks between Ali and Casey and says to</td>
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<td>Casey, “You should teach us all how to do it, and you go once, and then—</td>
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<td>you know how you guys did it.” Casey makes a ‘surprise’ sound as if she</td>
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<td>just got an idea, then rushes to the bottom of the keyboard. She begins to</td>
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<td>play 3’s again. “Maggie: and you’ll be doing it in the center. Casey: Yeah,</td>
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<td>it’ll do—wait. How about I do it in the center [to Lisa] you go over me [to</td>
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<td>Ali and Maggie] you guys wanna be last cause you’re last. [To Ali] You go</td>
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<td>over behind her (Maggie) and she’s (Lisa) with me. OK, now [to Lisa] come</td>
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<td>close to me. [Ali] All of us should go behind you, Maggie. This is so much</td>
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<td>easier than last time. Casey: Now, [to Lisa] put your two fingers here.”</td>
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<td>Maggie places her fingers instead. Casey physically removes them from the</td>
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<td>keyboard and places Lisa’s fingers instead. Everybody laughs. Casey then</td>
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<td>tells Maggie, then Ali where to play their harmonic 3. Casey also plays a</td>
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<td>harmonic 3. Everybody plays ascending harmonic 3’s. Everybody plays ascending</td>
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</table>

02:39 L CM A “Maggie: Casey, you should do” All listens to Casey has a The four girls seem...
<table>
<thead>
<tr>
<th>Time</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>03:01</td>
<td>The group makes an attempt to perform the piece as they’ve discussed it. Casey begins to play her part.</td>
<td>Casey and Maggie’s discussion. She doesn’t play anything to interrupt the conversation. Casey listens to Maggie’s idea to play her idea in the center while the others go around her. very happy to be working together. They are generally listening to each other’s ideas. They are moving quickly, and communicating verbally to express their thoughts.</td>
</tr>
<tr>
<td>03:01-03:37</td>
<td>The lower keys stopped working after the patch changes.</td>
<td>Casey restores the keyboard to the way it was previously. It is interesting how Casey seems to be sensitive to Lisa. And Ali is being sensitive to Maggie. These pairs of girls already completed a collaborative composition together.</td>
</tr>
<tr>
<td>03:37-03:59</td>
<td>Casey begins to play “Jingle Bells.” Maggie follows this with, “Ode to Joy.” “Casey: Oh guys, listen to this. Wait, can I do something?” Casey plays “Axel F.” “Maggie: How do you know how to do that?” Casey plays “Axel F” five times. Maggie laughs after each time.</td>
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<tr>
<td>03:59-05:06</td>
<td>Casey is playing through familiar songs. She plays “Jingle Bells.” Then follows Maggie’s, “Ode to Joy” with several repetitions of “Axel F.”</td>
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<tr>
<td>05:06-05:21</td>
<td>Ali: OK. We have to think of something. Casey: Let’s think of our own parts. Casey begins to play. Maggie joins in. Ali and Lisa just watch and listen.</td>
<td></td>
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<tr>
<td>05:32-05:54</td>
<td>Ali: Yeah, but I can’t do it down here with that.” Casey turns off the drums, and selects several buttons until the lower half of the keyboard is returned to “normal” mode.</td>
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<tr>
<td>05:54-06:39</td>
<td>Casey teaches “Axel F” to the group.</td>
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<tr>
<td>Time</td>
<td>Author(s)</td>
<td>Action</td>
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<tr>
<td>06:39-06:53</td>
<td>M</td>
<td>AC L</td>
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<td>06:53-07:08</td>
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<tr>
<td>07:08-07:25</td>
<td>C</td>
<td>AM L</td>
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<tr>
<td>07:25-07:54</td>
<td>AM</td>
<td>C</td>
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<tr>
<td>07:54-08:18</td>
<td>AM CL</td>
<td>More “Axel F.” Maggie and Lisa just listen.</td>
</tr>
<tr>
<td>08:32-09:00</td>
<td>MC</td>
<td>A</td>
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<tr>
<td>09:00-09:08</td>
<td>MCL</td>
<td>A</td>
</tr>
<tr>
<td>09:08-09:34</td>
<td>C</td>
<td>AL</td>
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</tbody>
</table>
09:34-09:52 | AMC | L | Ali, Maggie, and Casey repeat previous ideas. Lisa just listens and watches. | Ali goes back to repetitions of her own idea. | Casey is repeating the idea the Maggie just developed. She tries it Ascending and descending.

09:52-10:06 | AMC | L | Everybody explores new random ideas. | | Casey tries to refocus the group again. When nobody listens, she tries to subtly interrupt them.

10:07-10:24 | AMC | L | Everybody explores new random ideas. | | Casey could once again be playing this new motive to offer material for Ali to work with.

10:24-10:40 | C | ML | A “Casey: OK. You (Maggie) have yours. What are you (Ali) gonna do? Ali: I don’t know, something else. Casey: Or you can just go with the flow and do whatever you want like I did.” Lisa repeats her part. Maggie plays the “Raiders’ March” | | Casey takes charge again and recaps that everyone has a part but Ali. She tries to help Ali get started, then explores a new random idea.

10:41-11:52 | CL | M | A Casey switches spots with Maggie to work more closely with Ali. Maggie plays “Axel F.” her part of the piece. Lisa explores. Casey shows a few ideas to Ali, then insists that she’s “got it” even though Ali did not try any ideas. | | Casey is trying to give Ali help in finding an idea. She shows some black key ideas. Then shows glissandi. “Do whatever you want” smiles and walks away, “it doesn’t really matter.”

11:52-12:00 | AM | CL | The group rehearses the piece. Each participant takes a turn playing their part. First Casey, then Lisa, then Maggie, the Ali. | | The rehearsal goes quite well. Everybody remembered their part, and played at the correct time. All participants were giving a good effort and remained focused.

12:52-13:00 | AM | L | Casey plays “Axel F.” Everybody else stops and listens. | | “Axel F.” seems to be used as a distracter- to take a break from moments of high focus.

13:01-13:55 | AMC | L | “Casey: Now we have to make something up that we can all do together. Who wants to help make it up?” Maggie and Ali are exploring. Casey turns toward Maggie, “Casey: How ‘bout we do something we can do together: Maggie: Yeah, but like what? Casey: OK look—unumm. Ok.” Casey rests her left arm on the keys to think and lays RH index finger on | | The girls are being playful with one another, and are working good together. They are all smiling as they interact.
<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
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</thead>
<tbody>
<tr>
<td>13:55-14:11</td>
<td>AMC, L</td>
<td>The girls are all exploring new ideas. Ali is walking her fingers stepwise up the white keys. Lisa plays a similar pattern as Casey. “Casey: Ok [gasps] how 'bout what she was just doing. She was just doing this—like, doing the finger walk. Maggie: Yeah but, we did that last time.”</td>
</tr>
<tr>
<td>14:11-14:26</td>
<td>AM, CL</td>
<td>Ali, Maggie, and Casey all try the finger walk idea up the keyboard. Lisa continues to repeat her last idea. Casey plays the walking motive from the bottom to the top of the keyboard.</td>
</tr>
<tr>
<td>14:26-14:56</td>
<td>AM, CL</td>
<td>All and Maggie are both playing one of Ali’s previous ideas—ascending chromatic motion. Lisa and Casey listen to the idea. Casey plays a harmonic 3rd on top then comments, “Oh my gosh- that sounded so cool.”</td>
</tr>
<tr>
<td>14:56-15:46</td>
<td>AC, ML</td>
<td>Maggie walks to a different keyboard, Casey tells her to work on the same keyboard. Ali and Casey work together to develop their ideas. Casey plays her harmonic 3rd while Ali plays the chromatic motive.</td>
</tr>
<tr>
<td>15:46-16:10</td>
<td>ALC, M</td>
<td>Ali, Lisa, and Casey are exploring. Maggie is told to move back to the group's keyboard. “Casey: During that part we’re going to turn it (the volume) down to here. Maggie: Please don’t turn it up and down.” Casey jokes with Maggie and turns the volume up and down. “[Maggie]NO”</td>
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<tr>
<td>16:10-16:45</td>
<td>LA, MC</td>
<td>“Casey: Ok, that’ll be the second. Oh wait [to Lisa] do this” Casey alternates rapidly between 2 notes a 3rd apart. “[Maggie]I’ll start from the top and go down. Casey: Yeah, yeah [to Lisa] Wait, follow her (Maggie). [Casey][gasps]Yeah-you start over there, and you start over there, and you stay with her because when you get halfway, we’ll get halfway up”</td>
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<tr>
<td>16:45-17:16</td>
<td>AM, CL</td>
<td>The group attempts to play part 2 of their piece. First Ali and Maggie. Ali plays her part, Casey plays her part. The rehearsal goes well. Everybody seems willing and happy to work with Casey.</td>
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<tr>
<td>17:16-</td>
<td>AM</td>
<td>The group focuses on practicing the song. The Lisa and Casey they meet in the middle, and Casey says, &quot;Traffic jam.&quot;</td>
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<tr>
<td>18:33-18:54</td>
<td>AM</td>
<td>The group prepares to rehearse the whole piece. &quot;All, We still have to practice our whole thing. Casey: Yeah, let's practice the whole thing.&quot; Case adds an idea of having the whole group repeat a 3-note stepwise pattern. Ali is the one who gets the group back on track by asking them to rehearse the whole piece. Ali plays her part. Casey directs the rehearsal. The rehearsal goes well. Part 1 is smooth, part 2 had some work left to do, as the girls got tangled in the center of the keyboard. Everyone seems to be on the same page, and ready to rehearse the piece. Everyone was willing to say Casey's new ending.</td>
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<tr>
<td>18:54-21:11</td>
<td>AM</td>
<td>The group rehearses the entire piece for the first time. During the first part they take turns playing their own parts. Part 2 they play in pairs. Casey is now willing to take the time to teach &quot;Axe F.&quot; to the others in the group, perhaps because the composition is finished.</td>
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<tr>
<td>21:11-</td>
<td>AM</td>
<td>Lisa and Casey walk away from the keyboard. Maggie begins to play, &quot;Axe F.&quot; Lisa rushes over to try to play it. Finally, Casey adds, &quot;Here's a favorite that everybody knows.&quot; and runs to the keyboard and plays &quot;Axe F.&quot; She says &quot;OK,&quot; then teaches it to Maggie. Ali and Casey walk off-camera. Lisa and Maggie continue to practice, &quot;Axe F.&quot; Ali is not interested in learning &quot;Axe F.&quot; Instead, she explores on the lowest keys. Casey says, &quot;I want to learn how to play the chicken dance.&quot; Lisa and Maggie explore. Casey comes back carrying a piano bench with Ali. The girls take a seat, and Casey turns the volume off. Casey brings a stool to sit on. She doesn't seem to be bothered when Maggie takes it from her. The girls are becoming silly. They are bored, but there is still a positive energy within the group.</td>
</tr>
<tr>
<td>22:23-22:47</td>
<td>AM</td>
<td>The other group is heard off camera. &quot;Can we play our piece for you? 'cause we're done? Maggie: We're done too, I think PK. You have 2 more days. Write another piece.&quot; Now that the group is 'done' they seem to be unfocused during the remainder of their time.</td>
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<tr>
<td>23:23-</td>
<td>ML</td>
<td>Maggie says, &quot;I want to learn how to play the chicken dance.&quot; Lisa and Maggie explore. Casey cooks back carrying a piano bench with Ali. The girls take a seat, and Casey turns the volume off. Ali is off-camera.</td>
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<tr>
<td>23:38-</td>
<td>AM</td>
<td>Ali and Casey return to the keyboard with a piano bench.</td>
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<td>24:01</td>
<td>LC</td>
<td>Ali and Casey return to the keyboard with a piano bench.</td>
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<tr>
<td>24:01-24:24</td>
<td>ML C</td>
<td>Casey is teaching Maggie. &quot;Axel F.&quot; Lisa is rehearsing her part of the piece.</td>
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<tr>
<td>24:24-24:55</td>
<td>A L</td>
<td>Lisa is exploring. Ali is repeating a previous idea. Maggie listens to Casey. Casey suggests to the group that they all kneel on their chairs, then pick a key, and hold it while they pose.</td>
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<tr>
<td>24:55-25:05</td>
<td>AMC L</td>
<td>Everybody in the group is exploring for new ideas.</td>
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<tr>
<td>25:05-26:20</td>
<td>MC L</td>
<td>Casey teaches Maggie and Lisa &quot;Axel F.&quot;</td>
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<tr>
<td>26:06-27:03</td>
<td>AM CL</td>
<td>Casey poses the group for the finale again.</td>
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<td>00:00-01:10</td>
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<td>01:19-01:59</td>
<td>L</td>
<td>AM</td>
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<td>01:59-02:17</td>
<td>CA</td>
<td>LM</td>
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<td>02:17-02:31</td>
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<td>AL</td>
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<td>02:31-02:41</td>
<td>L</td>
<td>AM</td>
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<td>02:41-04:33</td>
<td>AM</td>
<td>CL</td>
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<td>04:33-04:43</td>
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<td>04:43-04:54</td>
<td>AL</td>
<td>MC</td>
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<td>04:54-05:13</td>
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<td>05:13-06:04</td>
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<td>06:04-06:48</td>
<td>AMC</td>
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<td>06:48-07:15</td>
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<td>AM</td>
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<tr>
<td>07:15-07:53</td>
<td>AC</td>
<td>M</td>
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<tr>
<td>07:53-10:06</td>
<td>AM</td>
<td>CL</td>
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<td>10:06-11:41</td>
<td>AM</td>
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<tr>
<td>11:41-</td>
<td>AL</td>
<td>MC</td>
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</table>

Casey is asking Maggie, "Doesn’t that reed get soggy?"

All seems serious about getting back to work. She is polite when others play "Axel F," but quick to change direction when they’re done.

All listens to the discussion, but does not participate.

Maggie seems to like the attention she is getting from this distraction from the composition.

All is exploring alternating black/white melodic combinations.

Casey plays a rapid, repeating white, white, black, black pattern. Casey comments she is tired and rests her head on the keys.

Is Maggie jealous?

Maggie comments she is not listening to the others.

It seems that there is some tension mounting between Casey and Maggie. Maggie first stands next to Casey. Casey looks up and away and yawns. When Maggie moves to the other side of the keyboard, Casey resumes playing her ideas.

The group seems tired, and out of ideas for now.

Considering the long break that preceded this, the group was quite focused.
Lisa and Ali exploring new ideas. Lisa plays interesting chromatic motion, then plays a melody in minor 2nds. Casey says, "Creepy" as she explores. Lisa's part catches her attention, and she stops playing to listen to Lisa.

Lisa is very focused, and maybe happy that she has the keyboard to herself for a moment. When she develops an idea, she listens deeply to it, while blocking out everything else.

The whole group takes a break away from the keyboard. Maggie is seen putting her clarinet together. The other girls are looking at it together. There is an inaudible dialogue between the girls off-camera. "[Maggie to Researcher] Can we play our instruments now? [Research] What are you all taking a break? Where are you all going? Girls: We're done. PK: But you can't be done. You have the rest of today, and you still have tomorrow, too. Girls: I know but we did it PK: make it longer, or make another piece. Girls: Another piece? PK: Sure. Ali: We're done. We already have like 3 pieces. [Other group] We have 3. PK: We still need to go another 10 minutes. Sorry guys. And then we'll do clarinets. I want to hear you play your clarinet.

The girls are excited to show their band instruments to me. The just passed an audition for the 4th grade band, and want me to hear their songs.
<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>16:25-17:05</td>
<td>M  AC L</td>
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<tr>
<td>17:05-17:37</td>
<td>AM + CL</td>
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<td>17:38-17:53</td>
<td>CL A M</td>
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<tr>
<td>17:51-19:05</td>
<td>AM CL L C</td>
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<td>19:05-19:29</td>
<td>AML C</td>
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<tr>
<td>20:58-21:41</td>
<td>CL AM</td>
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<td>04:51-05:25</td>
<td>AM CL</td>
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<td>05:25-06:04</td>
<td>CL AM</td>
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<td>06:04-06:54</td>
<td>MCL A</td>
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<td>06:54-07:26</td>
<td>AMC L</td>
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<td>07:26-07:40</td>
<td>C AM L</td>
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<td>07:40-07:55</td>
<td>S AM C</td>
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<td>07:55-09:42</td>
<td>AM CL</td>
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<tr>
<td>09:42-09:51</td>
<td>L AM C</td>
</tr>
<tr>
<td>09:51-10:25</td>
<td>LM AC</td>
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| 10:25- | CL AM L | As soon as Casey has the Ali waits. "When Maggie tries
<table>
<thead>
<tr>
<th>Time</th>
<th>Notes</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:39</td>
<td>M</td>
<td>Groups attention to start, she plays the “Raider’s March” instead of her piece.</td>
</tr>
<tr>
<td>10:39-11:09</td>
<td>AMC</td>
<td>A rehearsal is started, but the girls don’t like the patch, so they stop.</td>
</tr>
<tr>
<td>11:09-14:02</td>
<td>AMC</td>
<td>A rehearsal of the full piece takes place. The ending is attempted twice. There are several moments in which the girls bond with one another. “Maggie: Hey camera.” Casey holds Maggie’s index finger to her lips. Maggie bites her finger. During the pose, Casey places her arms around Maggie and Ali.</td>
</tr>
<tr>
<td>14:02-14:25</td>
<td>AMC</td>
<td>The girls all practice their final pose. Everybody is laughing as they try different ideas. Maggie begins to tickle Casey, “Maggie: She’s ticklish.” Ali is actively and enthusiastically participating in the discussion. Casey tells everyone how they should pose.</td>
</tr>
<tr>
<td>14:25-14:44</td>
<td>AMC</td>
<td>Casey plays, “Axel F.” Maggie suggests that it should be part of the song. Ali turns the volume down. Casey plays Axel F. This song often follows moments of intense focus.</td>
</tr>
<tr>
<td>15:09-15:25</td>
<td>AMC</td>
<td>Maggie starts, “Axel F.” “Casey: Well I play this better. Maggie: So, I play ‘Raider’s March better. Casey: I don’t care. I don’t like it. I like this.” Ali is still waiting patiently for Casey and Maggie to get serious. Casey is challenging Maggie. This is less of an argument, but more of a friendly competitive exchange.</td>
</tr>
<tr>
<td>15:25-15:41</td>
<td>AMC</td>
<td>Casey is sliding her hand up and down the patch change buttons while the group plays randomly. “Ali: You know what we should do? We should do this at the end while we’re lowering it. [Casey and Maggie] Nah.” Casey is unfocused, and just killing time. The mood of the group is silly, but Ali still seems serious about adding to the piece.</td>
</tr>
<tr>
<td>15:41-16:16</td>
<td>CL</td>
<td>Casey and Lisa are both playing. “Axel F.” Maggie is suggesting patch changes. Ali makes the patch changes.</td>
</tr>
<tr>
<td>16:16-16:40</td>
<td>ACL</td>
<td>While the group explores, Maggie asks the group, “Maggie: Can I get my own taste of the piano now? Casey: Taste- are you going to lick it?” Ali is controlling the volume and patches. She is bored, and yawns at the end of the segment. Casey is still being silly.</td>
</tr>
<tr>
<td>16:40-17:28</td>
<td>MC</td>
<td>The group is told that they have only a few minutes to finish up. The group wants to rehearse again, but Maggie and Casey play “Axel F” instead. Ali listens to Casey play. Casey suggests that they rehearse the piece one more time, but plays “Axel F” instead.</td>
</tr>
<tr>
<td>17:28-18:00</td>
<td>MCL</td>
<td>Now the group tries, “Raider’s March” instead of rehearsing the piece. Ali doesn’t play anything. She just waits patiently. The group is very unfocused.</td>
</tr>
</tbody>
</table>
References


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Curriculum Vitae

[Text content of the curriculum vitae]

[Details of education, work experience, skills, etc.]

[Contact information]