Ensemble Habits of Mind: Which are Taught (and Not Taught) in High School Music

Jillian Hogan

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Jillian Hogan
Advisor: Ellen Winner, Ph.D.

Public polling and anecdotal evidence suggests that the general public greatly values music education. I argue that this is not because of content, discipline-specific skills like reading music notation or playing the trumpet, but because of the generalizable habits of mind, or broad thinking dispositions, that teachers teach in ensembles. Through analysis of systematic observation and interview data from multiple rehearsals of six band, choir and orchestra ensembles, eight Ensemble Habits of Mind emerged: Evaluate, Express, Imagine, Listen, Notice, Participate in Community, Persist, and Set Goals & Be Prepared. Using methodology similar to that of parallel work identifying Studio Habits of Mind in visual arts education (Hetland et al., 2013), this study shows many similarities between habits of mind in the two disciplines. However, two habits of mind that were specifically sought out in observations because they are frequently reported in advocacy arguments, Use Creativity and Recognize More than One Correct Answer, were not observed even under broad inclusion criteria. Suggestions are given for the practical application of these findings and discussion of how this framework can simultaneously support the good thinking happening in traditional large ensembles while bolstering rationale that informal music learning and other means of student-centered music making should be included in music programs in order to advance students' creative thinking and tolerance for ambiguity.

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Chapter 1

Introduction

A report by the National Center for Educational Statistics cited that 91% of public high schools in the United States offered music instruction during the 2008-2009 school year (Parsad & Spiegelman, 2012). Despite frequent media narratives that music education is a disappearing phenomenon (Koza, 2006; Richerme, 2011), this statistic counters that music education is present in some form in most United States public high schools, usually in the form of large ensembles like wind band, orchestra, or choir (Elpus & Abril, 2011).

This prevalence corresponds with public opinion regarding music education offerings. A 2009 Gallup poll showed that 92% of Americans believe music education should be a part of the regular school curriculum, with 85% of those who never learned how to play a musical instrument wishing that they had (NAMM Foundation, 2009).

Anecdotally, we hear that experiences in these high school music programs have valuable and life-changing effects. In discussing music with Bono at a talk in Ireland, former President Bill Clinton says, "I have said many times–if I hadn't been exposed to music as a child I don't think I would have been president" (Brinckmeyer, 2016). Craig Cortello (2009) catalogs several successful business people in his book *Everything We Needed to Know about Business We Learned Playing Music*, including EPA administrator Jimmy Palmer, who says, "I can say without hesitation or doubt that my own personal musical odyssey has been a huge part of my personal and career development."

In addition, some music advocates and researchers claim that music education serves to teach, directly or indirectly, performance in other "academic" disciplines (see McClung, 2000; Williams, 2007; Winner et al., 2013 for reviews), and others claim music education can teach children how to be motivated and to care about their community, thus improving school attendance .

This information tells us two important facts: music education is prevalent in United States high schools, and most people value its existence. In order to begin to understand the potential long term benefits that music ensemble training might provide, it is first necessary to understand what kinds of habits of mind are actually being taught in ensemble classrooms.

Answers to the question of what is taught in music ensemble-classes would certainly include music-specific skills such as how to play the oboe, how to read music, or how to sing properly. A content-based approach to teaching may cite competencies like these as teaching goals. Some may argue, however, that these music-specific behaviors are not what Clinton and the business people profiled by Cortello (2009) mean when they note the importance of music education on their careers. Instead they seem to be saying that music education taught them valuable lessons and training for life outside of the rehearsal room. This is consistent with the view of the general public, two-thirds of whom believe music education prepares students to manage the tasks of their future careers more successfully (The Harris Poll, 2014)

The goal of the study proposed here is to examine the range of habits of mind (broad ways of thinking) that are taught in music ensemble-classrooms. In this

study, I use observation, behavioral coding, and interviews as data sources to investigate what is taught in high school music ensemble-classrooms.

Literature Review

A guiding hypothesis motivating the study proposed here is that music educators teach broad and important habits of mind. In what follows, I describe common understandings of that term and those related to it.

Conceptions of Habits of Mind

Habits of mind have been characterized in many ways, all of which converge on the idea that these are big, broad levels of thinking. Some characteristics used in describing this construct of thinking include: generalizable, dispositional, critically-informed, and automatic.

Generalizable

Habits of mind refer to generalizable ways of thinking that are not necessarily specific to a particular domain. Domain-specific skills includes examples like changing the zoom on a microscope (biology), drawing in linear perspective (visual art), reading music notation (music), or demonstrating proper form for a basketball free throw (athletics). By describing something as a habit of mind, I mean a more general and generalizable ability. Habits of mind are broad -- ways of thinking that could potentially be used outside of the domain in which they are observed (Hetland et al., 2013). For example, categorization could be considered a habit of mind and it may be taught in biology class. But while science teachers may systematically teach how to categorize and sort data, the ability to think in this manner is a more generalizable way of thinking which, were it to transfer outside of

the situation in which it was taught, may be useful in many areas, including the arts, language learning, or history. However, cultivating a particular habit of mind in one discipline does not necessarily mean that that habit of mind will transfer to another discipline (Barnett & Ceci, 2002; Detterman & Sternberg, 1993; Perkins & Salomon, 1989; Salomon & Perkins, 1989). The study of transfer of habits of mind between disciplines is one for continued and future research.

Dispositional

Another way of thinking about habits of mind is that of cognitive patterns that support dispositional thinking as described by Perkins, Jay, and Tishman (1993a; 1993b; Tishman et al., 1993). Dispositional thinking is a way of describing abilities beyond just the use of skills, and encompassing motivation and attitudes. Perkins et al. consider three interdependent components of dispositional thinking: ability (or skill), sensitivity (or alertness), and inclination. Figure 1.1 (Hogan et al., 2018) shows ways of thinking about these three components. In the example of categorization, a child may have the *skill* to sort non-living from living things in a science class but may not notice when this is called for. Noticing when this is called for requires *alertness* towards times when the ability to categorize might be useful. For example, when a child uses her ability to sort living from non-living things as a way of deciding if something is compostable or not, she is showing sensitivity to the opportunity to use this ability. *Inclination* refers to the motivation to use categorical thinking as opposed to some other strategy, such as guessing whether or not the object is compostable or simply throwing the object in the trash can. Habits of mind

are a form of dispositional thinking. They encompass not only skills but also the awareness and motivation to use these skills.

Thinking of thinking in this way, as a combination of both skills (or abilities) on one hand and behaviors (or sensitivity, alertness and/or inclination) on the other, contrasts other conceptions of thinking in which these components of thought are considered binary abilities, discretely separate from each other (Ennis, 1987; Paul, 2012). Conceiving of habits of mind as complete dispositions that require both skills and attitudes means conceiving of these habits authentic ways of genuinely "thinking like a musician" (or scientist, or mathmatician, etc.; Anderson & Milbrandt, 1998; Cuoco et al., 1996; H. Gardner, 1999; Willingham, 2008).

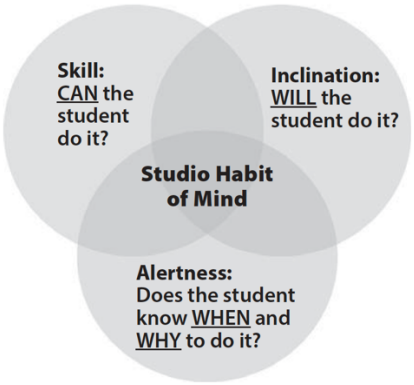

Figure 1.1 Three interdependent parts of a habit of mind

Automatic

Habits of mind are, quite literally, *habitual*. Habits compose our default settings and require little or no forethought to enact. When habits of mind become engrained, they become automatic responses. When teachers teach for thinking

within a discipline, they give instruction that reinforces these ways of thinking, with the aim that this will lead to independent execution on the part of the students (Hogan et al., 2018; Hogan & Winner, 2019). Costa and Kallick (2009, p. 1) describe the automatic, deeply engrained nature of habits of mind by quoting educator Horace Mann, "Habit is a cable; we weave a thread in it each day, and at last we cannot break it."

Critically-informed

Arthur Costa, co-founder of the Institutes for Habits of Mind in California, along with his colleague Bena Kallick (2008, 2009) are among the most prolific thinkers about habits of mind in education. They have developed a list of 16 habits of mind (e.g., striving for accuracy, managing impulsivity, gathering data through all the senses, finding humor), now adopted by schools as goals for teaching around the world. Costa and Kallick aimed to create a list of dispositions that help students become critical producers -- rather than reproducers -- of knowledge. They define habits of mind as "broad, enduring, and essential lifespan learnings that are as appropriate for adults as they are for students." Their books describe various strategies for formatively and summatively assessing such habits of mind, including school report card redesigns that reflect progress with each habit of mind, lists of concrete behaviors that serve as evidence of thinking within a habit of mind, tools to help students monitor their thinking progress and set goals, and rubrics, portfolios, and journal examples for classroom use. A quick search engine query reveals many resources for using and assessing habits of their own minds in their classrooms--

evidence that using thinking as a fundamental guide for learning in the classroom is possible.

The teaching of thinking (or habits of mind, or similar concepts with different names) is a valuable goal of many educators (Boyes & Watts, 2009a, 2009b; Costa & Kallick, 2013; Fletcher et al., 2015; Perkins et al., 1993; Ritchhart et al., 2011; Root-Bernstein & Root-Bernstein, 2013; Tishman et al., 1993; Wang & Lu, 2020) and its systematic study merits attention by researchers. In the teaching of any domain, certain habits of mind are emphasized (Anderson & Milbrandt, 1998; Cuoco et al., 1996; H. Gardner, 1999; Willingham, 2008). Habits of mind have been described in distinct subject areas: math education (Cuoco et al., 1996, 2010; Goldenberg et al., 2003, 2015); science education (Çalik & Coll, 2012; Steinkuehler & Duncan, 2008); STEM education (Hanson & Lucas, 2020; Lucas & Hanson, 2016); higher education (Berrett, 2012; Wineburg, 2003); teacher education (Altan et al., 2019; Borko et al., 2007; Dottin, 2009; McDonough & McGraw, n.d.; Raths & Diez, 2007; Thornton, 2006); gifted education (Haroutounian, 2017); special education (Burgess, 2012); and medical education (Epstein, 2003; Lucas & Nacer, 2015; Lunney, 2003; Speedie et al., 2012). The goal of teaching for habits of mind has been considered key to the cultivation of critical (Ennis, 1996; Facione et al., 1994) and creative (Booth, 2009; Lucas, 2016; Lucas et al., 2013) thinking. Habits of mind have also been seen as a desired goal of arts education (Davis, 2008; Eisner, 2002; Hetland et al., 2013).

It is likely that there are habits of mind shared across disciplines, while others are taught only in some disciplines or by some teachers within those disciplines. However, most writings about habits of mind in any discipline are

speculative or they are about what "should" happen. These appear as "top-down" mandates of what teachers should teach because they align with our values, school mission statements, or the popular educational trend of the day. What is badly needed is "bottom-up" empirical evidence about what habits of mind teachers are actually teaching in specific domains.

Previous Studies of Habits of Mind Taught Through the Arts

A prototypical example of a speculative, "top-down" approach can be found in Elliott Eisner's *The Arts and the Creation of Mind* (2002), in which he argues for the valuable habits of mind that the arts teach: learning to make qualitative judgments that do not have strict right or wrong answers (e.g., in deciding whether to use a black or a grey crayon in an artwork, a child realizes it is his judgment that will provide the best answer, not some external rule); learning that questions can have more than one answer (e.g., the question as to how to make a dance "sad" may have many different solutions from a class of children); learning that there are multiple perspectives in which to view a situation, each of which has value (e.g., a child may learn about weather in science class but may learn about it in a qualitatively valuable way in creating a weather-based music composition); learning to solve problems in a continued and adaptable process (e.g. a child adapts changes her sculpture plan when the glue doesn't react as she wishes, or what she creates does not fully match her vision); learning that language and numbers cannot fully represent our understanding of the world and that the arts create an alternative avenue of representation (e.g. children in expressive therapies benefit from alternative means of expressing those emotions which they may be unable to

demonstrate through traditional language); learning that small differences can result in large effects (e.g. a child notices how the slightest point of the foot in a dance can indicate a change in mood or meaning); and learning to think through and within an artistic medium (e.g. a child who creates both a monologue and a composition about the same subject will learn to communicate through the lens of the particular medium he is involved in.)

In 2008, Jessica Hoffman Davis wrote *Why Our Schools Need the Arts*, intended to be a more accessible means for principals and teachers to understand the importance of habits of mind taught through the arts. She talks about qualities of the arts that are similar to those on Eisner's list: recognition of ambiguity (various interpretations of the same stimulus); respect for perspectives different from one's own; a process orientation, including inquiry into one's preferences, values, and beliefs, and deep reflection as to how one will improve; and connection, which refers both to engagement in learning and responsibility to one's greater learning community.

These writings by Eisner (2002) and Davis (2008) make broad claims that do not cut across arts disciplines and did not emerge bottom-up from systematic observation. Eisner called for researchers to investigate the question, "What do teachers of the arts do when they teach and what are its consequences?" (p. 215). An investigation like this in the domain of visual art was conducted by Hetland, Winner, Veenema and Sheridan (2013). Five teachers in two high schools in which the arts were taught several hours a day were observed and videotaped while teaching, and interviewed over a period of a year. The teaching videos and interviews were coded

and from this analysis, eight "Studio Habits of Mind" emerged: Develop Craft (Technique and Studio Practice), Engage and Persist, Envision, Express, Observe, Reflect, Stretch and Explore, and Understand Art Worlds (Domains and Communities). These habits of mind were witnessed and behaviorally coded as being taught in high-level visual art classes. The study presented here is modeled on the approach taken by Hetland, et al.

Currently, there is little arts education research specifically in the field of music that interrogates the kinds of habits of mind teachers are actually trying to instill in their students. However, an approach identifying the intrinsic qualities of music education research is called for in the literature (Richerme, 2011; Williams, 2007). Hodges (2005) points out a number of understandings that music education can help provide. His list includes self-identity and group-identity, awareness of time and space, healing and wholeness, as well as communication of ineffable and aesthetic experiences (characteristics of music described by Reimer, 2019). However, Hodges's list is also "top-down" and not based on empirical research. Other music educators discuss the importance of independent and/or critical thinking, but generally focused more towards engagement and democratic classroom practice rather than in terms of developing good thinkers (e.g. Allsup, 2003; Bazan, 2011; Blair, 2009; Draper, 2019; Garrett, 2014; Heuser, 2011; Johnston Turner, 2013; Weidner, 2020).

Curricular Lenses

By examining what is being taught in high school music classrooms, I am investigating a matter of curriculum. As a construct, curriculum has many meanings

and interpretations, and can be viewed through a number of lenses – by what is intended to be taught, by what is actually taught, and/or by what is learned. Music education philosopher Thomas Regelski (2018) describes four lenses for looking at music education curricula. The first lens is that of the formal curriculum guide – what is written in standards, unit plans, and curriculum documents from the classroom to the national level. As Regelski notes, even when teachers are heavily invested in writing their own curricula, integrating mandates, standards, and objectives from a variety of sources, these often do not match what actually happens in the classroom. Because music educators receive little training in curriculum design, Regelski sees these documents as typically "far too detailed, far too ambitious, far too complex to actually be used…or too general to be meaningful." This aspect of curriculum is not one that I investigate here.

The second and third lens, taken together, form the conversation between teacher and student, as theorized by Applebee (2008). The second lens is what the teacher actually teaches – which may be the same or different from what is written in a curriculum document. The third lens is what the student actually learns – which may be the same of different from what the teacher intended to teach. Ultimately, what is learned, which is an active negotiation between the second and third lenses, is the goal of instruction. This is consistent with how Studio Thinking has been categorized after its original publication (as a hidden curriculum, and as "hidden in plain sight," Hogan et al., 2018, p. 9).

The study presented here focuses on the actions of the teacher and not on those of the student – one portion of the curricular conversation. I focus on teaching

rather than learning because of the difficulty of assessing the learning of a habit of mind in a clear way, capturable by a researcher (and not a teacher, who has a longstanding relationship with their students). There are no standardized tests for learning of habits of mind. Self-reports may be used, as well as actual realistic situations staged for students to participate in as a way of assessing habits of mind (Perkins & Tishman, 2001). Rehearsal observation may also be used by teachers to assess students' musical behaviors authentically (Hogan & Winner, 2019). Put simply, the matter of how to best assess habits of mind in a way that is authentic to disciplinary behaviors and feasible for classroom and research use, is an open and complicated question and one for continued future research.

Another reason why this research is focused on teacher behavior is that the habits of mind teachers are aiming to instill form the hidden curriculum – what is "soaked up" informally. This is Regelski's (2018) fourth lens, and is often invisible to teachers, requiring outside observation. Hidden curricula are implicit – these are the values, traditions, and attitudes that happen simply as a result of the culture. Part of "thinking like a musician" is so ingrained and habitual to adults steeped in the discipline that these ways of thinking are often taken for granted and not explicitly discussed. In order for authentic student learning to be assessed, for habits of mind to have a place in curriculum documents, and for teachers to become metacognitive about the thinking dispositions that are already a part of musical experiences, these need to be articulated.

It is the goal of this study to shine a light on those important habits of mind that music teachers are teaching in their classes, looking at teachers through

Regelski's second and fourth lenses of curriculum analysis (2018). The habits of mind I am in search of are very different from the skills and techniques that one finds listed in the curriculum guides that have been used to train music teachers. In later chapters, I give examples of the divide between thinking in terms of thinking dispositions versus in terms of technique and content when it comes to teacher preparation and music education discourse.

Theoretical Framework

Several underlying beliefs and assumptions exist that have influenced the design, execution, analysis, and interpretation of this study. These include my positionality as a former music educator and conservatory music student, my conceptual framework based on the Studio Thinking study (Hetland et al., 2013), and my philosophical positions.

Positionality

My interest in the research topic here is a result of my long engagement in the music and music education community, and this undoubtedly shapes my understanding of what is happening and has the potential to happen within music education classrooms. As a clarinetist, I value creative and individual interpretations of music as one of the most important and personally meaningful components of my craft. At the same time, I am trained extensively in the western classical orchestral tradition. Playing in traditional large ensembles (orchestras and wind bands), following all directions and interpretations of the conductor, and aiming for group unity over individual expression, is a contrast to what I personally value as relevant and meaningful about music-making. This struggle – between wanting to make

personal musical interpretations and being trained in the traditional orchestral style – has been part of my tenure as a musician going back to my years in middle school in the late 1990s. I have experience in a variety of different large ensemble environments, playing in school groups, competitive youth festivals and ensembles, community bands and orchestras, and semi-professional and professional groups. I graduated from a conservatory, during which time I spent many hours of every day rehearsing in both large and small ensemble groups, under a variety of conductors with different styles. This disconnect, between my personal values and those of large ensembles steeped in tradition, has affected the kinds of questions that I ask, and the kinds of recommendations I make from my research findings.

Conceptual Framework

As a music teacher, my values as a musician impact my teaching. I value creative thinking, original interpretations, and preparing students to be independent music makers who are both able and eager to continue participating in musical activities after graduation. My personal philosophical aims for my teaching dovetailed with what I saw going on in the class of the art teacher whose classroom was next to mine during my time teaching general music from preK through grade 8. I began collaborating with this teacher, and was introduced to the Studio Habits of Mind study (Hetland et al., 2013), among other progressive approaches to visual arts education. I recognized these eight thinking dispositions as habits that I valued in my own life and in what I hoped to teach my students as independent music makers. At the same time, I acknowledged that these habits were the findings of systematic study of visual art – they were a "bottom-up" list of those types of

thinking already part of good visual arts experiences. While I used some of these in my music teaching, I recognized they did not authentically transfer to my music classroom – this was a "top-down" approach that felt somewhat artificial. In some instances, there was no precise equivalent habit of mind for music, and in others, there were language changes that would have made the concept more applicable to my discipline. And I knew that, were the study completed within music, new habits could emerge.

The model of the Studio Thinking study as outlined in Hetland, Winner, Veenema, and Sheridan (2013) and as discussed in personal conversations with Winner and Hetland provides a conceptual framework for the study described here. The aim of this study was to replicate as far as possible the methods of the study by Hetland et al. in order to uncover the habits of mind that form the hidden curriculum of music classes.

Because my background is as a classroom music educator, my goal was also to make my research findings of practical use to teachers. I discuss how this goal affected my data analysis and interpretation in later chapters.

Philosophical Positions

Interdisciplinary Considerations

The research presented here reflects my interest in interdisciplinary research. It is shaped by perspectives from psychology, education, and the arts. Various philosophical underpinnings can be implicit and competing within different disciplines (Biglan, 1973; S. K. Gardner, 2013). For this reason, it is important to outline researchers' understandings about the nature of knowledge and knowing

(Höijer, 2008; Moon & Blackman, 2014), including and explicit and honest accounts of the challenges of reconciling these discrepancies for researchers (Yeh, 2016). As I progressed through this research, this became more and more evident to me, as I wrestled with the inferred philosophies, assumptions, and beliefs that correspond to the eclectic mix of disciplines and methods I used in this project.

For example, psychology today is typically associated with a positivist theoretical perspective, and quantitative, experimental methods are valued (Alise & Teddlie, 2010; Breen & Darlaston-Jones, 2010; Sarbin, 1986; Wertz, 2011; Yang, 2013) and often considered more legitimate than qualitative methods (Povee & Roberts, 2014; Walsh-Bowers, 2002). This is congruent with my experience as a doctoral student, where I know of no other students in my department engaging in mixed or qualitative research methods.

However, in my view many questions cannot be answered solely through a positivist and quantitative paradigm. This embrace of a multiplicity of methods was shared by Wilhelm Wundt, credited as the father of psychology, who advocated for a wide-ranging and comprehensive array of methods to address questions about human behavior (Breen & Darlaston-Jones, 2010; Greenwood, 2003), and by William James, Sigmund Freud, Pierre Janet, Fredric Bartlett, and Jean Piaget, all of whom used qualitative methods in their work, though they are regarded as empirical, scientific, rigorous psychologists (arguable excepting Janet, whose work was clinical; and Freud, whose work was clinical and whose veracity, legitimacy, methods, and conclusions are questioned; Crews, 2017; Eysenck, 1991; Gough & Lyons, 2016; Webster, 1995) .

The research questions I investigated here could not be addressed by a purely quantitative approach, given the subjective and complex nature of my inquiries. Nonetheless, my training and social surroundings contributed to my feeling of toggling between two paradigms (positivist/quantitative and interpretivist/qualitative).

The application of findings is another consideration that Moon & Blackman (2014) describe as impacting researcher decisions. As a psychological researcher, my role was to test hypotheses and then to analyze and interpret my data in order to determine whether my hypotheses were confirmed. But as a former teacher, I felt my role was to conduct research that could spark change and increase student agency (Nouri & Sajjadi, 2014). This second goal affected some decision made in analyzing my data that I will discuss in later chapters. These two ways of thinking are another example of how my interdisciplinary perspective contributed to a mixed paradigm of thinking.

Chapter Two

Research Questions and Hypotheses

Research Questions

In this study, I address the following research questions:

1. What habits of mind are most frequently taught in high school music ensemble classrooms?
2. Which habits of mind in music ensemble classrooms align and which misalign with those identified in the visual arts in the *Studio Thinking* study (Hetland et al., 2013)?

Hypotheses

Prior to data collection, I articulated hypotheses about which habits of mind might emerge through my research. These are described in the paragraphs below. I remained open to new habits, merged habits, and split habits in the coding process, and therefore this list differs from my findings, which are described in later chapters. These hypotheses were based on my experiences as a musician and music teacher, a review of the literature, and, in regards to the second question, how the Studio Habits of Mind related to what goes on in high school ensemble classrooms.

I predicted that some of the observed habits of mind in the ensemble-classroom will be the same or similar to those habits of mind in *Studio Thinking* (Hetland et al., 2013) and that other habits of mind that are more specific to music thinking will emerge. Additionally, there were two habits of mind that are music education scholars often assume are taught, but which are not consistent with my experiences in music education.

I hypothesized that the teaching of these habits would not be observed. These are all listed in Table 2.1.

Proposed Ensemble Habits of Mind for observation in this study	Comparable Studio Habits of Mind from *Studio Thinking* (Hetland et al., 2013)	Predicted to be observed?
Continuously improve	n/a	Yes
Develop craft	Develop craft	Yes
Engage and persist	Engage and persist	Yes
Express	Express	Yes
Imagine	Envision	Yes
Listen	Observe	Yes
Observe	Observe	Yes
Perform	n/a	Yes
Recognize more than one correct answer	n/a	No
Use creativity	n/a	No
Work for the common good	Understand art worlds: Community	Yes

Table 2. 1 Hypothesized Ensemble Habits of Mind

Predicted Shared Studio and Ensemble Habits of Mind

The habits of mind anticipated to be shared between visual arts and music teaching were: Develop Craft, Engage and Persist, Express, Observe, and Reflect.

Develop Craft

In visual arts classrooms, Hetland et al. (2013, p. 41) documented the teaching of dispositions towards two aspects of development of craft: technique and studio practice. In every ensemble, members are responsible for displaying adequate technique in their respective instrument or voice. It is commonplace for choir director-teachers to include vocal training in their warm-up or other activities in order to help vocalists gain better control of their instruments. Similarly, band and orchestra director-teachers frequently

suggest alternate fingerings or bowings, converse about posture in order to improve breath control and tone, and give recommendations for trying different reed strengths or mouthpiece sizes. These examples are ways of teaching students how they can develop the craft of playing an instrument or singing.

Studio Practice can be likened to rehearsal etiquette in an ensemble-classroom. The ensemble environment is a microculture with its own traditions, identities, transmission of values and expectations, and social dimensions (Adderley et al., 2003; Bartolome, 2013; Morrison, 2001). There are a set of expectations and understandings regarding behavior in an ensemble, from instrument and sheet music preparation, to responsibilities of section leaders and upperclassmen, to personal accountability of practicing one's part for the good of the entire ensemble and keeping one's trumpet case away from where others can trip. These expectations are taught both explicitly and by example in many school music ensembles and constitute part of the craft of playing in an ensemble.

The idea that there are certain techniques used to complete tasks, or that environments hold their own unique characteristics to better aid completion of those tasks is not unique to the arts. Each trade, domain, and discipline has its own jargon similar to those learned in art or music classrooms, as well as procedural habits of the environments in which they performed. Writers, dancers, soccer players, and scientists each master necessary techniques and become familiar with the procedures and guidelines of their field.

Engage and Persist

In the visual arts, engagement and persistence are taught through encouragement and expectations to commit and follow through with projects (Hetland et al., 2013, p. 52). By its nature, advanced music-making is an activity which lends itself to deep engagement as described in the flow process articulated by Csikszentmihalyi (1990). The playing of a musical instrument requires perseverance and discipline (Adderley et al., 2003; Bartolome, 2013; Evans & McPherson, 2015; Hart, 2014; MacIntyre et al., 2012; McPherson et al., 2016). Given that so many students do persist to gain proficiency in playing their instruments, it is reasonable to assume they are being taught and encouraged to do so in their ensemble training.

The ability to Engage & Persist is one that is useful in all areas of life, not only in the music room. The presence of grit, deep engagement and persistence over time, has been shown to be predictive of future success (Duckworth et al., 2007). In addition, the occurrence of flow, achieved through deep engagement in an activity, is argued by Csikszentmihalyi (1990) to increase happiness and well-being.

Express

Visual arts teachers encourage students to create literal or metaphorical meaning through their artworks (Hetland et al., 2013, p. 66). Expression in the music ensemble is taught both verbally and non-verbally. One role of music ensemble conductor-teachers is to help convey intended emotional messages through the performance of the group. They may choose to do this non-verbally, through the shape, force, speed, and articulation of their gestures. They may also choose to do this verbally, either in an abstract or didactic manner. Instructing students to play or sing in a more cheerful way, like a stormy day, or

like they are singing a baby to sleep is an example of verbal expressional teaching. Conductor-teachers may also choose to convey the message in a more didactic and literal manner, asking students to pay close attention to subtleties like phrasing, dynamics, and articulations that help convey expressive emotionality in music.

Previous studies of high school music ensembles identified expression as a key theme of the experience. Both Adderley et al. (2003) and Bartolome (2013) note that students report an emotional connection through musical expression when discussing band and choir, respectively.

Expression is taught in various disciplines throughout the school day, particularly in language arts classes (where literature is read and discussed, and in the teaching of non-fiction and creative writing) and in foreign language instruction. The ability to identify a message to convey, and craft a meaningful way in which to portray it, is paralleled in writing essays, completing geometry proofs, and articulating a winning basketball strategy.

Observe

Students in visual arts classrooms are taught to look very closely at their own and others' art works and processes (Hetland et al., 2013, p. 73). Students in music ensemble-classes also need to look closely, specifically towards the gestures of the conductor-teacher. Eye contact, facial movements, and gestures from the tip of a baton or finger to the entire body are all ways the conductor-teacher communicates to students mid-piece. Phrases like "look up here!", "eye contact!", or "follow the stick!" (referring to the baton) are all common utterances by conductor-teachers and encourage close and frequent critical observation. Daugherty and Brunkan (2013) report that the mouth positioning of

conductors affects the timbre of vowels that students produce (because the students mimic the lip posture they observe). These acute observational skills could transfer outside music. For instance, randomly paired musicians perform in a more synchronized manner on motion-based mirror games than do randomly paired non-musicians and even than married couples (Preissmann et al., 2016). Music educators have articulated practical advice for getting students to be more observant in rehearsals (Townsend, 2003), and middle school boys in a choir reported that learning to look was specifically something they were taught to do (Kennedy, 2002).

The ability to observe is of course important in many realms. Just to cite a few examples, the eye contact and facial observation taught in music ensembles is comparable to the systematic teaching of social and communication skills in other domains or with exceptional populations (Cappadocia & Weiss, 2011; Palmer, 2011). In addition, critical observation plays an important role in analyzing scientific experiment results and mathematical data. Those in the medical sciences frequently critically observe in order to find abnormalities and form diagnoses (Klugman et al., 2011; Naghshineh et al., 2008; Pellico et al., 2009).

Reflect

Reflection in the visual arts classroom occurs when teachers question students about their processes, choices, and inspirations, and when students are asked to think about the different judgments they have made over the course of working on a piece (Hetland et al., 2013, p. 81). When conductor-teachers ask students to critique their performance either mentally, orally, or in writing, they are asking them to reflect on the product they just participated in creating. Students learn to reflect not only on polished

products that have been publicly shared in a concert, but also during run-throughs of a piece, while working on a part of a piece of even when trying to perfect just one note. When conductor-teachers call attention to the improvements that have occurred through working on a piece, especially what steps were taken to make those improvements, they are teaching students to reflect about process. Reflection is also promoted when students are asked to keep practice logs, to create portfolios documenting their learning process (Brown, 2012; Reynolds & Beitler, 2007; Silveira, 2013), and to engage in self-assessments (Burrack, 2002; Mills, 2009).

Reflection is a habit of mind taught in all domains of study. From preschool to higher education of medical professionals and business entrepreneurs, reflection is a habit that teachers of all subjects value and emphasize across age levels. It seems evident that reflection plays an important role in mindfulness, decision-making, leadership, and interpersonal and intrapersonal communications.

Possible Similar Studio and Ensemble Habits of Mind

Other habits of mind that I predicted to emerge from my observational data are similar to those in *Studio Thinking* (Hetland et al., 2013), but not exactly the same. These include Listen, Imagine, and Work for the Common Good.

Listen

In many ways, listening is the aural counterpart to observing. While Hetland et al. (2013) describe observing as "really seeing, not just looking," listening can be thought of as "really listening, not just hearing." Students in ensemble classes are regularly asked to listen critically to themselves, to others, and to the entire group. Students are asked to focus their attention to subtleties in their own intonation, balance, timbre, pitch, rhythm,

articulation, and expression. They are asked to focus their attention on how their sounds match the sounds of those around them. For example, questions like "Are my standmate and I playing that note the same length?" are ones conductor-teachers ask of their students, and also encourage students to ask of themselves. Listening is recognized in the literature as an important part of teaching music (Byo, 1990; Huenink, 2002; Townsend, 2003), and research suggests that listening training by musicians is correlated with neurological differences and better recognition of aural subtleties (Kraus & Chandrasekaran, 2010; Marques et al., 2007; Mikutta et al., 2014; Parbery-Clark et al., 2009).

Common statements by elementary classroom teachers such as, "get your listening ears on" or "stop, look, and listen" confirm that listening is important throughout one's day to day, particularly in terms of following directions, communicating with others, and synthesizing spoken information. Some researchers argue for the human connection that listening provides, and advocate for its systematic teaching in general education (Imhof, 2008; Jalongo, 2010; Wolvin, 2012; Wolvin & Coakley, 2000).

Imagine

Imagine is a more sensorially broad form of envisioning than that described in *Studio Thinking* (Hetland et al., 2013), including the ability to call up not only pictures, but sounds, smells, feelings, and moods. Conductor-teachers frequently ask their students to imagine, both literally and metaphorically. A direction to play a passage with shorter articulations may result in a student using her inner hearing to imagine the passage before playing it. More abstractly, a conductor-teacher may invite students to imagine they are

singing for the Queen of England, or in a field where no one else is around, or any other situation that helps set the mood, genre, or spirit of the piece.

The habit of mind of imagining is one used in many disciplines. Architects and engineers imagine new buildings and products before they are reality, while dancers and athletes imagine their bodies moving through space, and archaeologists and historians imagine a world before the time in which they live.

Work for the Common Good

Hetland, et al. (2013) write about a habit they call Understanding Art Worlds, which is a two part habit. One part of this habit is called Community, exemplified by small groups of visual artists working together on projects, with respectful give and take of constructive criticism. The ensemble classroom is very much a community with its own individualized culture (Adderley et al., 2003; Bartolome, 2013; Morrison, 2001; Parker, 2014). Music ensembles in high schools are different from other classes in the school day in the way students refer to them. While one "takes" a math class, one is "in" the orchestra (Morrison, 2001). Bartolome (2013), Kennedy (2002), and Adderley, et al. (2003) describe students' perceptions of ensembles as collective experiences in which they practice interpersonal skills. Students report learning to think of the group before themselves, and valuing the opportunity to be with like-minded individuals. Ensemble-teachers serve as "culture bearers," passing on values, traditions, and accepted practices to a younger generation (Morrison, 2001). Acts of culture bearing can vary widely on the part of the conductor-teacher, from ordering band jackets and organizing group field trips, to modeling the conversational manner of musicians, assigning orchestra buddies, and pairing younger and older students as stand partners. When ensemble-teachers hold

students to high standards both for musicality and for commitment and accountability to the group, they are helping to teach students to work for the good of the entire group.

The ability, awareness, and inclination to work with others and for the good of the group is acknowledged to be a valuable habit of mind in many areas of school and life. Mental health professionals advocate for a systematic emphasis on group belonging in the education of adolescents (Allen & Bowles, 2012; Faircloth & Hamm, 2011; Tillery et al., 2013), and the Partnership for 21st Century Skills (Battelle For Kids, 2019) cites both interacting effectively with others and working effectively in diverse teams as necessary life skills for current students.

Possible Ensemble Habits of Mind Without a Studio Habit of Mind Equivalent

There are two habits of mind that I expected to observe that do not have equivalents in *Studio Thinking* (Hetland et al., 2013): Continuously Improve and Perform.

Continuously Improve

Leonardo da Vinci is credited with the quote, "Art is never finished, only abandoned" (Landi, 2014). This statement is similar to the approach of conductor-teachers working on a piece, as improvements are often continually taught until minutes before a public performance. To refer to a piece as "done" is not language that is compatible with musical vernacular. The process informally known as "woodshedding" refers to taking a piece from its bare bones—pitches and rhythms—and continually adding improvements to make it better. Students are taught to look and listen for increasingly minute details in terms of musicality, expressivity, tone, and other musical elements. Fingerings and bowings are smoothed out during this process as better solutions are found, and improved muscle memory means fingers and mouths move with

more ease and this allows students to concentrate increasingly on more advanced and polished playing or singing. When conductor-teachers model directions for improvement, push for critical listening to determine what can be improved, and convey the message that every time the group plays is an important time, they are teaching the habit of continuously improving.

Continuous improvement is important in many arenas. The critical attention that must be given to identify subtle changes that can help make improvements can be useful in any detail-oriented field, such as medical and engineering professions. In short, the process-oriented nature of continuous improvement mirrors any discipline's multi-step task.

Perform

The act of public performance is one that requires specific training. Music educators spend time directly teaching proper performance and audience etiquette, such as procedures for lining up on the risers, standing to greet the conductor, handling false starts or unplanned mistakes, and respectfully acknowledging applause. In addition, they teach the importance of public display through expectations of seriousness and procedures such as arriving early to be properly ready and wearing concert attire. Middle school boys studied by Kennedy (2002) describe this as being treated as professionals, and arts administrators interviewed by Bartolome (2013) emphasize the importance of teaching for high quality performances as a form of advocacy for what they do.

Awareness of appropriate behavior is important whenever performance a domain involves performance of any kind. Public speaking, acting, teaching, and customer service are all examples of situations in which one must sometimes perform, meaning

that there is a set of expectations for how to behave, an awareness of what counts as a deviation, and an inclination to act appropriately given the situation.

Ensemble Habits of Mind Not Expected to be Observed

There are two habits of mind that are often assumed to be taught in music classes that I did not expect to observe with much frequency: Use Creativity, and Recognize More than One Correct Answer.

Use Creativity

Creativity is often claimed to be a consequence of music education (Kokotsaki, 2011; Running, 2008). There is very little agreement on the meaning and identification of "creativity" in general education (Mullet et al., 2016; Sternberg & Lubart, 1999), its desirability in the classroom (Kettler et al., 2018), and specifically what it looks like in music education (Langley, 2018; Odena & Welch, 2012). By creativity, I refer simply to the ability to do something in a new way, without following instructions from someone else. Because of the group nature of music ensemble participation, the emphasis on public performances in school ensembles and the time commitment required, and the historical tradition of reliance on the conductor, I did not anticipate seeing many examples of students being taught to act creatively.

Recognition of More Than One Correct Answer

The ability to recognize that multiple perspectives can be correct, and that there is frequently more than one correct answer to a question, is a kind of understanding that has been claimed to be taught in arts classrooms (Davis, 2008; Eisner, 2002; Phillips, 2019). Does this kind of understanding emerge in music education? Perhaps this skill is relevant to music composition classes, but it seems unlikely to be taught in performance classes.

This is because playing or singing in a group requires that certain creative liberties on the part of each performer be sacrificed for the sake of a cohesive interpretation. In most cases, both professionally and in school ensembles, the conductor is the decider about how a piece is to be interpreted. For these reasons, I did not anticipate seeing many examples of students being taught recognize that there is more than one way to solve a musical problem.

Chapter Three

Methodology

Participants

Recruitment Procedure

Music department chairpersons in five districts were emailed and asked to recommend high school ensemble teachers who might be interested in participating. Contacted districts chosen for inclusion in the study were determined based the criteria outlined below.

District Commitment to Music Education

My goal was to show the kinds of habits of mind that can feasibly be taught in schools in which music teachers are supported. Many music teachers report feeling a lack of financial and logistical support from administrators (Lucas & Nacer, 2015), and I sought to include schools from a best case scenario in which these obstacles would minimally interfere (or not interfere at all) with teachers' ability to teach habits of mind. Initially, districts were targeted based on my knowledge of music programs in my own state of Massachusetts, as well as in consultation with a higher education faculty member who had extensive experience assigning student teachers to music programs in this state. A district's commitment to music education was further determined by awards won by the district for music education (such as the National Association for Music Merchants [NAMM] Best Communities for Music Education), participation in local, state, and national festivals (such as auditioned All-State ensembles for students, or participation and/or medals in festivals of the Massachusetts Instrumental & Choral Conductors

Association), and the district's investment in hiring a music department head or arts chairperson.

Public School District

A criticism of the Studio Thinking study (Hetland et al., 2013) is that the two participating schools required special criteria for admission (like an audition or art portfolio) and also that one of the schools was an independent school (Burchenal et al., 2008). This may limit generalizability to the average public school experience (though this conclusion is questionable, based on the wide spread of the Studio Thinking framework [(Hogan et al., 2018)]). The study described here aimed to address that criticism by using a sample of public schools that require no special admission criteria.

Socio-economic Status of District

School districts of various socio-economic status were contacted, with the aim of recruiting a diverse sample. Extant research suggests that socio-economic status influences music education experiences in schools (Costa-Giomi & Chappell, 2007) and the teachers who choose to teach in these environments may have characteristics different from those who teach in schools with higher socio-economic status (Baker, 2012). Music teachers in urban districts specifically note modifying their pedagogical approach for their student population, and that a specialized skill set is required for urban contexts (Fitzpatrick, 2011)

Teacher Gender and Age

Research suggests potential differences between female and male teachers (Demetriou et al., 2009; Hargreaves, 2005; Klassen & Chiu, 2010), and an effort was made to include both male and female teachers of varying career stages.

Proximity to Researcher

Since in-person school visits were part of the study, all considered sites were within a 90 minute drive of Boston.

Sample

In total, six teachers and one of their ensembles were recruited. This included two teachers from three school districts. Descriptive information about each ensemble can be found in Table 3.1. All district and teacher names are pseudonyms.

District	Teacher	Ensemble
Lemon	Dustin	Concert Band; contains approximately 45 students in Grades 9-12; auditioned group -- the middle of three levels of wind ensembles/concert bands at the school
	Greyson	Chorale Sectional; contains students in Grades 9-12, some of whom have joined to fulfill mandatory arts requirement; non-auditioned group; Chorale meets in two sections because of its large enrollment; I observed one section (80 students)
Watermelon	Alicia	Women's Chorale; contains 39 female students in Grades 9-12; auditioned group; the middle of three levels of choirs at the school
	Karen	Orchestra; contains 92 students in Grades 9-12; non-auditioned but prior instrumental experience understood; string students enroll and perform majority of repertoire, occasionally wind/percussion players are added for symphony orchestra experience; only orchestra in the school
Walnut	Joanna	Band; contains about 70 students in Grades 9-12 program for special scholars/academic rigor; non-auditioned but prior instrumental experience understood; the only ensemble at the school for those who play wind/percussion instruments and are not beginners
	Betty	Orchestra, contains approximately 35 students in Grades 9-12, all of whom have elected to be part of the Arts Magnet School; non-auditioned ensemble that contains a small percentage of near-beginners mixed with those with years of playing experience

Table 3.1 Study participants

Male teachers 1A (Dustin; all teacher names are pseudonyms) and 1B (Greyson) teach at Lemon High School (all district names are pseudonyms), a town in which the yearly median income is $138,095 and 4% of residents live at or below the poverty line (United States Census, 2014). Within the school district, the percentage of "high need" students is 24.2%. Students with this classification meet one or more of the following criteria: low income (eligible for free/reduced lunch, Transitional Aid to Families benefits, or food stamps), economically disadvantaged (eligible for Supplemental Nutritional Assistance Program [SNAP], Transitional Assistance for Families with Dependent Children, the Department of Children and Families foster care program, and MassHealth), English Language Learner, a former English Language Learner, or having a disability (Massachusetts Department of Education, 2016).

The Lemon Public Schools were recognized by the NAMM Foundation in 2014 as one of the best communities for music education based on staffing, funding, accessibility, and commitment to standards. A large number of Lemon High School ensemble students are regularly admitted to district and state-level festivals. Dustin was observed teaching Concert Band and Greyson was observed teaching a section of Chorale.

Female Teachers 2A (Alicia) and 2B (Karen) teach at Watermelon High School. Watermelon is a town with a yearly median income of $73,418 and 4.7% of residents live at or below the poverty line (United States Census, 2014). The percentage of "high need" students in the district is 28.4% (Massachusetts Department of Education, 2016)

The Watermelon Public Schools were also recognized by the NAMM Foundation in 2014 as one of the best communities for music education and have a large number of

students accepted to district and state-level festivals. Alicia was observed teaching Women's Chorale and Karen was observed teaching Orchestra.

Female teachers 3A (Joanna) and 3B (Betty) teach in the Walnut Public Schools. Walnut is a city in which the yearly median income is $45,679 and 20.1% of residents live at or below the poverty line (United States Census, 2014). The percentage of "high need" students in the district is 72.5% (Massachusetts Department of Education, 2016).

Betty's school offers an Arts Magnet Program. Joanna was observed teaching Wind Band and Betty was observed teaching Orchestra.

Positionality and Sample Participants

I had a prior relationship with Alicia and Dustin before the beginning of this study. Alicia and I attended the same undergraduate and graduate program at a conservatory in Boston, where she was in one year ahead of me. We shared the same social group and have continued to maintain a professional friendship. Dustin and I play the same instrument in the Boston classical music scene, and he was two years ahead of me in our graduate program. We are also professionally friendly and communicate on social media. I feel confident in saying that I did not treat these participants significantly differently from other participants. I did this by maintaining awareness of my positionality, and comparing both interview transcripts and code type and frequency, which were comparable to those of the other teachers in the study. I took additional steps to remain reflexive in regards to implicit or explicit biases in my coding behavior with respect to teacher gender, musical training, body size, and age.

Data Collection Procedures

Two forms of data were collected: videotaped classroom observations (the primary data); and videotaped interviews (secondary data, which provided context about the program and served as a member check of what I observed; [Creswell & Miller, 2000; Lincoln & Guba, 1985.]) Both observations and interviews were transcribed. At the start of the study, I intended to also collect classroom documents like ensemble contracts and handbooks. As the study got started, teachers were slow to find these things when requested, and sometimes did not respond to these requests at all. Given the demands already placed on teacher-volunteers to schedule observations, collect student consent forms, and sit for interviews, I did not continue to request, collect, or analyze any documents.

Observations

I attended all classes and used a Zoom brand camera (specifically created for capturing the unique audio requirements of musical settings) and tripod to record. Videotaping is an accepted research procedure, allowing me to "stop time" and rewatch rehearsal moments to aid my understanding (Fetterman, 2019; Marshall & Rossman, 2014). Placement of the camera within each room was varied across classes, in order to be flexible to the needs of each classroom, the location of large percussion instruments, and to avoid distracting students. However, the camera consistently centered on the participant -- the teacher. In accordance with my predetermined boundary (Derry et al., 2010), only teacher speech was systematically analyzed, while visuals of the teacher were used to aid understanding of the context of teacher speech. All observations occurred between the months of November 2014 and April 2015.

All teachers agreed to be observed for six class periods over the course of the school year. Ultimately, because each teacher's class followed the same procedures, routines, and basic format of spoken directions, I decided that four class periods would be adequate to lead to data saturation (the point at which additional data would not yield anny additional analytic value; Morse, 1995; Sandelowski, 1995; Strauss & Corbin, 1990). The only obvious difference across classes was the repertoire.

The question of data saturation was revisited periodically by me, my advisor, and my two primary research assistants during the creation of the coding manual. After initial coding rounds of two classes from each teacher, evidence of all final codes was present. Any codes that emerged during the subsequent classes were also evidenced during the first two classes when codes were redefined, reorganized, or collapsed in later rounds of coding. Therefore, additional visits beyond the four classes per teacher were deemed unnecessary.

Table 3.2 shows the number of minutes of active rehearsal that were recorded and coded. These tallies do not reflect the length of the class period, but rather define the time between the teacher taking the podium and stepping down. In ensemble classes, there is regularly non-instructional buffer time for students to put together and put away their instruments, to gather accessories like mutes and reeds, for teachers to undertake unexpected instrument repair, and to set-up or strike the rehearsal space. These minutes are not included in the tallies.

Teacher	Class				
	1	2	3	4	Total
Dustin	44	42	41	39	166
Greyson	56	42	42	41	181
Alicia	50	46	38	26	160
Karen	45	46	49	31	171
Joanna	41	39	40	33	153
Betty	26	36	31	30	123
Total					954

Table 3.2 Minutes of active rehearsal

Interviews

Teachers consented to be interviewed at the start of the study, at the completion of the study, and after at least three of the four rehearsals that were observed and videotaped. Interviews were conducted in person or through video conferencing (Skype, Facetime, etc.), as was convenient for both the researcher and the teacher.

Initial and final interviews were semi-structured (Fylan, 2005), and the same protocol was used for all teachers in the initial interview, located in Appendix 1. Final interview protocols contributed primarily to another study (not reported here) investigating music teachers' perceptions of process and product and teachers' beliefs about music education. Nonetheless, final interviews informed my understanding of each teacher and site, and the protocols for the final interviews are included in Appendix 2. All teachers' final protocols followed the same basic structure, with variation to follow up on questions from the initial interview.

Portions of all post-observation interviews were semi-structured, with prepared questions, but also included unstructured conversation, consistent with a natural flow of conversation after an observation. Prepared questions were based on what was noted in my informal fieldnotes during the rehearsal. Sometimes, teachers were emailed a clip of

their teaching to discuss with me. These were chosen when I was uncertain of the pedagogical goal of what I saw, or to confirm a pattern I was seeing in the teacher's style. Refreshing the memories of interviewed teachers through the viewing of clips was necessary as interviews could not always occur immediately following the rehearsal. This procedure is similar to the one followed by Hetland et al. (2013). Strategically choosing particular clips for additional investigation (and in this case used for teacher interpretation) is a component of a deductive approach to data selection (Derry et al., 2010) and has been used in a number of education studies (Lehrer & Schauble, 2004; Leonard & Derry, 2006; Lynch et al., 2005; A. B. Powell et al., 2003). At other times, these interviews served to check in with the teachers in order to gain their trust and reassure them that I was not there in an evaluator role.

Transcriptions

Transcriptions of all videotapes were typed by hand by a team of undergraduate research assistants (RAs). Each transcript was taken by one RA while watching a videotape of the class or interview. A second RA then read and listened to each transcription/recording to ensure accuracy of the initial transcription. Finally, I read and listened to each transcription/recording to fill in any technical music language or other site-specific words that the RAs did not grasp.

Informed Consent

All teachers signed informed consent documents, specifying that their classes and interviews would be video recorded and transcribed. All teachers were given ample opportunity to ask questions at their initial, in-person interviews and in subsequent

interactions. Parents of all students in the ensemble also signed informed consent to be videotaped, though students were not considered active participants in the study.

Teachers were not offered any compensation for participating in the study, but were each given a small token of thanks ($25 Dunkin Donuts gift card) at the conclusion of the observation period, in May or June 2015.

Data Coding

Videos and transcriptions of observed classes are the primary data source for this study, and they underwent systematic coding.

Units of Analysis

The unit of analysis chosen was the start of teacher talk (beginning of unit) until the talk was stopped by a student response (end of unit). Typically this meant that the teacher first gave feedback or instructions (unit 1). Then, students would play or sing in response to that feedback, sometimes including teacher directions being spoken over that musical response (that teacher talk was unit 2). This process repeated itself throughout the course of the class. This scheme for units was chosen because it created systematic, rule-based distinctions that could be easily verified by any member of the research team. It is also congruent with the method of Hetland et al. (2013) who considered one student-teacher interaction as a unit of analysis.

There were 2,284 units in the dataset. Thus, for every minute of rehearsal there were 2.49 units of analysis.

Creation of the Coding Manual

I was the primary creator of the coding manual, and sought feedback and auditing from my supervisor and one research assistant (Research Assistant A). This process

mixed both deductive and inductive approaches – beginning with inductive open codes, then layering hypothesized codes (a deductive approach similar to provisional coding, appropriate for coding procedures in which there is a theoretical hypothesis ([Dey, 2012; Miles & Huberman, 1994]) and remaining open to additional interpretations (a more inductive, iterative approach).

I began by using First Cycle coding procedures (Saldaña, 2015, p. 45) by open coding preliminary codes (p.16). These were messy and expansive, generating many codes, and sometimes more detailed in nature than those hypothesized as the at the start of the study. They were inductively chosen, based on the data, and included descriptors of what the teacher was trying to teach, what I thought the students were learning, or parts of the class/rehearsal protocol (e.g., "tuning," "warmup", "working together," or "dynamic contrast"). This first round of coding was carried out without specific regard to the hypothesized codes, and included several sets of reading and notating. In the next round of coding, I overlaid the hypothesized codes, seeing how what emerged in open coding related to my hypotheses. I then involved Research Assistant A and my supervisor to give feedback on the initial stages of a manual.

During the process of sequentially coding additional data as fieldwork was completed, Research Assistant A and I engaged in several rounds of constant comparison (Glaser, 1965), during which time we independently coded a class, checked for agreement either by hand or in Dedoose (SocioCultural Research Consultants, LLC, 2021) and discussed discrepancies. During this process, both the codes and the subgrouping codes were redefined, reorganized, collapsed, and/or expanded to reflect the data.

The manual included two levels of coding identifiers: the code label (the broadest level, or the name of the ensemble habit of mind) and the sub-grouping (used to delineate different types of examples within each ensemble habit of mind.) Each unit of analysis could receive each sub-grouping code only once. The third column of the manual shows examples of the types of behaviors for each code and sub-grouping, along with commonly noted cross-codes. The fourth column shows counter-examples (including guidelines for using or not using the code; [Boyatzis, 1998; MacQueen et al., 2008]).

When codes, subgroupings, exemplars and exclusions were solidified, an additional research assistant (Research Assistant B) was added to the research team and Research Assistant A stepped away from the project. Research Assistant B underwent training with me using examples from the data and the coding manual. As part of the training, we independently coded one class from each teacher, and then met to discuss our disagreements, adding clarity to the third and fourth columns of the manual as necessary. An addendum was added as a guide for how disciplinary talk should be coded, and we made rough notes about the particular vernacular or speaking style of specific teachers. The final manual appears here in Appendix 3.

Final Dataset Coding

After the coding of all 24 class rehearsals (6 ensembles * 4 class rehearsal sessions), I went through each of the classes three times to code, recode, and doublecheck the accuracy of the code assignments.

Legitimization

I took a series of steps described below (as recommended by Creswell and Miller [2000] and Onwuegbuzie and Leech [2007]) to maximize validity and reliability thus ensure that my findings would be as plausible (Miles & Huberman, 1994) and trustworthy (Lincoln & Guba, 1985) as possible.

Interrater Reliability in Coding

When training with Research Assistant B was complete, we again independently coded one randomly chosen class from each teacher from the remaining dataset (25% of the final dataset). Pooled Cohen's kappa for each transcript, calculated using the Dedoose application, ranged from .72 to .87, averaging at .79. This is considered good to excellent agreement (Cicchetti, 1994; Fleiss, 1971; Miles & Huberman, 1994).

Peer Debriefing

While I ultimately made all decisions about study design, coding creation, and interpretation, three members of the research team provided external evaluation of these decisions and thus added an additional level of credibility (Creswell & Miller, 2000). Lincoln and Guba (1985) describe peer debriefing as the logical and theoretical counterpart to the empirical reliability shown through pooled Cohen's kappa (Onwuegbuzie & Leech, 2007). My advisor and two lead research assistants were important contributors as "devil's advocates" to my decisions in all phases of the study, giving additional perspective and considerations, and preventing me from developing tunnel vision.

Member Checking

Interviews allowed me to adopt the lens of the teacher for those clips and practices that were discussed in post-observation conversations (Lincoln & Guba, 1985). Teachers were able to confirm or refute my interpretations of what was intended to be taught.

Audit Trail

As the study continued, I became increasingly aware of the importance of complete and thorough recordkeeping in order to document thinking for my future self and future researchers who may wish to audit the research process (Halpern, 1983 in Onwuegbuzie & Leech, 2007). In appendices and in long-term storage, the following trail was saved: raw data (videos and transcriptions), quantitative summaries of code frequencies, various versions of coding manual development, and the initial research proposal.

Chapter Four

Summary of Findings

At the end of the coding procedure, eight Ensemble Habits of Mind emerged, and these are listed in Table 4.1 Some of these matched my hypotheses, while others emerged differently than predicted. Ten habits of mind were hypothesized to be seen. In Table 4.1 and future lists, the Ensemble Habits of Mind appear in alphabetical order. This is done to emphasize how habits of mind work together, are interdependent, and none are more or less important than another (Hogan et al., 2018).

Ensemble Habits of Mind	Previously Hypothesized?
Evaluate	Yes
Express	Yes
Imagine	Yes
Listen	Yes
Notice	Yes, but differently conceived. This code represents a combination of hypothesized Observe and a subtheme that emerged in coding about Bodily/Kinesthetic Awareness
Participate in Community	Yes, but differently conceived. This code represents the originally hypothesized Work for the Common Good and subthemes that emerged in coding about community building and maintaining.
Persist	Yes, but differently conceived. This code was hypothesized as Engage & Persist, but engagement did not emerge in coding and was eliminated.
Set Goals & Be Prepared	Yes, but differently conceived. This code contains components of the originally hypothesized Continuously Improve, Perform, and Imagine.

Table 4.1 Ensemble Habits of Mind

Three Ensemble Habits of Mind were hypothesized and ultimately not included as independent habits of mind. These include Continuously Improve, Develop Craft, Reflect, and Work for the Common Good.

Two Ensemble Habits of Mind were hypothesized to not be seen, and specifically coded if/when they emerged. These were Recognize More than One Correct Answer and Use Creativity. As hypothesized, these were either not seen or seen in a negligible amount.

In the rest of this chapter, I describe each Ensemble Habit of Mind and how the coding procedure affirmed or refuted my hypotheses.

Findings by Ensemble Habit of Mind

Evaluate

Evaluate was hypothesized to be seen and was seemingly ever-present throughout all rehearsal data. An evaluative process provides a structure for all rehearsals – students play, the teacher stops them, verbally evaluates their performance and gives suggestions for improvement, and the students try again. Evaluation came mostly from the teacher but was also elicited from students by the teacher.

In coding, a consideration for Evaluate was how leniently to apply the code. Some teachers had a seemingly perfunctory "good" to say at nearly every cut off. Even in these instances, an Evaluate code was given. Ultimately, we could not determine which of these were truly meaningful and which were a habit of the teacher's vernacular. Additionally, we noted that even in those teachers who most commonly say "good" or "okay," this was generally not said in instances where a great deal of negative feedback was to be given. So in this subtle way, these "filler words" are still acting in an evaluative way.

An important distinction between Evaluate and other codes to be described later (namely Set Goals & Be Prepared) is that evaluations are past-oriented, always referring to what has just occurred and whether it was positive or negative.

Sub-codes did not emerge for Evaluate. Units of analysis that received this code contained either general or specific, positive or negative feedback provided by the teacher or elicited from a student by the teacher.

Qualities of Evaluate

Codes for evaluation were given for all positive and negative feedback. Sometimes the feedback was general, about the current state of a piece or about the broad rehearsal process. In his first observed class, Greyson cuts off his mixed choir and tells them, "That was terrible. That was absolutely terrible. Sit down. You don't deserve to stand for that. Oh my gosh, guys." After cutting off the concert band, Dustin tells his students in the third observed class,

> Guys, I'm really proud of you. That sounded very, very good. So much of that was really excellent, all of the trouble spots were either less trouble or no trouble so that's… demonstrating learning. That shows that you guys have learned a lot about how this piece is supposed to go. I know you've done a lot of listening.

More often, specific feedback appeared in evaluations. In her first observed class, Betty both compliments what she has just heard (she found it beautiful), and gives a suggestion to improve something (the entrance sounding like "a ton of bricks.")

…That's beautiful…But let's see if we can get the whole note to come in together and to come in really softly. So when you hear Julia do "ti-ti." we do "tahhh" like a butterfly landing. Not like a ton a bricks. Here we go.

Evaluations were often extremely detailed, pinpointing a precise problem with a targeted proposed solution. Dustin tells his concert band in his first observed rehearsal,

Okay that's nice, except -- and I should have stopped right away, but I can say it now -- The very first sound we made at 19 wasn't together, and then in the next four bar phrase -- so 19, 20, 21, 22 and 23 -- the entrance in the saxes wasn't together. You guys have to control the sound. It's one of the hardest things to do on a wind instrument to control the point of attack when you're playing at a quiet dynamic, but the answer is to have the air behind the tongue. Don't go like (demonstrates breath) …sound. Have the air behind the tongue, and then release. (Demonstrates again) … and out comes the sound. Control the point of attack. 19 again…

In other instances, students were prompted to be the ones to evaluate. In Alicia's first observed class, she prompts students to think about where mistakes were made after a solfege exercise that included sight singing pitches while using the associated hand symbols. "'Do' to what was difficult? Show me with your hand. 'Do' to what? Yeah 'do' to 'la.' We had trouble with 'do' to 'la.'" (In this quote, syllables of "do" and "la" refer to solfege pitches).

Teacher Awareness of Evaluate

Interviews with teachers revealed the value they hold for Evaluation as part of ensemble music education. All six participants described class activities rooted in making

students better evaluators and consumers of their evaluations, like critiquing recordings after concerts or other performances, attending adjudicated opportunities for more external feedback, or questioning techniques to lead students to become more critical.

Several teachers mentioned activities in which students listen to their recordings and critique their performance. Dustin describes,

> I mentioned to them how important it is to record yourself once and a while and we do record ourselves even if it's not a concert. We do that in at least one rehearsal in every concert cycle; we'll do a practice run through in recording and we'll listen to it and we'll treat it the same as a concert recording where they have to talk about it. The message I always try to send in those times is one of the most powerful things you can do as a musician is to record yourself and listen back to it…I think, usually, what happens then is you immediately notice all the things that are wrong, which for a conversation about how to get better as a band is a good thing…

For several teachers, participation in adjudicated events (like festivals and competitions) is another avenue towards emphasizing the process of critical evaluation. In what follows, Karen discusses what her orchestra does after attending the Massachusetts Instrumental and Choral Conductors Association Festival (MICCA).

> After the festival we will spend some time looking at the adjudicators' score sheets so they can see how each adjudicator scored them in different areas…After a MICCA Festival performance, there's a clinic with one of the adjudicators for about thirty minutes which is always really spectacular and they learn a lot from that. So we rehash that and then they'll also receive recorded comments from the

> adjudicators which are really fun and interesting to listen to so we spend some time listening to some of those as well, so they can try to actually try to understand where the rating came from by listening to the comments and looking at the score sheet.

Another component of Evaluate that teachers often discussed was how they cultivate students to become independent critiques of what they are listening to. This includes their experience as performers, as Betty describes, "In rehearsal sometimes I ask them what am I going to say now, because they know -- they know. 'You're going to say something about dynamics;' 'You're going to say something about how out of tune that chord was.'" Other teachers, like Dustin, felt this training in Evaluating should carry through beyond the performing they do in his classroom,

> So when they listen they can analyze and think critically about what they're hearing. They can comment on performances -- both positives and negatives. If they hear something great, they can appreciate why it's great. If they hear something bad, they can explain in their own words you know, why they thought it wasn't the greatest performance they've ever heard. Just to have an educated, literate response to -- and critical response to -- the music they hear.

Relationship to Studio Habits of Mind

Evaluate is not a code that is specifically named as a standalone habit of mind in Studio Thinking (Hetland et al., 2013). Rather, Evaluate is a component of the mother Studio Habit of Mind of Reflect (along with Question & Explain, being able to describe one's work process and decisions relating to the artwork.) Time for reflection on the part of students was not witnessed enough in these ensemble rehearsals to emerge as a habit.

Rather, reflection most often occurred as a form of evaluation or critique, and done on the part of the teacher, rather than the students, as was the case in *Studio Thinking*.

Numeric Tallies

Numeric tallies for Evaluate are listed in Table 4.2.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			640	40.3
Alicia Total	Watermelon	Women's Chorale	117	57.1
Betty Total	Walnut	Orchestra	46	70.8
Dustin Total	Lemon	Concert Band	114	41.2
Greyson Total	Lemon	Chorale	103	34.1
Joanna Total	Walnut	Band	108	42.4
Karen Total	Watermelon	Orchestra	152	53.3

Table 4.2 Evaluate tallies by teacher

Express

Express was an Ensemble Habit of Mind hypothesized to be seen, and this was confirmed by the data. In the rehearsals, teachers emphasized music beyond the techniques of instrument fingerings, pitch intonations, or pronunciation of words. They additionally discussed giving "life" or "shape" to musical utterances. The code of Express strictly addresses musical communication – examples of verbal communication, body language, or working together as a team without specifically including discussion of musical expression were not included in this code.

Coding for Express often included similes and metaphors, but not always. Care was taken to differentiate between Express and a sub-habit of a habit to be discussed later, Imagine: Imagery. Express codes specifically encompassed metaphors that

compared the musical sound to something that is not normally considered musical. For example, when Karen tells her students in her second rehearsal to "lean" on a note, this was given an Express code under the metaphor rule. While she is asking for an accented note (a note that is louder and more articulated), using a metaphor makes this an expressive request. Had she asked for more accent (the accepted musical element referring to notes that are louder and more articulated), the code would not have been applied. This was true for any expressive element. If a request for more dynamic contrast was given, that alone was not enough to elicit a code of Express. Unless the teacher explained it was for expressive purposes, the code was not applied. In initial rounds of the coding manual, standalone mentions of elements of music that were disconnected from expression were included, but these were eventually excluded. Mention of musical elements happened so frequently it was no longer meaningful, and the connection between a musical element and expression was not explicit.

Another specific consideration was that the code was given for all musical demonstrations by teachers or student leaders that were done "expressively." This was a subjective decision on which I and the research assistant always agreed during the dataset for inter-rater reliability coding. Generally speaking, demonstrating rhythms played incorrectly was not given this code, as it was a matter of correct or incorrect and uttered without shaping or musicality. Demonstrations of normally expressive elements like dynamics, phrasing (including properly placed breaths), shaping, and tone color were usually given a code of Express.

Also discussed by the coding team was the expressive nature of breath placement. For all instruments (including strings, as Karen often referred to breathing in her

orchestra), the location of breaths is strategic, based on expressive phrasing. Many instances referring to breathing were coded with Express. Had we seen instances of discussing breathing that was not for an expressive purpose (such as stagger breathing among a section, which is more of a technical consideration given the limited air capacity of humans, or discussion of how posture helps breathing), this code would not have been applied.

Sub-codes did not emerge for Express. Units of analysis that received this code contained discussion of musical communication – emotions, conversations, moods, energy level, shaping phrases, or metaphorical meaning within a musical utterance. In some instances, codes were applied when teachers demonstrated the expressivity of a musical utterance using their voice or a musical instrument.

Qualities of Express

Codes given for Express related to musical communication, often with metaphors and musical demonstrations by the teacher.

Giving life to sound was a common metaphor. As Betty says in her first rehearsal to describe an entrance, “It's correct, but don't forget the building, the growing of that first note. So like a flower in the Spring, just coming.” This theme of energy and life is echoed by Alicia in her third rehearsal, “This section can be very stodgy and very sterile and we need to bring out certain words to make it more human.”

Alicia similarly uses metaphor in her fourth rehearsal, but to describe the color and mouth shape for vowel sounds, “Can we create more north and south space for "ba" in "banner". We're very east, west right now. More north, south. Try it again.” Metaphors

were also more subtle, as when Dustin tells his wind band in his first rehearsal, "The last note is the arrival point."

Teacher Awareness of Express

In their interviews, many teachers referenced expression. They appear very cognizant of the value they hold for this habit of mind through modeling and by using metaphors. Consider the following quote from Dustin.

> Conductors who explain things in very clear terms and very precise terms I think get a certain level of success, but for some reason, oftentimes metaphors and creative language gets a much stronger more powerful reaction from people. I guess I don't really know why that is, but I just think painting that picture is very powerful… I think if you use more expressive language then you can connect the concept of dynamics to expressions so you say, you know, alright, play with more energy here, really play with solid sound, things like that.

Betty similarly values expression and musicality, which she terms as aesthetics.

> I give them the big rainbows of my arms and I talk about the shape and I talk about the beauty. I said, you know, you're in your math class and you go to give the right answer but you're not talking about the beauty of the equation. This is different here. This is another subject where we do get to that. You get to it in our class, you get to it in music class. I just think that it's so left out [of other subjects'] aesthetic.

Relationship to Studio Habits of Mind

Express is also a Studio Habit of Mind (Hetland et al., 2013). The authors note there that in visual art, "we do not only see what is represented (a landscape, a portrait);

we also grasp its non-visual, metaphorical properties (p.66)." This emphasis on metaphor matches what was identified as Express in the music study reported here. A notable difference between Express activities described by Hetland et al. and what we observed here is who is doing the expressing. In art classrooms, students are often using the elements of art to create their own individualized expressions. In the group nature of ensembles, we see teachers modeling using expressive elements of music to create communication, but do not see students creating expressive visions themselves.

Numeric Tallies

Numerical tallies by teacher for Express are listed in Table 4.3.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			156	9.8
Alicia Total	Watermelon	Women's Chorale	29	14.1
Betty Total	Walnut	Orchestra	18	27.7
Dustin Total	Lemon	Concert Band	52	18.8
Greyson Total	Lemon	Chorale	13	4.3
Joanna Total	Walnut	Band	5	2.0
Karen Total	Watermelon	Orchestra	39	13.7

Table 4.3 Express tallies by teacher

Imagine

Imagine was an Ensemble Habit of Mind hypothesized to be seen, and this was confirmed by the data. Imagine codes refer to using one's mind to depict images, sounds, or feelings. Three sub-codes emerged for Imagine: Audiation, Imagery, and a miscellaneous category. Codes termed with "Audiation" reference inner hearing or

singing in one's head, in a term made popular by Gordon (1979). Imagery is the visual counterpart – evoking visual metaphors that help shape musicality. Finally, a miscellaneous category captured excerpts evoking imagination but did not meet the characteristics of an Audiation or Imagery code.

One sub-code, Imagery, consistently overlapped with the code of Express, and this became a rule in coding, notated in the manual. Because discussing imagery to portray mood, feeling, tone quality, timbre, or any other musical element was done with expression in mind, all excerpts that were coded with Imagery were also coded with Express. The rule did not go the other way, as other, non-imagery-based discussion of expression existed in rehearsals. These are described in the Express section in this chapter.

Qualities of Imagine

Codes for Imagine emerged under three sub-codes: Audiation, Imagery, and a miscellaneous category for remaining codes related to imagining.

Audiation. Any request for students to hear pitches, rhythms, or entire passages in their heads received a sub-code of Audiation. This included prompting for subdivision and beat keeping, as these often happens within one's inner voice.

In Alicia's first observed rehearsal, students worked on sight reading activities in two parts. She stops them at one point and says, "Think!...Go back to 're,'" prompting students to use their inner hearing to produce the next pitch before doing so with their voices. She then ends one exercise and says, "Those are your first two pitches—check it out," giving students time to audiate the pitches before beginning the next exercise.

When teachers gave a sub-divided count in to an entrance, an Audiate code was given, as this prompted students to keep an inner dialogue of subdivision of the macro beat while playing. These examples were simple and numerous. Sometimes these examples were explicitly taught, as in Karen's second rehearsal, "So, I was subdividing for you and people were still getting ahead at 141. You've got to focus here, 141, in your head—'and one and two and three and four and…'". There is a similar example in Joanna's first rehearsal, "There we go, all right, page 90 number 82. Eighth note, think the 8th note pulse." In her second rehearsal, Joanna is less explicit about Audiation, yelling over the group "1 and 2 and 3 and 4," prompting students to use their inner monologue to acknowledge the micro beats, and not just the macro beats. Similarly, sometimes teachers clapped or used a metronome for beat keeping, which was then removed, as Dustin did in his fourth observed rehearsal. Once removed, students are obligated to use their inner voice and feeling to continue with steady beat keeping. These examples also received Audiate codes. These were not simply references to counting (which, alone, would not receive an Audiate code), but the specific prompting and modeling for use of inner voice for acknowledging and counting the micro or macro beat.

Imagery. Any use of metaphor, characterization of sound, or pretending was coded for Imagery. These mostly referred to sounds, but also to body position and posture and other matters related to music making.

In her second observed rehearsal, Alicia prompts students to think about tone color in their warmups by relating the sound to beverages. "See the color. Taste the grape juice," and later, "Let's make it hot apple cider. Same color as Christina's shirt." She similarly uses metaphor to discuss their bodies during the warmup. "I just want you

to find a good stance where you can freely just move back and forth. Gently, as if a breeze is swaying."

Dustin frequently uses imagery to describe the sound of the concert band. In his first rehearsal, he asks, "Can you guys play and hold the quarter note at the end of measure 12? It's kind of an ugly duckling right now." In his second rehearsal, he comments, "so same comment to the trumpets and clarinets that I gave to the trombones -- it sounds very vertical. It sounds like you're plodding along one note at a time as opposed to connecting the phrase," giving the sound the human characteristic of a "plodding" walk. In that same rehearsal, he says,

> Definitely hearing some cobwebs in there but it'll come out as we play. It sounded like there was something missing. It's the tuba…if there's one instrument in the entire band where if it's missing you notice, I would say the two instruments are the percussion section -- I think it's extremely noticeable when it's absent -- and I think that the tuba is the most effective wind player in terms of…making a difference. You just don't hear the same beef. There isn't as much beef. This is now a vegetarian band. If someone wants to take a bite they are just going to get a bunch of veggies. That's all I'm saying. I'm not trying to call you guys vegetables but, actually I guess I am, I guess I am…"

Miscellaneous. A miscellaneous sub-code for Imagine was created to capture any mentions that were not encompassed by Audition or Imagery. Mainly, these covered what we referred to as "musical theory of mind" – the idea of envisioning what a passage would sound like to someone else.

In his first observed rehearsal, Dustin talks about how volume can be perceived differently in different parts of the room,

> Great. See I thought that was perfect volume. It's always gonna sound a little louder to you, cause you're right there, but it matters how loud it sounds out here. And at least, even from where I was standing you could hardly hear it.

Later, he refers to how the audience perceives the sound from the stage,

> Clarinets…you've got to be braver at 128. Alright? You may think you're playing *pianissimo* -- two p's -- but you're playing '*nothissimo*.' We can't even hear you. So no dynamic is ever so soft that the audience can't hear it. Everything has to be heard, but they have to hear it and go 'oh, that's a really quiet sound.' They shouldn't just not hear it."

Betty similarly refers to imagining how sounds will be perceived by the audience at the upcoming graduation ceremony during her fourth rehearsal,

> I just want to tell you about this piece. What's going on is a lot of noise. It's the end, they're marching out, people are happy, they might be cheering. But when they start, when they're done and [the principal] says, "I now, you know, pronounce you graduated," says that kind of thing, we just start in on this. There's this big applause and you think, "Oh nobody can hear us", because you can't hear yourself playing and everyone can hear you… the sound system at the [auditorium]…we really have to play it precisely, accurately and in tune, because all the speakers all over that huge auditorium, they will be hearing you even when you can't hear yourself, so you have to be careful, not talk because of the sound system, and be really in tune and in time.

Teacher Awareness of Imagine

Teachers didn't independently raise ideas about Imagine in interviews, but they did discuss them when I asked about the examples I saw in rehearsals. As Alicia says about her example above,

> Singing is all about, not all about, but a huge portion of imagination. I remember when I was learning technique, or when I'm using technique with the students, we're talking about using imagination a lot. There's exercises where I tell them imagine, they're holding a top note, as they're holding the top note, I ask them to think they're drinking a very cold glass of water, to help create space and open up their sound. I have another exercise where we -- it's sixteenth note runs from Do to Sol back down to low Do all the way up to high Re and turning around and coming back down. To help them achieve going up to high Re without being flat, I talk about, pretend you sat one something cold and you go "whoop!", or pretend someone's pinching you on the behind, and that helps create the energy that they need. I've used examples like… sing this as if -- to help create more articulation with the tongue -- as if you have Pop Rocks on your tongue. Or if you want a dark, richer sound, well, let's talk about things that are rich and warm. Let's talk about molten lava cake or hot chocolate or brownies fresh out of the oven. Using food analogies helps a lot.

Dustin similarly sees what he does as a melding between the technical and systematic and more expressive and ambiguous elements that include imagining.

I think the thing that's so special about music is that there's an inner section of expressive and executive skills and I think…what's so amazing about music is it… combines executive and expressive functions into the same activity… you're being metaphorical and literal at the same time. So I guess…what…I'm going after are, 'how can you think in images but then act on that with a physical skill and create the result you're looking for?'

Relationship to Studio Habits of Mind

Imagine is not a Studio Habit of Mind (Hetland et al., 2013), but is similar to the Studio Habit of Envision. Whereas mental pictures in the visual arts room are usually visual, in the music room, mental pictures are both visual and aural. Students in music classrooms regularly are asked to imagine both sonic passages and visual images. To better encompass that enVISIONing in the music room goes beyond visions, I use the term of Imagine.

Numeric Tallies

Numeric tallies for Imagine are listed in Tables 4.4 and 4.5.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			544	34.2
Alicia Total	Watermelon	Women's Chorale	83	40.5
Betty Total	Walnut	Orchestra	37	56.9
Dustin Total	Lemon	Concert Band	126	45.8
Greyson Total	Lemon	Chorale	58	19.2
Joanna Total	Walnut	Band	85	33.3
Karen Total	Watermelon	Orchestra	155	54.4

Table 4.4 Imagine tallies by teacher

Teacher	Audiation		Imagery		Miscellaneous	
	Total	Per Hour	Total	Per Hour	Total	Per Hour
All Teachers	458	28.8	81	5.1	5	.3
Alicia Total	59	28.8	24	11.7	0	0
Betty Total	25	38.5	10	15.4	2	3
Dustin Total	99	35.8	25	9	2	.7
Greyson Total	50	16.6	7	2.3	1	.3
Joanna Total	82	32.3	3	1.2	0	0
Karen Total	143	50.2	12	4.2	0	0

Table 4.5 Imagine sub-code tallies by teacher

Listen

Listen was an Ensemble Habit of Mind hypothesized to be seen, and this was confirmed by the data. Listen codes refer to focused, careful hearing beyond superficial sounds. Three sub-codes emerged for Listen: Modeling, Intonation, and a miscellaneous category. Units coded with Modeling included anytime a student, teacher, or recording gave a starting pitch, correct rhythm, or musical passage for others to hear. Modeling also included attention-getting activities in which students often echoed the teacher. In many instances, these were simply labeled, "teacher models" in transcriptions. Instances of Modeling sometimes co-occurred with Express, as many passages were modeled with the purpose of demonstrating musical Expression. I made determining calls on what was denoted as "teacher models" versus "teacher models expressively" in transcripts. In instances of the second, Modeling and Express were always both coded.

Intonation was given in all instances of giving a tuning note or discussing poor intonation. Finally, a miscellaneous category covered instances of listening that were not Modeling or Intonation. These included verbal instructions for students to listen, asking questions that couldn't be answered without listening, and anytime playing by ear occurred.

Qualities of Listen

Codes for Listen emerged under three sub-codes: Modeling, Intonation, and a miscellaneous category for remaining codes related to listening.

Modeling. Frequently, teachers sang along with or for students as a model to demonstrate some musical aspect. This included giving a starting pitch using voice or piano in choirs, as was seen in the rehearsals of both Alicia and Greyson, demonstrating a rhythm or singing a passage to show an expressive quality that they wish for students to mimic, as was seen in all teachers' rehearsals. Instances of modeling occurred both during times when the teacher had stopped the ensemble to give feedback, and also during music making, like in instances of yelling a corrected rhythm pattern over the sound of the group or singing with a floundering section.

Intonation. Improving intonation was a common piece of feedback given by teachers. Sometimes this was simply feedback for students to implement the next time the section was played, as when Dustin spoke to the French horn section in his third observed rehearsal, "French horns, on your highest notes make sure the pitch is high enough. Jon, it's sometimes they sound flat on your highest notes" or to the trombonists in his second rehearsal, "Now Rohan, it's weird you actually went flat as you went higher, which you'd expect on a trombone. If you get louder, it would go sharp, so just make sure that you're

not too far out with your slide." Greyson has similar comments for his singers in his fourth rehearsal, "This is a phenomenon, but singing repeated pitches --because you are asking your vocal chords and the muscles that are there to stay in a certain position for a long time and it gets tired -- and the note gets flat flat flat." Other times, the teacher clued students in during playing, as when Dustin yells over the group, "Are you in tune, Alex?" during a passage in his second rehearsal. Additionally, teachers prompted students in slow guided listening to specific pitches, as when Joanna asked her instrumentalists to "…get a big breath; sing the last note." By having the students sing, they are free to concentrate on the pitch without the complications of their particular instruments.

Besides when listening for intonation was prompted as part of feedback, the other instances of Intonation codes occurred during starting pitches before all instrumental rehearsals. Karen tells her students at the start of the second rehearsal, "Ladies and gentlemen, please do not talk during the tuning process. This is your time to get focused and to make sure your music is in order. Let's start with this one more time. I'd like to tune once today so let's do it really well."

Miscellaneous. Examples of listening that were not Modeling or Intonation related were compiled in a miscellaneous category. These often included general instructions to "listen" (or synonyms of listen) or asking students questions that could only be answered through listening. Other examples happened in an activity during Joanna's second rehearsal, in which students practiced playing intervals and simple solfege patterns by ear.

In giving feedback, and as a general reminder before playing again, teachers asked students to listen. As Betty counts in the orchestra in her fourth rehearsal, she tells them, "Exactly together…listen to each other and count. Two, three, four, one..." Karen says something similar as she gets ready to begin part of her second rehearsal, "We're listening, we're watching and we're focused. This is easy, right? So play together." Alicia prompts her students while singing in the third rehearsal, "Make it round. Listen to the pitch. Listen to the pitch," while yelling over the group.

In other instances, teachers referenced listening by prompting students to do so through questioning. During his fourth rehearsal, Greyson models an incorrect passage with his voice and asks, "What's wrong with this picture?" Alicia cuts off her women's choir in her second rehearsal,

> And stop there. Okay, so first who do we listen for in this section, page four? Point to them…Great. Then who do we listen for at measure 30? Altos, great… So what I want you to do is, whatever section you're supposed to listen for, I want you to point your arms like this towards them.

Joanna also questions students to prompt for critical listening. Consider the following exchange she has with a student after cutting off the group in the fourth rehearsal.

> Joanna: What do you think? Did we succeed in switching on who was predominant?
>
> Student: No, I think the half people could have been quieter in the beginning and then once we switched, those who had 8th notes were not as loud as they should've been.

Joanna: The 8th notes should've been louder? Okay…one more time, more balance.

She similarly asks students to Evaluate through listening in her second rehearsal, after the brass section plays a passage.

Do you have in mind anyone that might have been playing a little longer staccato? Let's listen again. See if you can figure out if anyone is playing staccato differently. If so, we want to identify them and help them change. Ready? Same thing.

Teacher Awareness of Listen

Listening didn't often organically come up in teacher interviews, likely because it's seemingly too obvious to be articulated. Listening is so central to all activities in the music class, it may be that music teachers don't directly stop and think about it unless prompted to think about it. Once they were, teachers had many examples of how they value listening. As Greyson notes,

> I really feel like if they haven't improved their listening and reading skills by the time they leave, then I've really failed them and I'm actually trying to take more and more steps to address that and help them to be better with that.

When questioned, teachers noted that they use modeling. Dustin shares,

> I've actually seen my colleague…who taught band rehearsals would bring his saxophone out… he never taught jazz ensemble without his saxophone out and he would play lines for articulation and for phrasing and there was just something very powerful about hearing it correctly modeled rather than verbally explained. So, since I don't usually take my clarinet out with me, I think singing is the best option.

Joanna notes that students becoming accustomed to following her model is a double-edged sword that requires her to do things properly all the time.

> Unfortunately I see them do what I model and it makes me ashamed of myself because I don't always prepare them. I don't always start them musically. I'm thinking about a lot of things and I find myself counting off, which I actually disapprove of…I think you should look at each other and I should give the proper upbeat and the proper breath, they should all breathe together and begin together.

Teachers are also aware of how explicit they need to be to teach matters relating to intonation. As Dustin says,

> My main sort of weapon in my arsenal for working on intonation is just creating awareness of the variables that deal with intonation. So I think when students are aware of what effects [pitch on their instruments], then they at least have a fighting chance of making some change. Even if they change it the wrong way at least they know how to effect the change in their intonation. So then I think the next part is being able to hear whether you're out of tune or not, and that's a challenge. Sometimes students say they don't know, but I have real trouble believing in the whole idea…that they're tone deaf… So I think if two notes are out of tune versus if they're in tune, it's a very obvious thing and so then most students will admit, "Okay, yes I can hear that this is out of tune but I don't know which way I'm out of tune." So then I say, all right, so the next thing you do is perform an experiment. You think about the variables we've talked about, what can make you sharper and what can make you flatter, so when you're sitting there and you're playing that note, change the pitch up and just answer the question:

> Did it get better or worse? If the answer is it got better, that means you were flat and you need to push it, if it got worse then that probably means you were sharp, so now bring the pitch down and if in fact that does make it better then you were sharp and you need to make the instrument longer, do that.

Betty is more subtle in how she approaches intonation with her students.

> You know I think the way to get a blend and to get good intonation is this subtle thing of…you subtly remind people about it. Like "could you check that note?" or…"could we all hum that chord?" and that reminds the brain and the ears and everything else that "oh, yeah pitch is a part of what we're doing here. We're not just playing notes in time and pressing buttons or fingers or whatever." And just humming that note it clicks back on the intonation part of the musician I think.

Teachers also seem to be very aware of the way in which they present listening-related feedback, through being specific and questioning techniques. Alicia talks about how she's become more detailed in her feedback,

> Why are they out of tune? I have to fix that they're out of tune! That was me as student-teacher: "No, you need to listen! Listen! You're out of tune; Can't you hear that you're out of tune?" But now I can say, [when] they're out of tune, "Let's fix your vowel -- that's why you're out of tune. We're all not creating the vowel the same way."

Joanna recognizes and is thoughtful about her questioning techniques to make students more independent listeners and musicians.

> If we're playing something and we stop and I say, "Oh what did you think about our phrasing here? Or how is the rhythm there?" or whatever. I would wait for the

students to respond as opposed to me identifying exactly what I wanted to change or what I wanted to compliment them on.

She continues to say that by allowing time for students to listen and give feedback themselves, students "may pay more attention if it's the student that's speaking."

Relationship to Studio Habits of Mind

Listening is not a Studio Habit of Mind (Hetland et al., 2013). However, we can consider Listen as the aural counterpart of Observe. As music traffics in sound, visual art communicates through images. This sensory awareness is compatible between the two disciplines.

In Studio Thinking, teachers were clearly not just giving feedback, but giving students tools in order to independently think for themselves. In instances of Listen, we see some examples of comparable practice of specific feedback and targeted questioning in order to encourage students to practice listening for themselves.

Numeric Tallies

Numeric tallies for Listen are listed in Tables 4.6 and 4.7.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			798	50.2
Alicia Total	Watermelon	Women's Chorale	209	102.0
Betty Total	Walnut	Orchestra	42	64.6
Dustin Total	Lemon	Concert Band	111	40.1
Greyson Total	Lemon	Chorale	210	69.2
Joanna Total	Walnut	Band	98	38.2
Karen Total	Watermelon	Orchestra	128	44.9

Table 4.6 Listen tallies by teacher

Teacher	Modeling		Intonation		Miscellaneous	
	Total	Per Hour	Total	Per Hour	Total	Per Hour
All Teachers	623	39.2	70	4.4	105	6.6
Alicia Total	187	91.2	11	5.4	11	5.4
Betty Total	18	27.7	8	12.3	16	24.6
Dustin Total	84	30.36	22	8	5	1.8
Greyson Total	180	58.7	7	2.3	23	7.6
Joanna Total	46	18	18	7.1	34	13.3
Karen Total	108	37.9	4	1.4	16	5.6

Table 4.7 Listen sub-code tallies by teacher

Notice

Notice was not a hypothesized Ensemble Habit of Mind in its current form, but includes the hypothesized habit of Observe. Notice codes refer to sensory awareness and were sub-coded into categories for Visual and Kinesthetic awareness.

In early versions of the coding manual, Listen was included as part of Notice to compliment the other included senses. But because hearing so central to what happens in a music class, in the final manual, Listen was split into an independent habit.

Visual sub-codes included references to careful watching and critical observation of sheet music, conductors, section leaders, and fellow performers. Kinesthetic sub-codes included prompting for body awareness.

Qualities of Notice

Codes for Notice emerged under two sub-codes: Visual and Kinesthetic.

Visual. Students in ensemble classrooms were regularly prompted to look closely at a number of things. Most frequently, this was through a reminder to look at the conductor-teacher. Joanna uses looking as a point of praise in her fourth rehearsal, “That felt very good. You certainly watched.” In her first rehearsal, Alicia incorporates close

watching into her warm-up, periodically changing tempo in a breathing exercise to practice looking, asking them to "follow my gesture." Other times, students were asked to look at others such as section leaders or other ensemble members. In her first rehearsal, Karen encourages her students to look at each other to practice communication during warm-ups, "I challenge you to make eye contact with at least ten people while we are playing the scale, ready? Okay, make eye contact with at least ten people while we are playing the scale and don't forget to move." Later in that same rehearsal, she notes how some ensemble members may need to look or lead differently after the recent change in seat assignments, "You might be sitting at a different part of the stage now so think about who you need to be leading, or you need to be looking at." An additional type of careful noticing referred to doublechecking or marking up sheet music, as when Alicia prompts students to read their sheet music after rehearsing a passage, "Great, look at the rhythm for "we're so." Is it syncopated or even?...It's even. We just sang it syncopated. Let's not do that."

Kinesthetic. Students must have physical command of their musical instruments (which, in the case of vocalists, are their actual bodies.) Teachers acknowledge this by making frequent explicit instruction in ways to have greater awareness of one's body and posture. In his third rehearsal, Jason reminds his students of the Bill Nye the Science Guy video they previously watched about what happens in the human diaphragm during breathing. He then prepares them for another video he'll be showing about vocal cords and sound production.

> It's like an amazing, amazing feat and not only can [your vocal cords] do it, but it ends up making this beautiful sound. So I'm going to show you what it looks like

> when you actually see the vocal folds in action in your throat and the way they do this is they take a camera and they put it up your nose. Sorry, that's what it is. And again it's going to be like you're looking down in someone's throat. You're going to be able to see the cords vibrating, even though of course they vibrate so quickly you can't possibly see it because they use a strobe light so… we only see every, I don't know, hundred frames or whatever. So you're going to actually see the folding motions of the vocal folds. I know you're going to love it, too. Hey, it's in your throat, don't blame me!

Other times, teachers speak specifically about posture, necessary for proper sound production on all instruments. Karen prompts her orchestra students in her third rehearsal, "Can you move up in your chair? Actually move up in your chair." Jason speaks similarly in his third rehearsal, "I also see people with legs crossed and poor posture. That's not going to help you do this well" and in his second rehearsal, "Ready? Sing well, uncrossed legs, butts back in the chair, ready and go." At times, references to posture have to do with eliminating tension, as when Alicia tells her students in her first rehearsal, "Shake out the hands. Move the body" in order to loosen up.

Alicia makes frequent connections between the shape and structure of all parts of the body and how it impacts sound. In her third rehearsal, she tells singers to "feel that space" in their sinus cavity, which helps for resonant tone, and later, "When you sing [the lyric] 'beauty,' I want you to think about the space between your molars." Karen does similarly in her third rehearsal, explaining that the "biggest crescendo of your life" should "really use every inch of your bow," while Dustin gives instructions for clarinets to "Articulate with your tongue. Make sure everything is articulated."

Teacher Awareness

Teachers appear to be very aware of all the noticing, or sensory awareness, that is required in their ensembles. This is particularly true in the recognition of the high amounts of multitasking to various stimuli while performing in a music ensemble. As Joanna says, "Am I sitting…where I can see the conductor with both eyes or do I have to adjust my chair so that I can see the conductor? Am I sitting properly?" Karen mimics Joanna's sentiment,

> We're asking them to do like twenty things at once. They're focusing on playing, like reading the music, playing the notes with their left hand, what are they supposed to be doing with their bow, what part of the bow should they be in. Are you watching the conductor? Are you listening to the other parts that are happening in the orchestra? Are you paying attention to dynamics? Like there's like twenty things they are thinking about at once and I think that that's a unique aspect of playing music, especially ensemble music where there are other parts going on at the same time.

For Jason, cueing noticing is important because of the public performing nature of being in a music ensemble. He talks about how running through entire pieces helps students pay attention to various elements they might otherwise be taken surprise by at the performance.

> Running the whole thing start to finish with no stopping…part of the thing you need to learn -- what happens between movements? How much do you relax? Do you take time between the movements or do you move straight on? How does the conductor kind of gauge that time between? And I hope that as we work through

it in the final rehearsals, the dress rehearsal the orchestra rehearsal, they begin to get a sense for how the whole thing fits together.

Alicia is particularly cognizant of kinesthetic awareness in her choir, and she speaks about it confidently. For her, noticing the body has several purposes. First, she thinks kinesthetic awareness is a generally useful skill both in and outside the ensemble.

> We do…a lot of physical warmup. We do a lot of stretching. We talk a lot about how our body works and being aware of that. I feel that physical awareness is important when you become an adult because when you're more in tune with your body you can be healthier. You can figure out, oh my neck's bothering me what are different ways I can, this more physical health type of thing.

It's also a more specifically useful skill for performers who need to present publicly at concerts,

> Some students will be nervous. We talk about things like keeping yourself hydrated all day. Did you eat today? You need to eat. Making sure your knees are bent and relaxed because we don't want you to faint on stage.

She also sees movement as aiding content-based skills within music, including subtleties like phrasing and articulation, "We do a lot of physical movement where I might have them do large arm gestures to help them create phrasing or more legato lines," and hearing tonality, "There's a lot of research [finding that] singers build stronger pitch relationship skills when building their aural skills if they add kinesthetic movement to it, hence the Curwen hand signs (standardized hand symbols that correspond with various scale degrees.)"

Relationship to Studio Habits of Mind

Noticing is not a Studio Habit of Mind (Hetland et al., 2013). However, Observe is, which is nearly identical to the visual component of Notice. Arguably, the Studio Habit of Mind of Reflect: Question and Explain, shares similarities with Noticing. In Reflect in the visual art room, students carefully recall the steps they've taken in an artmaking process. This requires a similar sensory awareness as is required in Noticing, but Noticing is more focused on what is happening within the present moment as opposed to reflecting on the past.

Numeric Tallies

Numeric tallies for Notice are listed in Tables 4.8 and 4.9.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			303	19.1
Alicia Total	Watermelon	Women's Chorale	87	42.1
Betty Total	Walnut	Orchestra	17	26.2
Dustin Total	Lemon	Concert Band	15	5.4
Greyson Total	Lemon	Chorale	51	16.8
Joanna Total	Walnut	Band	39	15.2
Karen Total	Watermelon	Orchestra	94	32.8

Table 4.8 Notice tallies by teacher

Teacher	Visual		Kinesthetic	
	Total	Per Hour	Total	Per Hour
All Teachers	170	10.7	133	8.4
Alicia Total	41	20	46	22.4
Betty Total	17	26.2	0	0
Dustin Total	13	4.7	2	.7
Greyson Total	26	8.6	25	8.2
Joanna Total	34	13.3	5	2
Karen Total	39	13.7	28	19.3

Table 4.9 Notice sub-code tallies by teacher

Participate in Community

Participate in Community was hypothesized, but in a different way. The ideas embedded in this habit were originally termed as Work for the Common Good, which is now one sub code of Participate in Community. Other examples of community building and maintaining are described with the additional sub codes of Accountability, Local Community, and Global Community.

Qualities of Participate in Community

Four sub-codes are contained within Participate in Community: Accountability, which references the responsibility of the individual within the group; Work for the Common Good, which emphasizes how one's individual role helps to benefit the entire group; and Local Community and Global Community, which refer to the different levels of community the students experience as musicians.

Accountability. In a music ensemble, students are tasked with a tremendous amount of personal responsibility. They are obliged to play individualized parts that can leave their music making exposed and unable to hide behind the sounds of a peer. In some cases, there may be only one student playing the second tuba line, or the bassoon

part, or any other line, and therefore their mistakes or absences are highly conspicuous to a listener. This understanding of individual accountability, about the importance of each and every member of the ensemble, is taught explicitly.

Unlike most other classes, a missing individual can prevent others from proceeding with the class as normal. Consider the following good-humored but realistic exchange in Dustin's first rehearsal,

Dustin: Let's move to [the next piece].

Percussion student: Michael's in the bathroom, so we can't really play right now.

Dustin: Who's in the bathroom?

Student: Michael, and he starts the piece.

Dustin: I think we need to hold him to a higher standard than that, you know what I mean? Guys if you're in the bathroom, you can still play. I don't want to hear that you can't do it, alright? Don't say you can't do it. Don't give me problems, give me solutions!

The rehearsal then pauses for about a minute, and students chat among themselves. When Michael reenters the room, the group claps and cheers and Dustin raises his baton to resume rehearsal.

A similar instance happens in Betty's rehearsal, as she tries to begin a piece after giving a correction, "It's correct but don't forget the building, the growing of that first note. So like a flower in the Spring, just coming. [Measure]137, here we go. Wait, let Julia finish her yawn." When Julia apologizes, Betty maintains the safe culture of the group and Julia's "mistake" and says that the recent Daylight Savings Time switch has

gotten the best of everyone. During the remainder of their school day, it is unlikely that when or how student yawns has a direct impact on the students around them.

Dustin maintains a jovial manner to feedback and accountability, so while students know they are individually responsible. In his second rehearsal, he stops the group for a repeated mistake, "Someone did it again. Someone did it again. Oh my gosh. I now invite you to subtlety look over at the person whose fault it was... That wasn't very subtlety, Mike."

Dustin started that rehearsal similarly, "Okay, yeah. We have some noticeable absences. We're missing John. We're missing Jack. Okay, here we go. Very beginning of [the piece] – the first musical sound after vacation coming from Zach. No pressure."

Even in ensembles with a more limited number of musical lines or sections, such as choirs, individuals matter. In her first class, Alicia stops the group to give feedback, "Who breathed in measure 22? Ahhhh! Do you have a breath mark written in there?" She appears uncertain who the exact culprit is, but looks up to a specific part of the ensemble, and a student appears to take accountability for the mistake by saying that she does have the breath mark written. For the smallest of details, like where to breathe, each member of the group is accountable and can and often will be called out for errors.

An accountability code also was given for instances that referenced individual work that students needed to complete outside of the rehearsal, like practice homework. As Betty tells the orchestra in the third rehearsal, "Okay we're missing a few people here and there…It is important that we practice, that we practice our parts individually, you know, not here [but at home]." Sometimes, these types of codes were less about musical practice and about the more mundane logistical matters of a group that functions as both

academic and extra-curricular, such as when Karen reminds students about forms for their upcoming trip,

> Student contracts -- I still am missing about 10 of these. I need them by tomorrow because I have a lot of paperwork to put in order. So if you have not finished the student contract yet, please bring it tomorrow, and if you need another copy see me after class.

One instance of accountability frequently cross-coded with Empowerment, a sub-code of Persist described in the next habit. These codes refer to teacher talk that still demands accountability, but do so in an encouraging way in order to empower individual or small groups of students. Karen speaks to the orchestra, specifically holding the viola section accountable.

> It's coming together really well. Violas, in a long repeated passage like this where suddenly something changes, that's a good place to show some leadership, right? If you know exactly where you are you can just give a little (demonstrates with her hands) "bump ba da" at the change, right? Just to help your section feel the confidence in change notes, does that make sense? That's a good place for leadership. Okay…let's add the violins, let's have everybody play from number nine. We're all listening for the violas…

Work for the Common Good. Work for the Common Good is a similar code to Accountability, but specifically references accountability for the sake of the whole group. Whereas Accountability sub codes call out individuals or small sections of students to do their job, Work for the Common Good codes are more explicitly clear about how one's

actions impact the entire group and require awareness of and sensitivity to others. There were three main kinds of Work for the Common Good sub-codes.

Sometimes, eye contact was encouraged, presumably for the sake of both musicality and ensemble togetherness. Eye contact codes often cross coded with codes for Notice: Observe (for looking) and Express (as eye contact is often a way to encourage playing passages as part of a musical conversation). Karen exemplified this in her first rehearsal, as she asked students to make eye contact with ten people during a warm-up scale, and then again another five new people on the second scale. This exercise helped make the group more cohesive and accountable to each other.

A second type of example were instances in which group feedback was given specifically in reference to matters of group cohesion – things like blend, matching articulations, and clean entrances or cut-offs. These are the musical manifestations of each person being one unit of a larger group. Often, this type of example would cross-code with Listen, as listening is required to match tone, pitch, or articulations. Joanna frequently questioned students to prompt them to think about group cohesion. In her second rehearsal, she asks the group, "Is everyone playing all the eighth notes the same way?" When a student replies that they are not, she tells them, "So be aware of how much time an eighth note is. We do have staccato in the 6/8 note." She similarly approaches a passage in the fourth rehearsal, "Your intonation is better but the blend isn't so great. Who is sticking out?" Students had been listening for these types of group unity in the music, and someone volunteered that it was the trumpets, which she said was correct.

Karen gives similar prompting in her second rehearsal,

> When we get to the development section… remember there are some places where you need to back way off. Like violins at measure 80 and violins at measure 90. And there are some places you need to play way out, like second [violins] at 92, violas at 96 and 98… so there are places we need to come out of the texture and back off and blend into the texture. Listen to the sections who have your part.

Another type of Work for the Common Good code were instances in which students were asked to do more than their "fair share" in order for the good of the group, or to compensate for those who may forget. For example, Joanna tells her group in the third rehearsal, "If you see mezzo piano, you have to play even quieter than mezzo piano because somebody else is probably not thinking about it."

Local Community. At various points in rehearsal, students were specifically reminded of how they were part of a musical community – both locally at their school, and in a broader community of musicians in the world. Instances of a Local Community sub-code referenced school-based efforts at community building, including extra work (like fundraisers and setting up and striking the rehearsal space), specific responsibilities given to student leaders (like ensemble officers or section leaders), and other miscellaneous comments that emphasized group comradery at the school level.

Betty exemplifies this sub code as she gets her second rehearsal started,

> Orchestra, a couple of things today. The first thing -- I'd like to give a big shout-out, a big bravo for the jazz band, the string quartet, the grade nine trio, and the grade 12 trio who played last night at the arts festival…We had a great crowd

down there…Also, we're going to start our fundraising [for the Trills and Thrills Festival]. If you're not going to be a part of it, please let me know.

Alicia's rehearsals are filled with community building and references to student belonging in the community, as when the class sings Happy Birthday to a student during the third rehearsal, or later in that same class, she says in response to a lackluster but improved passage, "That's okay, we'll accept it. We accept everybody in this classroom."

Global Community. Referencing the broader community of musicians, outside of the school building, was given a Global Community code. This included discussion of musical practices, traditions, or musical renditions by outside-of-school musicians, decoding the intended meaning of composers, and referencing musicians and musical activities outside of school, like guest conductors or clinicians and music festivals.

In Joanna's first rehearsal, she asks students to think about the composer James Swearingen's notational thinking process, "Could Swearingen…have gotten five beats across any other way because it looks weird. It's troubling to me, to see a quarter note... Oh, he could have tied two half notes, that would be even more unsettling, yes. So you have to have five beats and that's the way he figured out to do it."

Greyson makes a quip during his third rehearsal about an incorrectly sung passage that also references the piece's composer and identifies the agency a student has to create their own piece, "Oh, that's so cool. You just made up your… own melody. You could've…written the show and made a million dollars. Except you didn't so we have to do, we have to do what [the composer] wrote."

Betty makes a reference in her first rehearsal to the tendency of all musicians, reminding students that they are part of a group of musicians larger than their ensemble,

"[At measure] 2, don't hold the tie too long… That's always a tendency with just about every musician in the world to hold ties too long."

Teacher Awareness

In interviews, teachers seem aware of the efforts and requirements of being part of a music ensemble, and how those shape students' individual accountability, group ownership, and awareness of their place in the musical community.

Greyson discusses the individual accountability that goes into the annual pops concert, from bringing in bake sale items to preparing the concert space,

> We generally have our dress rehearsal after school, and then we'll have setup for Pops, which is huge! It's setting up 50 tables, 500 chairs, decorating and all that sort of thing, and it's so fun because some of the kids…it's like their favorite time of the year because 'Oh, we get to go and decorate for Pops!' They really take ownership of it.

For Greyson, part of the beauty of the ensemble is how the members need the community of each other to make a musical product, how they work together for the common good,

> Putting your soul out there and doing it together so that the total sound, whether you're in an orchestra or a choir or whatever, the total sound is something bigger and different than what you could create on your own. I think that's what [music ensembles are] all about.

In Alicia's interview, she focuses on the group cohesion and community building that is part of Participate in Community, "It's about the collective 'we.' It's definitely the collective 'we.' It's about how the individual creates the collective 'we.' And

consequently, no individual outshines another person necessarily, but if that person is missing you definitely feel it and hear it." She goes on further to discuss how before school a capella groups are managed by students themselves,

> There [are] two main leadership positions for each group: president and music director and there's a distinction. Music director is in charge of running rehearsals. President is in charge of all the other things, if that makes sense. So it gives them the opportunity to learn how to resolve conflicts, how to be compassionate with one another, how to democratically and delicately help people learn music or learn something that they're struggling with. It really gets them connected to one another and creates much more levels of respect amongst the students in that ensemble, I find. And when there is conflict, it gives them a huge capacity to grow emotionally. Even when there isn't conflict, they grow emotionally.

Relationship to Studio Habits of Mind

The most directly comparable Studio Habit of Mind (Hetland et al., 2013) to parallel Participate in Community is the Community subcomponent of Understand Art Worlds. In the visual arts, this includes compromising with and learning from other student-artists in a class, and recognizing one's self as a member of the classroom and global artistic community. Because music ensembles always involve multiple people, while artmaking is often a solo endeavor, it is logical that Participate in Community would be frequent and important enough to stand alone as an individual Ensemble Habit of Mind.

Numeric Tallies

Numeric tallies for Participate in Community are listed in Tables 4.10 and 4.11.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			295	18.6
Alicia Total	Watermelon	Women's Chorale	26	12.7
Betty Total	Walnut	Orchestra	62	95.4
Dustin Total	Lemon	Concert Band	52	18.8
Greyson Total	Lemon	Chorale	41	13.6
Joanna Total	Walnut	Band	57	22.4
Karen Total	Watermelon	Orchestra	57	20.0

Table 4.10 Participate in Community tallies by teacher

Teacher	Accountability		Work for the Common Good		Local		Global	
	Total	Per Hour	Total	Per Hour	Total	Per Hour	Total	Per Hour
All Teachers	172	10.8	63	4	36	2.3	24	1.5
Alicia Total	21	10.4	0	0	4	2	1	.5
Betty Total	34	52.3	17	26.2	4	6.2	7	10.8
Dustin Total	34	12.3	4	1.5	7	2.5	2	.7
Greyson Total	23	7.6	3	1	9	3	6	2
Joanna Total	32	12.5	19	7.5	4	1.6	2	.8
Karen Total	28	9.8	20	7	7	2.5	2	.7

Table 4.11 Participate in Community sub-code tallies by teacher

Persist

Persist is an Ensemble Habit of Mind that was hypothesized as Engage & Persist. Engagement helps make persistence easier, and music making requires a great deal of engagement. As we progressed through the coding process, it became more clear that engagement was really not taught in a substantial way. Students were not given the

opportunity to exert individual agency, to make personal stylistic decisions, to decide when to keep working on something and when to stop, and so actual instances of teaching engagement mostly appeared through the positive or negative wording of feedback, and requests to improve.

The four sub codes that emerged for Persist include High Standards, Encouragement/Acknowledgement, Engagement, and Empowerment.

Qualities of Persist

High Standards. Music teachers often quip how rehearsal requests for "one more time" rarely actually mean that the passage will be worked on just one more time. The nature of the traditional large music ensemble is one in which groups strive to interpret pieces in the most "perfect" way possible – with correct intonations, blend, following all composer's markings, following an interpretive tradition that is historically appropriate, etc. Requests from the teacher that were perfectionistic, held students to a high standard, were repeated repetitions of the same concept, or asked students to practice at home were indicative of High Standards.

The most common example of this sub code was asking to repeat something that had already been worked on – sometimes this would happen seven or eight times in a row, demonstrating High Standards and perfectionism. These appeared in all rehearsals and all teachers and took the form of phrases like, "one more time," "again," or "let's go again from measure X."

Another example was recognition or a specific request that individuals would need to give additional work to a section, usually in home practice. This means what was required for the group to progress was additional work, also showing high standards.

When Debbie ends her second rehearsal asking students to go home and "work on their beautiful phrases for tomorrow," this is an example of High Standards. (As described earlier, asking students to practice at home is also an instance in which Participate in Community: Accountability was coded.)

Other examples dealt generally with being perfectionistic or not wasting a moment of rehearsal time to maximize error correction efficiency. When Dustin allows his group to move on in the piece because they have exhibited the "perfect volume" in his first rehearsal, this is an example of High Standards. Another example is when Betty asks her group in the third rehearsal to "not waste time. We don't have a lot."

Encouragement/Acknowledgement. When teachers gave meaningful, positive forms of feedback or encouragement, this sub code was applied. This was not a code applied to all feedback, but only feedback that was worded in an encouraging way. For instance, "That is correct" is a factual statement that would not have received this sub code. But an utterance like, "Congratulations! You got it correct!" or "I'm so happy we have it correct now" would. Positive feedback was seen from all teachers, in all rehearsals, including "That's great, play like that!" (in Joanna's second rehearsal), "Bravo!" (in Greyson's second rehearsal),

It also included encouraging phrases to keep going, or acknowledgement of how difficult their hard work was to complete. This is seen in phrases like "there you go!" (in Alicia's first rehearsal), or "we're almost there!" (in Karen's second rehearsal), or from Betty's second rehearsal:

> Okay, so I know it's hot. I know we're getting towards the end of the year but we have to maintain our focus because you know, this, this is important. [The

performance is] televised. All summer long it's replayed. We don't want this to not be good.

During the coding process, the team discussed what to do about positive words that were acting as "filler words." Some teachers used words like "good," "great," and "okay," not as a true indication of encouragement or persistence, but rather as a characteristics of their general speech pattern. Instances like this were cross-coded with Evaluate per the guidelines described in that section, but they were not given an Encouragement/Acknowledgement code.

Engagement. A sub code similar to Encouragement/Acknowledgement is Engagement. Examples of feedback or requests for different behaviors that were less positively worded were given an Engagement code. These were not negative evaluations (like "we need more dynamic contrast there," which would be Evaluate), but rather reminders to focus, be present, or to metaphorically wake up. Sometimes there were examples of engagement that were positive, like reminders to stop and enjoy the moment, or encouraging deep breathing or stretching in order to maintain presence.

Examples of Engagement include in Alicia's third rehearsal, when she tells the group, "Stay engaged. Auto pilot is wicked dangerous." This is an echo of previous similar reminders from the first rehearsal, "Stay engaged; No autopilot. Pay attention to what you're doing. Nice bent knees. Nice and relaxed." Karen gives similar reminders as she gets ready to count off in her second rehearsal, "We're listening, we're watching, and we're focused."

Empowerment. Empowerment is another positive type of sub code, similar to Encouragement/Acknowledgement. Excerpts that were given an Empowerment code

were about encouraging student agency, confidence, or bravery, which would presumably lead to further persistence through way of engagement. Many of these examples cross-coded with the similar code of Participate in Community: Accountability.

Examples of this sub code include when Greyson tells his group during his fourth rehearsal, "You can do it, some of you are just afraid of your own shadow here. Sing it." Karen also exemplifies this in her first rehearsal, "You are a big orchestra, let's sound like it." Dustin tells his wind band during the second rehearsal,

> It was always rushing and it's hard for me -- you know -- I'm not in control of you. I'm as much of a participant as you are, except probably less so. If it's you versus me, you guys are sixty times as powerful as I am…to determine the tempo, I would say. I'm not an equal partner in that, so it's as much on you guys for that.

Teacher Awareness

Teachers referenced several examples of persistence. Alicia noted how she specifically discusses female empowerment as a component of her Women's Choir, and she articulates a teaching goal for herself of having all students feel empowered. One of the ways she does this is by encouraging mistakes:

> So, at least at this high school, these students are highly academic, really driven academically. A lot of my students in my choirs have close to perfect grade point averages. I mean, it's scary, we have students that have mental breakdowns because they got a B on a test, they didn't get that A. And, I think that, in my classroom especially, I honor mistakes. I like mistakes… and mistakes aren't a big deal in my classroom, while maybe in other classrooms, mistakes are a problem. If not from the teacher, but from home. And I think it's important for

> students to be accepting of their mistakes. So one way I have them do that is if they make a mistake, they have to raise their hand. And it's a tool for many different reasons, more than just them owning up to their mistakes. But a lot of students are scared to make mistakes. And one thing I want them to get from this classroom is that it's okay to make mistakes. It's not a big deal. We can fix it.

Dustin focuses more on the high standards sub code of persist, with a dedication to excellence.

> I feel the tools for becoming good at something are very important. So hopefully they can come away from concert band with an idea…[of] how can I apply myself to the point where I become really good at it? So, just valuing excellence and…valuing the hard work that it takes to get there.

He reiterates later about hard work and the how important it is in music. "You know there are talented students that don't succeed and there are students who are going to get there through sheer hard work, who know how to practice and do get there through hard work."

Relationship to Studio Habits of Mind

In *Studio Thinking* (Hetland et al., 2013), Persist exists as part of a combined habit of Engage & Persist. In early coding and manual creation, we maintained the dual components of this habit within the Ensemble Habits of Mind. However, it became clear early on that engagement did not appear nearly enough to be included as part of this mother code in the ensemble classroom. Within the visual arts, these two were seen hand in hand – when one is engaged, persistence becomes easier. Art teachers explicitly teach how to know what makes you engaged and when to give up and disengage from an idea

(Hogan et al., 2018), making persistence a natural, logical next step from engaging work. The group nature of ensemble work leaves little room for individual disengagement, leading to a greater emphases on persistence, grit, and "buckling down" as described in the sections above.

Numeric Tallies

Numeric tallies for Persist are listed in Tables 4.12 and 4.13.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			724	45.5
Alicia Total	Watermelon	Women's Chorale	141	68.8
Betty Total	Walnut	Orchestra	52	80
Dustin Total	Lemon	Concert Band	115	41.6
Greyson Total	Lemon	Chorale	101	33.5
Joanna Total	Walnut	Band	136	53.3
Karen Total	Watermelon	Orchestra	179	62.8

Table 4.12 Persist tallies by teacher

Teacher	High Standards		Encouragement/ Acknowledgement		Engagement		Empowerment	
	Total	Per Hour	Total	Per Hour	Total	Per Hour	Total	Per Hour
All Teachers	470	28.7	193	11.8	42	2.6	19	1.2
Alicia Total	79	38.5	51	24.9	9	4.4	2	19
Betty Total	39	60	9	13.9	4	6.2	0	0
Dustin Total	78	28.2	31	11.2	2	.7	4	1.4
Greyson Total	56	18.6	28	9.3	15	5	2	.7
Joanna Total	110	43.1	24	9.4	1	.4	1	.4
Karen Total	108	37.9	50	17.5	11	3.9	10	3.5

Table 4.13 Persist sub-code tallies by teacher

Set Goals & Be Prepared

Set Goals & Be Prepared is an Ensemble Habit of Mind about forward orientation. It was not hypothesized. Prior to the study, I conceived of instances like this as a component of Imagine, because thinking of and planning for one's future self is an act that happens in one's head in a way that is similar to imagination. Ultimately, instances about planning for the future were so important during the coding process that this emerged as an independent habit of mind. Three sub codes emerged as part of Set Goals & Be Prepared: Preparedness, Goal Setting, and Performance Logistics.

Qualities of Set Goals & Be Prepared

Preparedness. Music teachers were frequently seen helping students be ready for what happens next. This happens on micro and micro levels. At the most micro level, teachers gave quick preparatory cues for the upcoming note, measure, or phrase. They did this both through count offs when beginning a new section and also by yelling things to the group mid-piece. This was seen by all teachers and in all rehearsals and included phrases like, "ready?," "watch out," "here it comes," "think," and "repeat."

On a more macro level, teachers gave specific directions for actions to be taken that would help students be prepared. Sometimes this means having the required materials. Greyson's second rehearsal contains an admonishment for students not prepared by having a pencil. "Measure 109 is marked piano, measure 110, please. Mark with pencil 'mp.' Your pencil should be ready. It shouldn't take you all this time to take your pencil out. Every good musician brings a pencil to rehearsal." Often this meant running through the plan for the rehearsal or the week's worth of classes so that students could have their sheet music prepared. Karen does this at the start of the second rehearsal,

prompting, “Ladies and gentlemen, please do not talk during the tuning process. This is your time to get focused and to make sure your music is in order.”

Some of the more detailed lists of preparatory activities occurred for events that take students outside of the school day, a common event for a performing group. Consider all the things in this section that Karen tells her group at the start of the first rehearsal, all emphasizing what needs to be done in the future.

> Friendly reminder recordings are due tomorrow. They need to be uploaded on Moodle tomorrow. People who are participating in senior districts, remember your first rehearsal is tomorrow. Don’t forget to bring everything you need for rehearsal to school. So…a music stand, um…your folder don’t forget your folder with your music. Don’t forget your instrument, obviously. A pencil, money for dinner, or food.

Goal Setting. Goal Setting is a sub code similar to Evaluate. Evaluations of music happen after something has been played, critiquing that which has just been played. When worded in a future orientation, giving direction on something about to be played, this was coded for Goal Setting. Often, these were difficult to parse as students would play, and then feedback would be given that both addressed what was just played (Evaluate) but with the understanding that it would be played again in a moment (Goal Setting.) In coding, we relied on the tense the teacher spoke in during the feedback. In instances of mixed or present tense, we gave both codes.

Codes for Goal Setting needed to include a discernible aim of what was hoped to occur. Directions for the future, such as, “We’re going to clap this rhythm” would not be given a Goal Setting code because the aim is unclear, and this statement functions as

instructions more than Goal Setting. Something like, "We're going to clap this rhythm to make sure the triplets are even," would receive a Goal Setting code because the intentions are more clear.

Goals were set at various levels during rehearsals. Teachers listed off the aims of and plan for the current week, of a particular rehearsal, of a piece of repertoire, and of individual notes about to be played.

> Greyson prepares his ensemble in detail at the start of the fourth rehearsal, Today's plan… we're gonna warm-up. We're gonna run "Everybody Rejoice," which is memorized. If it's not well-memorized, we're gonna fix that. We're gonna run "Home" …We're gonna run "Your Freedom is Coming"…Then we're gonna run the whole *Wizard of Oz* arrangement. My hope today was to run the *Wicked* arrangement -- I was supposed to have 150 Wicked scores here but they're not here…so hopefully by tomorrow they'll be here and we'll make that up early tomorrow morning.
>
> Joanna is more content focused as she sets group goals for her first rehearsal, All right, the objectives today: we're working on balance in terms of the accompaniment part versus the melody… The balance of accompaniment, or countermelody, in relation to the melody; counting rests specifically 8th note rests…and playing piano. The goal is to play more quietly.

On a more minute level, teachers gave myriad examples of goals during rehearsal. Joanna tells her wind band in the second rehearsal, "Let's do it a little faster this time." Greyson says during his fourth chorale rehearsal, "You've gotta lift that note every time otherwise we go flat." "Please do not rush here… Don't panic. Nice and straight," is what

Karen says to focus her orchestra during her fourth rehearsal. Alicia warns during her fourth Women's Chorus rehearsal, "Be careful on the word, 'my.' It's a triphthong. There's three vowels in the one 'y' there for 'my.'"

Performance Logistics. So many Preparedness codes were specific to Performance Logistics, this emerged as its own sub code. Unless there were additional aspects of Preparedness in the excerpt, only a Performance Logistics code was given in these circumstances. This sub-code covered any of the myriad details concerning public performance and being ready for it. Examples included discussions of being on time, mentally walking through where to go and what to do for a performance, setting concert attire, and scheduling rehearsals and other events. These laundry lists of instructions, details, and guidelines require students to plan for many different things all in the process of getting ready to perform. The quoted examples below are included nearly in full to demonstrate just how many details and how complex preparing for the various components of a performance can be. Consider how Karen talks to her orchestra in her first rehearsal.

> …[Everyone], can you take out whatever you use for scheduling? Your phone, a planner, whatever you use for scheduling so we can get the [festival] date down in your phone…Alright….the… festival, our…festival performance time is set. We are performing on Saturday, March 28th. And our performance time is 9 o'clock am…We'll probably be leaving around 7:30 in the morning to go to Foxboro, um, which I know might make many of you groan but just so you know that's an hour later than we left last year…Okay, so make sure that's on your calendar. We need everybody there.

Dustin prepares his wind band for an upcoming concert during the third rehearsal,

> It's very likely [Monday's concert] will be the same as usual. The concert is at 7:30. Warm up is at 7:00. We will probably warm up in the orchestra room, but I'm going to double check with [another teacher] to see if he's using this room or not. If he's not, we will just use this room, but it will probably be the orchestra room…It's going to be the same thing where…I'm going to remind you guys that being on time for 7:00 warm up means being in your seat at 6:55. If you're on time, you're late. If you're early, the means you're on time, so everything gets shifted one level in terms of punctuality. Early is on time, on time is late, and late is unacceptable. So obviously some of you guys might have conflicts that you want to check with me on and I'm okay with that if you have a thing. You're like 'I'm coming from this other place. There's no way to get around that. Can I please come to the warm up a little bit late' and come and talk to me, but don't catch us by surprise.

Performing frequently, Dustin also goes through concert logistics during his fourth observed rehearsal.

> Attire. Gentlemen: Dress pants, dress shirt, bow or straight tie and dress shoes, not necessarily dark. Spring colors are encouraged. Jacket is optional. Women: Skirts and/or Spring-type dresses which must be below the knee. Again, Spring colors are encouraged. See [the orchestra teacher] for details. Okay, possibly the most important part. You gotta bring food, otherwise we won't have food to sell. Food to… leave on the tables. That's one of the big aspects of Pops is that there's food to eat on the tables… Bring cookies, brownies, cake already cut to serve it or

something similar. Baked goods in general…People whose last names start with A through L, bring it on Thursday morning, and people…whose last names start with M through Z, bring it on Friday morning. Don't bring it to the concert, it's too late then, bring it the morning of Thursday and Friday. Students should plan to stay around the full length of the concert on Friday especially. We need help cleaning up…after the concert's over. That's gonna be a lot of work but if we have a lot of people then it will go quickly.

During the performance please stay in your seats, not your seats like where you're performing… stay in wherever you choose to sit to listen to the rest of the concert, whether that's the bleachers in the back or by a seat with your parents after our part of the concert's over… please stay seated for the whole time and refrain from talking and moving around… And, finally, set up for Pops. Oh my gosh, we need your help. We need your help so desperately. Please come and help set up for Pops. Right after school on Wednesday is when we're gonna do it…I beg you, come and help. There's a lot to do, we have to set up 50 tables, and ten chairs at each table -- that's 500 chairs. We have to set up risers for the band people to be on; we have to bring all the percussion equipment from the stage out into the auditorium; there's just a whole lot to do… Thank you so much in advance.

Teacher Awareness

Teachers were directly asked about matters relating to Set Goals & Be Prepared. They had examples in their interviews that related to all three sub codes. Joanna reiterates

the importance of being prepared with a pencil at rehearsal, something Greyson is quoted for above during his class.

> They're instructed to have a pencil in their stand. It's really, really, really, important that every student has a pencil right there. I don't want them reaching in their pocket grabbing it when they need it. It should be on the stand. The pencil on the stand, not only is it available to mark measures when it's needed, but it sends a message that they're supposed to be engaged and that they should be thinking "oh, I need to write a message to myself here."

Rather than discussing supplies like pencils, extra reeds, and brass mutes, Alicia focuses her response on preparing the singer's instrument – their body. "They learn to understand that as a singer, before you start singing some repertoire, you need to warmup the instrument. You need to warmup the voice and the body, and they understand the value in that."

Discussions of Preparedness also include components of Performance Logistics. Joanna mentions how her low-income students sometimes need to make additional plans to find appropriate concert black and white and shoes that aren't sneakers, and how, when planning ahead, she finds ways to help them with that. In the examples above, teachers gave long lists of details that students need to remember in order to be prepared for performances. Karen recognizes how complex this can be, along with noting how students need to take a great deal of personal responsibility since a music teacher is often filling many different roles at a performance.

> Logistically, there are a lot of things behind the scenes, particularly with the performance that we had on Tuesday night. It was a multi-grade level

performance so we had the grade five orchestra, the grade six orchestra, the middle school orchestra, and the high school orchestra. So, logistically, just explaining to them where they're supposed to be and when, and expecting them to follow directions, which is…definitely challenging for students because I was not able to be in the room with them for all of the warm-up period before the concert. So teaching them "okay, the high schools meeting place is the band room…I may not be in there when you get there, you should just treat it like a normal rehearsal, go to your seat, get your music in order start, warming up with your stand partner, etc. etc.," -- all of those things that we build on throughout the year and then expecting them to actually do it when maybe nobody is there to keep them accountable.

Finally, Goal Setting is discussed by Alicia who shares how this is a multi-faceted and processual component of her teaching.

Creating something from the beginning, and learning how to create that product in the end. And understanding what that process is—how to break down that big problem. So that big problem could be—we're going to learn this big piece of music. How do we get there? How do we get the different components of this piece of music? How to break things down in that process.

It's also noted by Karen who, like Alicia, recognizes that there are multiple levels of thinking and goal setting happening in playing music.

They have to multitask like crazy to really be successful at what they're doing… I mean we're asking them to do like twenty things at once. They're focusing on playing -- like reading the music, playing the notes with their left hand, what are

they supposed to be doing with their bow, what part of the bow should they be in? Are you watching the conductor? Are you listening to the other parts that are happening in the orchestra? Are you paying attention to dynamics? There's like twenty things they are thinking about at once, and I think that that's a unique aspect of playing music, especially ensemble music where there are other parts going on at the same time.

Relationship to Studio Habits of Mind

A direct parallel for Set Goals & Be Prepared does not exist in Studio Habits of Mind (Hetland et al., 2013). The main theme of this Ensemble Habit of Mind is of forward orientation – making sure things are ready for what is to come. In visual art, planning is sprinkled into various habits. The cognitive piece of planning, the one that happens in one's imagination, is part of Envision. The more concrete components of planning, like getting one's supplies, is part of Develop Craft.

Numeric Tallies

Numeric tallies are listed in Tables 4.14 and 4.15.

Teacher	District	Ensemble	Total Codes	Average Codes Per Hour
All Teachers			1389	87.4
Alicia Total	Watermelon	Women's Chorale	319	154.4
Betty Total	Walnut	Orchestra	128	196.9
Dustin Total	Lemon	Concert Band	218	78.3
Greyson Total	Lemon	Chorale	223	73.5
Joanna Total	Walnut	Band	174	67.8
Karen Total	Watermelon	Orchestra	327	114

Table 4.14 Set Goals & Be Prepared tallies by teacher

Teacher	Preparedness		Goal Setting		Performance Logistics	
	Total	Per Hour	Total	Per Hour	Total	Per Hour
All Teachers	823	51.8	546	34.3	20	1.3
Alicia Total	223	108.8	96	46.8	0	0
Betty Total	72	110.8	53	81.5	3	4.6
Dustin Total	116	42	95	34.3	7	2.5
Greyson Total	133	44	85	28.2	5	1.7
Joanna Total	98	38.4	76	29.8	0	0
Karen Total	181	63.5	141	49.5	5	1.8

Table 4.15 Set Goals & Be Prepared sub-code tallies by teacher

Hypothesized Ensemble Habits of Mind That Did Not Emerge as Independent Habits

Four concepts were hypothesized but did not appear as independent codes. These were: Continuously Improve, Develop Craft, Reflect, and Work for the Common Good.

Continuously Improve

Hypothesized concepts that Continuously Improve included were folded into both Persist and Set Goals & Be Prepared. At the start of the study, I anticipated that the idea of constantly getting better would emerge as a frequent code. This turned out to be true, but as codes were consolidated, these ideas folded into similar concepts. For instance, when teachers asked students to play things "one more time" over and over again, the idea is to continuously improve, but this was combined with similar concepts of Persist: High Standards. When one is committed to High Standards, they are constantly refining, as indicated through the demands for excellence, efficiency, and repeated practice – in other words, continuously improving.

Another concept that was hypothesized as part of Continuously Improve was the constant setting of goals to do better. As codes were consolidated, Goal Setting became a sub code under Set Goals & Be Prepared.

Develop Craft

All disciplines require the development of some sort of craft – skills that help to understand, communicate within, and speak about the particular domain. Music is just another domain in which this is true – within minutes of all rehearsals, students were learning techniques and practices that are specific to playing their specific instrument, playing an instrument in general, and being part of a music ensemble community.

In first rounds of coding manual drafts, the instances of teachers discussing technique were overwhelming. Because they were so present, the code became nearly meaningless, as it appeared in so many units of analysis. It was also difficult to precisely delineate a definition for Develop Craft. Nearly all teacher talk was tied back, in one way or another, to the development of technique or ensemble practice. All feedback, goal setting, and instruction giving were rooted in these ideas. Rather than appearing as a specific Ensemble Habit of Mind, it really shaped the entire rehearsal culture and process.

The final decision to exclude Develop Craft from the manual was one influenced by my values, and my role as a person who is also an arts teacher and advocate. Because visual art teachers report that *Studio Thinking* provides teachers with language and legitimacy for discussing their subject matter (Hogan et al., 2018), it is my hope that this research reaches the hands of music teachers who are able to use it for similar advocacy purposes in their communities. With that in mind, Develop Craft is not a habit of mind that is specifically useful for this purpose – all disciplines require craft, and to point this

out does not showcase those ways of thinking that may be unique, or particularly emphasized, with in the arts. For all of these reasons, Develop Craft was not included after initial rounds of open coding.

Within *Studio Thinking* (Hetland et al., 2013), Develop Craft contains two parts: Technique and Studio Practice. The musical equivalent of Technique is what is described above, as being omnipresent and therefore meaningless. The second piece, Studio Practice, is about caring for the learning environment, keeping materials organized and well-cared for, and maintaining a routine to keep all people and things safe. We saw comparable habits of mind in this study, and those mainly appear as part of Participate in Community.

Reflect

Reflect was hypothesized but did not emerge as an independent code in this study. Ultimately, most recollections of what happened in the past were mainly voiced by the teacher, and not students. Teachers did so as a form of evaluation, as a way to give feedback on what was just heard and they generally did this efficiently and directly. This instances were given an Evaluate code.

Reflect remained as part of the manual for several rounds of revision, and included phrases like, "we've done this before" or "let's see what we remember from last time." However, these appeared very infrequently, and really statements sort of tangential to the heart of reflecting. Therefore, Reflect was not included in the final analysis as an Ensemble Habit of Mind.

Work for the Common Good

At the start of the study, Work for the Common Good was the name used to encompass all components related to community building and accountability. As we looked more deeply into these instances, we retitled this habit as Participate in Community, and Work for the Common Good became a sub code specifically about actions that fostered togetherness or group cohesion.

Ensemble Habits of Mind Hypothesized to Not Be Seen

At the start of the study, two specific habits of mind were identified as ones to specifically observe for, based on the theory-driven hypothesis that they would not be seen, even though they are often promoted as part of music education. These were Recognize More than One Correct Answer and Use Creativity. As hypothesized, these were not seen to any meaningful extent.

Recognize More than One Correct Answer

This code represents a comfort with ambiguity, and the idea that there are many possible interpretations, solutions, and ways of thinking about any one piece of music, problem, or topic. From the start, our manual included some ideas of how we predicted we might see this appear in the rehearsals (such as listening to two different interpretations and comparing them, or having multiple students create and perform interpretations so one can be chosen for implementation), and we added additional examples from what we saw while coding (like discussing how there are multiple ways to notate the same musical idea, and that musicians make "artistic decisions.") In the end, we found only nine examples given by three teachers – less than 1/12 the amount of codes as the next least-frequent code (Express). Additionally, we stretched the possible

definition of Recognize More than One Correct Answer as far as we realistically could, in order to really challenge our hypothesis. Within the nine examples, very marginal and debatable examples are included, as when Karen asks, "Can we try it a little more in the string?" in the third rehearsal, which really is just a way of giving instructions on timbre technique than it is a true appreciation for ambiguity. Also included are two examples in Joanna's rehearsals where she talks about possible options for notating tied or held notes – while this does acknowledge that there's more than one right way, the point of her statement is to illustrate the most commonly accepted way to notate ties. It also includes an example by Dustin in the second rehearsal, that a student could choose to pencil in a missed crescendo by circling, or highlighting the crescendo, or by writing out the word – these are indeed options, but not ones that get at the subjectivity and ambiguity that we thought had the potential to be seen in these rehearsals.

Use Creativity

We took a similarly expansive view of Use Creativity in order to try and find the most possible examples to counter our hypothesis, but in this instance we only found four marginal examples by two teachers. While we had envisioned that it might be possible to see students coming up with musical ideas and interpretation in their own parts of scores, or instances of composition or improvisation, we did not see any of these three main types of musical creativity (Hickey & Webster, 2001). In other words, we hoped students would be challenged to create something new and novel (to themselves, referred to as mini-c creativity; Beghetto & Kaufman, 2007). Instead, what we could find was arguably creative only because students were asked to think independently – a very small intermediary step towards creative thinking. In these four instances, students were

presented with a problem and asked for a solution, like, “what can you do to make that note smooth?” or “what can we do to fix that [incorrect rhythm]?” Arguably, these are not examples of creativity but rather just an opportunity for students to help with Evaluate or Goal-Setting. Even when stretched to a broad interpretation, examples of Use Creativity were not seen. This is consistent with other research that while practicing teachers, preservice teachers, and students report choir to be a creative activity, few can give concrete examples of how that manifests within the rehearsal (Kokotsaki, 2011; Langley, 2018)

Chapter Five

Discussion

A clear, two-part takeaway emerges from this analysis for those in music education and other stakeholders interested in what is taught in traditional secondary music ensembles. From an optimistic viewpoint, eight Ensemble Habits of Mind emerged through the systematic analysis of teaching in these environments. Many of these overlap with those Studio Habits of Mind (Hetland et al., 2013) that emerged from visual arts classrooms, either directly (like Express and Persist), or in spirit (like Imagine/Envision and Participate in Community/Understand Arts Worlds). The usefulness of these habits of mind, should they transfer to other areas, are obvious components to a successful life, and specific examples of their utility outside of the music ensemble are described in Chapter 2. These habits of mind provide language for both advocacy and curriculum planning that already accounts for what is happening in music classrooms (a "bottom up" approach.)

At the same time, two habits of mind that are regularly claimed as rationale for including music education in the school day (Davis, 2008; Eisner, 2002), Recognize More than One Correct Answer and Use Creativity, were not identified in my systematic observations, even under broad inclusion criteria. This takeaway identifies areas for possible reform within secondary music education.

In the remainder of this chapter, I outline some of those practical applications for these findings, address some of the study's limitations, and propose future directions for expanding this work.

Positive Findings for Advocacy and Curricular Planning

Examples of the potential Ensemble Habits of Mind have to impact music education can best be found by looking at its visual arts counterpart in Studio Thinking (Hetland et al., 2013). About ten years after the initial publication of Studio Thinking in 2007, teachers report how the language of Studio Habits of Mind helps them in two primary themes (Hogan et al., 2018). First, the Studio Habits of Mind outline what is already done in their classrooms. Rather than another top down mandate that teachers need to integrate among endless lists of initiatives, frameworks, and standards at their school, district, state, or country, the list illuminates what is already happening, there "in plain sight." Second, it gives teachers language and legitimacy for talking about what they do in their teaching, particularly in promoting and advocating for their programs to administrators, parents, and other community members. By definition, habits of mind are thinking dispositions that are broad enough to be useful in many places. While some will argue that they needn't know how to read music notation in their adult life, few will admit that it is not useful for students to be taught to Imagine, Persist, or Set Goals and Be Prepared. Reports of visual arts teachers help demonstrate the potential of a similar framework within music education.

Practical Applications

In the following lists, I outline ideas of ways music teachers can implement Ensemble Habits of Mind into their teaching, planning, assessing, and advocating. These strategies refer to the framework broadly, and not to specific habits. Ideas for emphasizing specific Ensemble Habits of Mind can be found in the examples in Chapter 4, and creating more teacher-friendly and accessible approaches is a rich area for future

directions of this work. Unless otherwise noted, these examples are musical adaptations to those strategies outlined for visual arts classrooms in Hogan, et al. (2018).

Teaching.

- Profile well-known musicians who demonstrate ideal behavior to illustrate a particular Ensemble Habit of Mind
- Post the Ensemble Habits of Mind in the rehearsal room to call attention to them
- Consider using consistent language in rehearsals to continually emphasize the particular types of thinking that happen in rehearsals
- Brainstorm synonyms for the Ensemble Habits of Mind so students create relevant, student-friendly understandings and examples
- Invent characters that each demonstrate an Ensemble Habit of Mind and use them to help class conversations about thinking
- Make clear how the Ensemble Habits of Mind can be useful in other disciplines
- Encourage students to create individual or ensemble-level goals in ways to improve in a particular Ensemble Habit of Mind

Planning.

- Choose pieces of repertoire in which you will specifically and consistently emphasize one or two Ensemble Habits
- Include Ensemble Habits of Mind in various levels of curricular mapping and planning, by overlaying the habits onto existing plans and seeing where each fit

best, or by keeping the habits of mind at the forefront when choosing repertoire, class activities, and managing rehearsal time

Assessing.

- Redefine ideas of "quality" in music by assessing processual musical thinking over a product focused final performance (Hogan et al., 2020)
- Embed Ensemble Habits of Mind into "I Can" statements or learning goals
- Use Ensemble Habits of Mind in summative report cards
- Create "Habit profiles" in which students look at their strengths, weaknesses, and progress they have made over a period of time
- Have students create written or audio portfolios of how they have personally improved in particular Ensemble Habits of Mind
- Ask students to reflect on rehearsals and performances using the lens of one particular Ensemble Habits of Mind or all habits broadly

Advocating.

- Make Ensemble Habits of Mind abundantly visible to anyone learning about the music program
- Write concert notes for performances that include what Ensemble Habits of Mind were emphasized in the rehearsal process of each piece of music
- Video record a piece in the early rehearsal process and play a short sample before a polished version in a concert, emphasizing growth over finished product

- Discuss Ensemble Habits of Mind to the audience from the podium, or invite students to inform audience members how they have worked on a particular habit or habit(s) in a piece
- Put up hallway bulletin boards that emphasize thinking – quotations or reflections from students during the rehearsal process, emphasizing the music making is a continual process of thinking behaviors and not just a one-night performance

Critical Findings to Support Reform

Traditional large music ensembles are ones bounded by tradition. When attending an orchestra concert in the United States or on the other side of the world in Japan, there is a procedure and a protocol that doesn't change. (The tuning note, the arrival of the conductor, the standing of orchestra members, the acceptance of applause through a bow, etc.) Similarly, orchestral musicians can be placed in an ensemble and under a conductor with whom they have never played and still fully participate. The traditions, consistency of verbal gestures, and standard language through written musical notation, all provide a consistency comparable to other institutions draped in standardized traditions, like those of the Catholic Church or the United States military. When middle and high school children are selected to participate in weekend-long music festivals, they adapt quickly and easily, with very little transition time. Though these children don't know each other, they know what to expect, and the conductor at the front of the room knows to continue their role as culture bearer (Morrison, 2001). The same is true for wind bands and choirs.

While the traditions of large ensembles promote consistency, this "sameness" competes with ideas of Use Creativity, which require novel solutions and outside-of-the-

box thinking. Musicians in a large ensemble are conditioned to listen to the instructions and watch the gesture of one "sage on the stage" (King, 1993). Similarly, preservice music teachers and conductors are trained to give instructions as clearly, concisely, and efficiently as possible. Asking questions of students, encouraging them to give their ideas, and promoting student agency or autonomous thinking are not emphasized in traditional music teacher training of large ensembles.

Recognize More than One Correct Answer is similarly discouraged – in the Western Classical tradition, there is often a standardized interpretation that is relied upon and straying from that can be considered inappropriate or, more flatly, incorrect. This is another example of traditional "sameness."

One factor adding to a continued status quo in music education is that progressive or more modernized ensembles are not the type of environments in which the majority of today's music educators were trained. Music education programs are usually housed within higher education schools of music, and students often audition for acceptance to these programs alongside performance majors who aim to be working in the traditional Western music tradition. In other words, in order to become a music educator today in the United States, a person must be steeped in these traditions, despite the multitude of other ways in which people in the world participate in and interact with music. Undoubtedly, most of these students were called to the profession in order to continue traditions they enjoyed as students, which provides for relatively little musical diversity within preservice music educators as a whole (Koza, 2009). Put more plainly, higher education has forms of institutional gatekeeping in place that work to discourage change in these traditions.

Practical Applications

Uncommon yet feasible ideas for promoting Use Creativity and Recognize More than One Correct Answer exist, and are more common in traditions like those of jazz or popular music and in the general music classroom. But some of these practices can be adapted to the instrumentation and repertoire selections of the traditional large ensemble. A possible list includes practices such as:

- Giving students the entire score and asking them to mark possible interpretations (dynamics, tempo, mood, timbre, etc.)
- Allowing students time to work in sections to discuss and mark phrase or breath placement in their line, along with possible interpretations for their parts
- Breaking students into chamber ensembles to gain experience with musical decision making and interpretive experimentation
- Utilizing students as conductors to allow the teacher to move around the ensemble, gaining a new vantage point. Teachers can then ask sections or small groups of problems about how certain problems, now more noticeable from the new vantage point, can be addressed
- Listening to multiple interpretations of the same piece from other musical groups, and prompting students to compare and contrast them, voting on which to implement in their rendition
- Asking multiple students within a section to prepare interpretations of their melodic line and have the large ensemble listen to compare and

contrast them, voting on which should be implemented by the whole section

- Tasking students with creating a warm-up that effectively prepares for the concepts or technical skills in a particular piece
- Encouraging students to give feedback, set goals, and troubleshoot how to solve problems before volunteering suggestions as a teacher
- Helping students understand the form of a piece by having them create movements (or use dances they know from Tik Tok or another current adolescent trend) that demonstrate the form
- Creating graphic depictions (like graphic notation, or a simple line graph, or a listening map) that represents an element of music in the piece that is being worked on (like tempo or dynamics or balance among and between sections)
- Assigning students to compose a variation on the main melody from a piece in the ensemble's current repertoire
- Challenging students to create an agenda for a rehearsal or set of rehearsals by working backwards from set goals and thinking about ways to meet those goals within a rehearsal setting
- Setting aside one day a week (or some other amount of time) for students to work on independent or small group projects on their ensemble instruments or learning new, modern band instruments (Colquhoun, 2017)

- Starting a discord, reddit, Twitter hashtag or other online mechanism where students can submit feedback and ideas about what is being worked on for homework (Johnston Turner, 2013)
- Acknowledging that there are many ways to engage with music and to develop "musical capacities" besides those of recreating others' music in a traditional large ensemble (Kaschub & Smith, 2016)

A Synergistic Viewpoint

In a sense, these two takeaways can be viewed in competition with each other – on one hand, there are useful findings for music educators that give them language to talk about the important habits of mind being taught in large music ensembles. These recognize the good done by teachers in these groups. On the other hand, there are findings of important habits of mind that are missing within these environments, and for that, I suggest reform. While these two takeaways can work in opposition, I see these findings as a synergistic, realistic view of what can immediately be accomplished within large music ensembles. Despite enthusiasm from a growing movement of music educators who wish for reform or expel from these traditions, there are more music educators committed to recreating what they have experienced for others. This happens consciously or unconsciously as a result of the "apprenticeship of observation," (Haston & Leon-Guerrero, 2008; Lortie, 2020) as teachers rely upon their prior understandings of teaching practice formed during their many hours observing as a student. It also sometimes happens as a form of generativity to recreate their positive experiences for those who come after them, and to encourage life-long music participation similar to the

ways in which they current participate in music as adults (Kerchner et al., 2012; O'Neill, 2006).

Some argue that large ensembles need no changes (Fonder, 2014), and it is unreasonable and unrealistic to expect that traditional large ensembles disappear from United States high schools. For many reasons, these environments are extremely useful and meaningful groups for a large number of students (Adderley et al., 2003; Bartolome, 2013) and that need not change. But it is also unreasonable and unrealistic to expect that progress in terms of student agency continue to happen so slowly (Kratus, 2007; Williams, 2011). For a much larger percentage of students in United States high schools, music education has little relevance and barely appears on their school schedule, if at all. These students are not being served by our current offerings. Perhaps this is because of the stylistic choices of traditional large music ensembles, or because of the ability to get "lost in the crowd" in such a large group, or because they can't afford an expensive instrument, or because they are not drawn to an instrument that they only see during school and nowhere else, or because their school has a teacher who consciously or unconsciously promotes the "type" of student who should participate in their ensembles – a type that they don't fit. There are myriad reasons why students today choose to not participate in music education in high school, and these students are recognized by growing movements to incorporate modern, informal, and popular music and musical traditions in public education.

For these reasons, I don't view these two takeaways in competition with one another. They promote a realistic stepping stone for music education. Those invested in traditional large ensembles also need promotion and encouragement – all of music

education lives in perpetual fear of budget or scheduling cuts (whether founded or not; Richerme, 2011), and reports suggest that people unquestionably find value in music education (NAMM Foundation, 2009). The first major takeaway of findings, a list of eight Ensemble Habits of Mind that emerged from high quality high school large ensemble classrooms, is useful to those committed to our current practice, and it is reasonable, likely, and good that aspects of our current practice remain present in schools.

The second takeaway, that Use Creativity and Recognize More than One Correct Answer are missing from high school large ensembles, has meaning for both those invested in traditional large ensembles and those who wish to move on from it altogether. Large ensemble teachers can use ideas from jazz, popular, or informal music ensembles to create situations in which their students are doing more independent thinking. Recognizing possible improvements to our current systems need not eradicate them entirely. As Shively (2015) states,

> While I understand that reform efforts are intended to challenge the status quo in music education, we should distinguish examining and questioning the status quo from attacking it. Even if the intent is not to attack, we must recognize the natural human response to having what one loves and has dedicated one's life to called into question. That response is likely to be defensive, which is at best unproductive.

At the same time, knowing what is currently missing from the form of music education in which most high school musicians participate allows those in favor of non-traditional and/or smaller music ensembles to better argue for their inclusion in music programs, alongside what exists now.

Given the varied opinions within the music education profession, and the logistical barriers to an immediate and complete reform (popular music ensembles require more teachers or a smaller student population, a new instrumentarium is required, concerns about different physical spacing needs must be addressed, preservice teachers require additional training, and we open pathways for those who wish to become music educators and who are not versed in the large ensemble tradition), it is likely that both traditional and more modern practices will live alongside one another for a long time. Accepting that smaller reforms can be possible, and opening the door for alternatives to exist alongside the "Big Three" of choir, orchestra, and wind band, means that findings here can be used to both promote and reform.

Limitations

A few limitations to this study and its analysis should be noted.

Participant Sample

Various considerations were taken in recruiting participants that were diverse across several aspects – gender, socioeconomic status of their school district, age, and length of teaching experience. These were all considered within the requirement of being from a public school district with exhibited commitment to music education. While most of these characteristics were balanced among the sample, some improvements are possible. All teachers in the study are White (or White-presenting), and this research is therefore ineffective at capturing any findings that might emerge because of the differing lived experiences of people of color.

Additionally, while teachers did encompass a wide range in terms of teaching experience, the sample did not include any early career teachers (those within five or

fewer years of beginning to teach.) Teachers who have more recent training are more likely to have been exposure to more progressive approaches to music education, such as those informed by popular music (B. Powell et al., 2015; Vasil et al., 2019; Wright et al., 2016) like informal music learning (Green, 2002), including Musical Futures (Hallam et al., 2008), and modern band (B. Powell, 2021), including Little Kids Rock (B. Powell et al., 2017). While the tenets of these approaches generally do not transfer easily from smaller popular music groups to the traditional large ensemble, the ideas of creativity and the recognition of multiple possible correct answers are ones embedded in the student-led popular music ensemble. It is possible that younger teachers with more experience in newer approaches may be more likely to embed opportunities for student agency, and further the development of habits of mind including those not observed in this study, within their class structures. This possibility is not likely, as preservice teachers generally feel underprepared to teach popular music (Sorenson, 2021), but these approaches are become increasingly included in teacher training programs (e.g. Williams & Randles, 2016).

Time Span for Study Completion

Date gathering, analysis, and write up of this report were conducted over a period of seven years, as other projects were completed in between. While thorough notes were kept at each stage of the study, a clearer memory on my part may have been beneficial in order to better relate what I saw during in person data collection to the final analysis reported here. Because all records and videos were kept, I am confident in my analysis and findings, but recognize that as a qualitative researcher, there may have been impressions and perspectives that may have faded in my memory and left out of memo

note taking. This could have influenced my analysis, and the examples chosen to illustrate my findings. A more truncated period of analysis may have been a better approach.

Future Directions

This study offers one perspective regarding which habits of mind are taught in high school music ensembles – and this is my perspective, an interested party with training to remain as detached and unbiased as is possible for a human being, and who observed the methodological safeguards to maintain impartiality described in Chapter 3. My perspective was informed by my observations, interviews, and informal conversations with teachers. Other perspectives that answer related questions are relevant and valid – the perspective of teachers about what they believe they are teaching, those of students about what they believe is being taught, and those of parents and administrators about what kind of lessons they most value. Mixed methods research uncovering those perspectives, and how they are similar to and/or differ from what I found systematically observing teaching, should be conducted to further illuminate what it is that high school music ensembles really teach students, beyond the obvious answer of "music."

This work taken alone paints an incomplete picture for music education as a whole. It describes the traditional high school music ensemble -- choirs, orchestras, and wind bands. This is just one component of music education in schools in the United States, which include general music instruction, jazz ensembles, keyboard and guitar classes, chamber music and popular music groups, and more. It is probable that teachers of these types of classes aim to teach both similar and some different habits of mind. For instance, the improvisatory tradition of jazz ensembles likely includes components of Use

Creativity, not seen in this study. Popular music groups, like those of the modern band, often perform their own adaptations (or "covers") of existing songs. This is likely to lead to a demonstration of Recognize More than One Correct Answer, also not seen in this study. Investigations into how these learning environments are similar to and different from the traditional large ensemble should be conducted to give a more complete understanding of music education as a whole. Given the many different ways in which humans interact with music (listening, playing, improvising, composing) and the different stylistic and cultural traditions that exist both within the world at large and within individual school buildings, it is important that future research identifies differences and similarities in habits of mind based upon their unique circumstances.

Studio Thinking (Hetland et al., 2013) has become a major framework within visual arts instruction in the United States. Its success exemplifies how practical examples and applications surrounding the habits of mind that arts teachers are already teaching in their classroom can benefit arts curricula. Art teachers support the language and legitimacy that the framework provides for them, and I receive regular email and social media correspondence from art and music teachers asking about either extending *Studio Thinking* into the music room, or if work is being done to investigate authentic habits of mind to the music ensemble. An elementary school in the Chicago Public Schools is using findings from a published chapter of preliminary findings of this study (Hogan & Winner, 2019) with the Studio Thinking framework to create a more cohesive, thinking-centered experience for their students. Work like this should continue to codify best practices for teachers of different arts disciplines within a school or district, including possible shared language and concepts between music findings reported here,

visual art findings from *Studio Thinking*, and ongoing work in theater education (Goldstein, in preparation).

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Appendix 1

Initial Interview Questions for Teacher-Researcher Interview

1. Tell me about your musical and music teaching background.
    1. Where did you go school?
    2. What is your primary instrument?
    3. Do you still perform?
    4. How long teaching? Where/what?
    5. Teach in any youth ensembles?

2. Tell me about the ensemble I'm going to observe.
    1. How long have you had with them?
    2. How long have they been playing?
    3. How many members?
    4. Is it auditioned or open?

3. What is your performance calendar? How much do you typically perform in a year? Do you consider performances your culminating experiences, or something else?

4. If a student were to leave your ensemble after four years, what are the top three skills you hope they leave with?

5. Tell me about what you think students learn from participation in your ensembles.

6. Talk to me about your thoughts on product and process and their importance to each other? Do you hold one higher in your teaching?

Appendix 2

Final Interview Protocols for Teacher-Researcher Interview

Dustin

Background Information
Musician

1. When we met for our first interview, you told me about your experiences in Junior MYWE as a student and also playing in the band at school. How were those experiences different from one another?
    - Did one of those environments have more of an influence on you growing up as a young musician?
    - Was one of them more enjoyable for you? Why?

2. It sounds like you really sought out musical experiences and ensembles, being that you found them also outside of school. Why do you think you did that?
    - What was important about being in them for you?
    - Did you do other types of activities in and out of school, and if so, how was music different?

Background Information
Teacher

Let's talk about teaching and conducting.

3. What are some qualities of good conductors?

4. In school, or in college, can you tell me about a favorite conductor that you had? What did you like about him/her? What did he/she teach you?
    - Do you strive to emulate him/her? How?

5. Did you envision being a conductor as a child?

6. Tell me about your choice to become a music teacher. What led you to that decision?

7. You mentioned to me in one of our interviews that six or seven years ago you weren't "nearly the teacher" you are now. What are some of those differences?

Community Building/Ensemble Skills:

1. Some might argue that students are engaged in a group in many different places—sports teams, social groups, etc. Is there something that you believe makes a music ensemble different from those experiences?

Process:

2. Do you think students in your ensemble think differently than other students in this school? How? Why?

3. Think about challenges that exist for students after they leave high school. Graduating college, finding a job, being successful. What are some things students learned from your ensembles that might help them with those endeavors?

Product:

1. For you, what are the indicators that tell you that your class is successful?
    a. What about from the point of view of others? Students? Parents? Your principal?

2. You've mentioned that you want your students to realize that "a rehearsal is a performance too." What do you mean by that?
    a. How do you establish that mindset in the classroom?

Process and Product

Lots of teachers talk about process versus product. Music teachers have to think about it a lot, and we've talked about it a bit over last year. I want to talk about it a bit more now.

1. First, I'm curious about some definitions—how do you define "process?" What are elements of process-based teaching?
    a. What are examples from your class of times when you focused on process?

2. What, exactly, are you in the process of?
    a. What's the end goal of that process? Is it your musical product, or something else?

3. Do you think other subjects in school face a similar dichotomy between process and product? What subjects? Why and how?

4. Can you think back to your favorite ensemble experiences from your time growing up (the ones mentioned at the start of the interview)? Were these product or process-based environments? How so?

5. I'm curious about a couple of quotes I have from you in our previous interviews, and if you can say more about them.
   Process initial 13

Product 4

6. Is there a metaphor that seems fitting to describe the relationship between process and product in your class?

Greyson

Background Information
Musician

1. I know you grew up in NH, where it's pretty quiet. Did you have a chance in high school to participate in music outside of school? How was that different from school?

2. You told me you got serious about music in high school. Did you do other types of activities in and out of school, and if so, how was music different?

Background Information
Teacher

Let's talk about teaching and conducting.

1. What are some qualities of good conductors?

2. In your initial interview you mentioned that your high school choral teacher was like a god to you. What did you like about him/her? What did he/she teach you?
    a. Do you strive to emulate him/her? How?

3. Did you envision, under that conductor, that you might someday be a conductor?

4. Tell me about your choice to become a music teacher. What led you to that decision?
    a. Can you paint me a picture of the music teacher you envisioned becoming when you were in college?
        i. What were the most important things to that envisioned teacher?
    b. How is that vision different from the music teacher you see yourself as now?

5. You mentioned performing with the Back Bay Chorale. Why is that important to you?

Community Building/Ensemble Skills:

1. It seems that one might argue that students are engaged in a group in many different places—sports teams, social groups, etc. Is there something that you believe makes a music ensemble different from those experiences?

2. I know you have a committed a capella program here, and that it's mostly student-run. Tell me about the importance of that—of allowing students the ownership to

run the group. How is that experience different for students than the honors level choir or the Madrigal Singers, for example?

Process:

1. Do you think students in your ensemble think differently than other students in this school? How? Why?

2. Think about challenges that exist for students after they leave high school. Graduating college, finding a job, being successful. What are some things students learned from your ensembles that might help them with those endeavors?

3. What do you do at the end of the year, after performances are over? How do you spend that class time?

Product:

Let's talk about performances.

1. You've told me in the past that in your "heart of hearts" you feel as though process is more important than product, but that in your community you feel as though you have to put a little more emphasis on product so that when performance time comes you can say, "this is our best work." Is there anything you feel like you could/would teach more of or differently if you had fewer performances?

Process and Product

Lots of teachers talk about process versus product. Music teachers have to think about it a lot, and we've talked about it a bit over last year. I want to talk about it a bit more now.

1. First, I'm curious—how do you define "process?" What are elements of process-based teaching?
    a. What are examples from your class of times when you focused on process?

2. You've mentioned to me before that you think about process as more important in terms of education than the final product. What, exactly, are you in the process of? Are you building something? If so, what?
    a. As you describe things that are part of process-teaching, what are those things leading to? What's the end goal of that process? Is it your musical product, or something else?

3. You've mentioned that in terms of grading students you care more about what they are doing each day in class than whether or not they "show up" for the performance. How do you evaluate that?

4. Do you think other subjects in school face a similar dichotomy between process and product? What subjects? Why and how?

5. Can you think back to your favorite ensemble experiences from your time before you started teaching? Were these product or process-based environments? How so?

6. There are other teachers I've been speaking with who think of the process vs. product idea as a reductive way of looking at what happens in an ensemble class. What do you think?

7. Is there a metaphor that seems fitting to describe the relationship between process and product in your class?

8. For you, what are the indicators that tell you that your class is successful?

    a. What about from the point of view of others? Students? Parents? Your principal?

Alicia

Background Information

Musician

1. When we met for our first interview, you told me about your experiences at Curtis Prep, and at church, and at school. How were each of those experiences different from one another?
    - Did one of those environments have more of an influence on you growing up as a young musician?
    - Was one of them more enjoyable for you? Why?

2. It sounds like you really sought out musical experiences and ensembles, being that you found them also outside of school. Why do you think you did that?
        - What was important about being in them for you?
        - Did you do other types of activities in and out of school, and if so, how was music different?

Background Information
Teacher

Let's talk about teaching and conducting.

1. What are some qualities of good conductors?

2. In school, or in college, can you tell me about a favorite conductor that you had? What did you like about him/her? What did he/she teach you?
        - Do you strive to emulate him/her? How?

3. Did you envision being a conductor as a child?

4. Tell me about your choice to become a music teacher. What led you to that decision?

    a. Can you paint me a picture of the music teacher you envisioned becoming when you were in college?
        i. What were the most some of the things about teaching that
    b. How is that vision different from the music teacher you see yourself as now?

Community Building/Ensemble Skills:

1. Some might argue that students are engaged in a group in many different places—sports teams, social groups, etc. Is there something that you believe makes a music ensemble different from those experiences?

2. I know you have a committed a capella program here, and that it's mostly student-run. Tell me about the importance of that—of allowing students the ownership to run the group. How is that experience different for students than Women's Chorale, for example?

Process:

1. Do you think students in your ensemble think differently than other students in this school? How? Why?

2. Think about challenges that exist for students after they leave high school. Graduating college, finding a job, being successful. What are some things students learned from your ensembles that might help them with those endeavors?

Product:
Let's talk about performances.

1. Are your performances important to the students? To the community? To you? Why?

2. For you, what are the indicators that tell you that your class is successful?

    a. What about from the point of view of others? Students? Parents? Your principal?

3. You've told me in the past that you feel the amount the Women's Chorale performs is a healthy amount. Not too much, not too little. Is there anything you feel like you could/would teach more of or differently if you had fewer performances?

Process and Product
Lots of teachers talk about process versus product. Music teachers have to think about it a lot, and we've talked about it a bit over last year. I want to talk about it a bit more now.

1. First, I'm curious—how do you define "process?" What are elements of process-based teaching?
    a. What are examples from your class of times when you focused on process?

2. You've mentioned to me before that you think about process. What, exactly, are you in the process of?
    a. What's the end goal of that process? Is it your musical product, or something else?

3. Do you think other subjects in school face a similar dichotomy between process and product? What subjects? Why and how?

4. Can you think back to your favorite ensemble experiences from your time growing up (the ones mentioned at the start of the interview)? Were these product or process-based environments? How so?

5. There are other teachers I've been speaking with who think of the process vs. product idea as a reductive way of looking at what happens in an ensemble class. What do you think?

6. Is there a metaphor that seems fitting to describe the relationship between process and product in your class?

Karen

Background Information
Musician

8. When we met for our first interview, you told me about your experiences both in a school ensemble but then also in youth orchestras. How were each of those experiences different from one another?
    - Did one of those environments have more of an influence on you growing up as a young musician?
    - Was one of them more enjoyable for you? Why?

9. It sounds like you really sought out musical experiences and ensembles, being that you found them also outside of school. Why do you think you did that?
    - What was important about being in them for you?
    - Did you do other types of activities in and out of school, and if so, how was music different?
10. I remember you telling me that you still perform with a community orchestra a few times a year. Why is this something you make time for?

Background Information
Teacher

Let's talk about teaching and conducting.

11. What are some qualities of good teaching conductors?

12. In school, or in college, can you tell me about a favorite conductor that you had? What did you like about him/her? What did he/she teach you?
    - Do you strive to emulate him/her? How?

13. Did you envision being a conductor as a child?

14. Tell me about your choice to become a music teacher. What led you to that decision?

    a. Can you paint me a picture of the music teacher you envisioned becoming when you were in college?
        i. What were the most some of the things about teaching that
    b. How is that vision different from the music teacher you see yourself as now?

Community Building/Ensemble Skills:

4. Some might argue that students are engaged in a group in many different places—sports teams, social groups, etc. Is there something that you believe makes a music ensemble different from those experiences?

Process:

5. Do you think students in your ensemble think differently than other students in this school? How? Why?

6. Think about challenges that exist for students after they leave high school. Graduating college, finding a job, being successful. What are some things students learned from your ensembles that might help them with those endeavors?

Product:

Let's talk about performances.

2. Are your performances important to the students? To the community? To you? Why?

3. For you, what are the indicators that tell you that your class is successful?

    a. What about from the point of view of others? Students? Parents? Your principal?

4. You've told me in the past that you feel the amount the Women's Chorale performs is a healthy amount. Not too much, not too little. Is there anything you feel like you could/would teach more of or differently if you had fewer performances?

Process and Product

Lots of teachers talk about process versus product. Music teachers have to think about it a lot, and we've talked about it a bit over last year. I want to talk about it a bit more now.

7. First, I'm curious—how do you define "process?" What are elements of process-based teaching?
    a. What are examples from your class of times when you focused on process?

8. You've mentioned to me before that you think about process. What, exactly, are you in the process of?
    a. What's the end goal of that process? Is it your musical product, or something else?

9. Do you think other subjects in school face a similar dichotomy between process and product? What subjects? Why and how?

10. Can you think back to your favorite ensemble experiences from your time growing up (the ones mentioned at the start of the interview)? Were these product or process-based environments? How so?

11. There are other teachers I've been speaking with who think of the process vs. product idea as a reductive way of looking at what happens in an ensemble class. What do you think?

12. Is there a metaphor that seems fitting to describe the relationship between process and product in your class?

Joanna

Background Information
Musician

1. I'm wondering about the place of music in your high school experience. Did you play in groups in high school? Outside of school?

Background Information
Teacher

Let's talk about teaching and conducting.

1. What are some qualities of good conductors?

2. In school, or in college, can you tell me about a favorite conductor that you had? What did you like about him/her? What did he/she teach you?
    - Do you strive to emulate him/her? How?

3. Did you envision being a conductor as a child?

4. Tell me about your choice to become a music teacher. What led you to that decision?

    a. Can you paint me a picture of the music teacher you envisioned becoming when you were in college?
        i. What were the most some of the things about teaching that
    b. How is that vision different from the music teacher you see yourself as now?

Community Building/Ensemble Skills:

1. Some might argue that students are engaged in a group in many different places—sports teams, social groups, etc. Is there something that you believe makes a music ensemble different from those experiences?

Process:

1. Do you think students in your ensemble think differently than other students in this school? How? Why?

2. Think about challenges that exist for students after they leave high school. Graduating college, finding a job, being successful. What are some things

students learned from your ensembles that might help them with those endeavors?

Product:
Let's talk about performances.

1. Are your performances important to the students? To the community? To you? Why?

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1. First, I'm curious—how do you define "process?" What are elements of process-based teaching?
    a. What are examples from your class of times when you focused on process?

2. You've mentioned to me before that you think about process. What, exactly, are you in the process of?
    a. What's the end goal of that process? Is it your musical product, or something else?

3. Do you think other subjects in school face a similar dichotomy between process and product? What subjects? Why and how?

4. Can you think back to your favorite ensemble experiences from your time growing up (the ones mentioned at the start of the interview)? Were these product or process-based environments? How so?

5. There are other teachers I've been speaking with who think of the process vs. product idea as a reductive way of looking at what happens in an ensemble class. What do you think?

6. Is there a metaphor that seems fitting to describe the relationship between process and product in your class?

Betty

Background Information
Musician

1. I'm wondering about the place of music in your high school experience. Did you play in groups in high school? Outside of school?

2. So after you graduated, you went on for a performance degree and you gigged for awhile. Lots of music teachers don't have that experience. How do you think that helps you as a teacher?

Background Information
Teacher

Let's talk about teaching and conducting.

1. What are some qualities of good educational conductors?

2. In school, or in college, can you tell me about a favorite conductor that you had? What did you like about him/her? What did he/she teach you?
    - Do you strive to emulate him/her? How?

3. Did you envision being a conductor as a child?

4. Tell me about your choice to become a music teacher. What led you to that decision?
    a. How is that vision different from the music teacher you see yourself as now?

Community Building/Ensemble Skills:

1. Some might argue that students are engaged in a group in many different places—sports teams, social groups, etc. Is there something that you believe makes a music ensemble different from those experiences?

Process:

1. Do you think students in your ensemble think differently than other students in this school? How? Why?

2. Think about challenges that exist for students after they leave high school. Graduating college, finding a job, being successful. What are some things students learned from your ensembles that might help them with those endeavors?

Product:
Let's talk about performances.

1. Are your performances important to the students? To the community? To you? Why?

2. For you, what are the indicators that tell you that your class is successful?

    a. What about from the point of view of others? Students? Parents? Your principal?

Process and Product:
Lots of teachers talk about process versus product. Music teachers have to think about it a lot, and we've talked about it a bit over last year. I want to talk about it a bit more now.

1. First, I'm curious—how do you define "process?" What are elements of process-based teaching?
    a. What are examples from your class of times when you focused on process?

2. Do you think other subjects in school face a similar dichotomy between process and product? What subjects? Why and how?

3. Can you think back to your favorite ensemble experiences from your time growing up (the ones mentioned at the start of the interview)? Were these product or process-based environments? How so?

4. There are other teachers I've been speaking with who think of the process vs. product idea as a reductive way of looking at what happens in an ensemble class. What do you think?

5. Is there a metaphor that seems fitting to describe the relationship between process and product in your class.

Appendix 3

Coding Manual

CODE	SUBCODE	EXAMPLE	NOTES/NON-EXAMPLES
Be Creative (CR)		1. Problem-solving opportunity, "What can you do to…" 2. "What would help with ___PROBLEM_____?"	
Community Awareness (C)	1. Global	1. Reference to music or musical traditions in other parts of the world or country 2. Reference to composer and what (s)he intended 3. Reference to another group's recording or performance 4. Reference to shared characteristics with another piece of music 5. Music being biological or something you're born with, part of the human experience 6. Making a connection to history 7. Discussion of guest artist or conductor from outside of the school 8. Reference to students going to national or regional competitions	
	2. Local (school-based)	1. Reference to other groups in the music department 2. Reference to any extra work (fundraising, chair set-up, trips, baked goods for a concert) 3. Discussion of being a leader or a follower (musically or otherwise), including instances in which the conductor makes a decision and students must	3. Local is not for entire sections, like violas. It's specifically for ensemble jobs like section leader

		follow; knowing your role; "watch your section leader" or a specific job for section leaders or ensemble librarians; MAY CROSS CODE WITH N-1-2 4. Reference to rotating seating 5. Massaging each other in warmups 6. Congratulating someone in the group on their outside of the group musical accomplishments (MAY CROSS WITH C-1 AND/OR P-1) 7. Talking about trusting each other or the entire group as one team 8. Taking repertoire suggestions from students 9. Community building (singing someone happy birthday, "we accept everyone")	
	3. Accountability	1. Calling out one person for a mistake or to give feedback or for a specific positive relating to accountability; "David, you're sharp"; "Carol didn't come in there." "Let's find out what Suzie heard", "It only takes one person to ruin it" OR talking about the ability to see someone's progress or assessment "I get to see how you're doing in music in this project" or asking individual students questions to check for understanding OR accountability for individual behavior 2. Any reference to needing to practicing at home or some assignment being due, "taking a tuner to that" CROSS CODE WITH EP-3-4 3. "This is your job to do.", "Violas you start us off" "Voilas you're in charge." "you're not all doing this,"	3. Is about empowerment--can be many people at once; Not about just

		"clarinets you need to shape up" "at least five people were wrong" "clarinets we need your support" "keeping the downbeat" MAY CROSS CODE WITH EP-2-2 4. Waiting for a person or group to get back or be ready, or noting someone's absence or presence (currently or in the future) 5. Activities that trust small groups (sectionals) to work outside of the room or independently without teacher, "Talk to your neighbor about that" 6. Being a leader 7. "Raise your hand if you.,.." 8. "At least a dozen people missed the dynamics"	being wrong, it's about having a responsibility or being empowered 6. But not a "section leader" (which is a role, and coded as C-2)
	4. Work for the Common Good	1. Encouraged eye contact MAY CROSS CODE WITH N-1-1 AND/OR N-1-2 AND/OR EX-7 2. Corrections to play together or have clean entrances together or matching articulations, pitches, phrases or balance MAY CROSS WITH L-3 3. Thinking about how to compensate for others in the group not paying attention; "you need to play twice as soft for those who are forgetting to play softly there"; helping cover parts in the percussion section	
Engage and Persist (EP)	1. Encouragement/ Acknowledgment	1. Any REAL compliment. "That's good" does count; "Thanks for the positive attitude" does count. LIKELY CROSS CODE WITH EV-2 2. "Let's do this_____" (our best, as well as possible, just once, etc.) 3. Same encouraging sentiment as "let's do this", but without the use of "let's" ("last time," "beautiful	1. Filler words are not compliments. "Good", "Great", or "Okay" by themselves don't count. This is not used for evaluations without encouragement - "That is correct", "That is it", or "exactly right" does not

		sounds"—often right before they begin) "do your best", "you can do it" 4. "We're so close!"; "We're almost there!" 5. "This is hard work." "Keep on keeping on" "This might be hard but it'll be worth it", Acknowledgment that something is difficult (weather, conditions, whatever), "come on!" Acknowledgement that getting better takes practice or hard work, "this is tricky"	count. "Thank you" does not count.
.	2. Empowerment	1. Reference to how group is powerful or more powerful than conductor, "I'll start you, then you're off", "you're a big orchestra" 2. "This is your job to do.", "We're doing this again so you all can fix it" (things that imply the conductor can't do anything) CROSS CODE WITH C-3-3 3. Talking about confidence, bravery, being okay with mistakes," just do your best"; MAY CROSS CODE WITH C-3-3	
	3. Persistence/ High Standards	1. Doing anything again (when you're SURE it's the same measure being done again--this includes adding in sections, or if you say "again") 2. Any perfectionistic request—beauty, perfect, excellence, accuracy, no sloppiness, quality of tone; "I'm going to be picky", taking something to the next level, there being "no question" that something happened, focus on detail 3. Any reference to not wasting a moment of time, making the most of every rehearsal minute; accomplishing things efficiently, worrying about not having enough rehearsal time	

		4. Reference to practicing or doing work at home CROSS CODE WITH C-3-3 5. Talking about how to practice to get better	
	4. Engagement	1. Reminders to focus, be present, tune in, buckle down, avoiding auto-pilot; not acting like the school year is over; asking someone why they're not playing when they should be (CROSS WITH C-3) "bring it in" ("tune in" is cross coded with L-3-2), getting started and being efficient (would cross with E3), "wake up!" "good morning! (as if to say, hey wake up)" 2. Reminders to stop and enjoy the moment/chord/song 3. Deep breathing or relaxation or stretching exercises MAY CROSS WITH N-2-1 4. Being told to relax (so as to listen and engage)	
Evaluate (EV)		1. Discussion of where in the process a piece is-- "We still have a lot of work to do."; "This is not concert-ready" 2. Any piece of positive feedback about music CROSS CODE FOR EP-1-1 3. Any piece of negative feedback about music 4. Asking student to evaluate (even answers that are right/wrong or if it's not a "judgement" based question) 5. Asking, "what just happened?" in response to playing or "did you notice…" or "did you hear that?"	Evaluation is leniently given - "Good" and "okay", even if we think they might be filler words, count. (Even if they are filler, they're giving a general sentiment--no one says "good" as a filler word if it's bad.) The only difference between evaluate and goal setting might be wording. Consider: What tense are you in?
Express (EX)		1. Any mention of communication or conversation in music	Verbal metaphor--might be Express, but not necessarily.

		2. Discussion of shaping or metaphors about ways of communicating (string players "breathing" or instrumentalists "singing") 3. Discussion of emotion, expressivity, or mood or specifically talking about a musical element for an explicit expressive purpose 4. Discussion of energy level, moving, not letting something get old, giving it life, something growing; not being boring; metaphorical words over technical language; music must be exciting 5. Teacher or student singing or playing a model EXPRESSIVELY (CODE WITH L-2-1) 6. Reference to a climactic moment, or the most important part, or arrival point; "this is your moment" 7. Encouraged eye contact CROSS CODE WITH N-1-1 OR N-1-2 and C-4-1 8. Talking about "answering" someone musically	Visual imagery -- imagery (and thus always also express) For metaphors, use the idea of: "Can a sound be _____?" If it's a non-sound word (like a visual or kinesthetic or any other type of sensory word that's not really sound, it's a metaphor). BIG is not a metaphor. SHAPING is a metaphor. Express is about MUSIC. It's not about communicating in general about some other need (like waiting for sheet music)
Imagine (I)	1. Musical audiation	1. Doing anything musical "in your head", "think the pulse", "audiate" 2. Counting of subdivision for purposes of internalizing (including count-offs) "2 AND 3" or "1 AND A 2"; MAY CROSS CODE WITH P-2-3 3. Giving a beat or playing with a metronome; MAY CROSS WITH L-2	Reminder to count while you're playing is not specific enough.
	2. Imagery	1. Analogies, metaphors, used musically or otherwise (mainly visual or kinesthetic) 2. Use of characterization	If it's imagery, then it's also express. (But not the other way around.)

		3. Pretending -- "Pretend this is a quarter note with a quarter rest" "this is like a pickup into the next bar"; WILL CROSS WITH EX	
	3. Theory of Mind/Hearing	1. Reference to how something looks or sounds to others (the audience, or to the conductor at the front) or getting a concert review	
Listening (L)	1. Intonation	1. Any discussion of tuning or being in tune 2. Giving a tuning note 3. Instrumentalists singing a note for the purpose of intonation	Intonation is not coded while people are tuning, only words about tuning.
	2. Modeling	1. Teacher or student providing a model for students to listen to for any purpose (not if the teacher directly models the starting pitch) MAY CROSS WITH EX-5 2. Attention-getting activity that involves listening-- when the teacher does it only, not also when the students repeat it 3. Giving a starting pitch (vocalists) 4. Snapping or clapping the beat before an entrance or while playing, or playing with a metronome; MAY CROSS WITH I-1	2. When the teacher does this activity, that is one code. There is not an additional code for the students repeating the attention getter.
	3. Other	1. Asking a question that can't be answered without listening/having listened 2. Use of the words "listen" or "hear" or "find" or "notice" or "tune in" pointing to who to listen to ("tune in" is cross coded with EP-4-1) 3. Playing something by ear (CROSS WITH I-1)	"Can I hear trumpets there" is NOT an example of Other because it's really just a version of directing them to play. "I hear _____" is not coded because it's about the teacher evaluating.

			"You will hear ____" or "I need to hear" gets a code because it's a clue for students to listen.
Noticing (N)	1. Visual	1. Request to watch conductor or section leader; physical demonstration or activity specifically about watching conductor or the stick or watching in general; "if you get lost/off, follow me" 2. Request to look at other students CROSS CODE WITH C-2-3 3. Writing eyeglasses, arrows or any other indication on sheet music 4. Request to look at sheet music, "Let's look at the music"; "check your key signature" 5. Asking a question that can't be answered without watching or looking at music "What note do we start on?" 6. Pointing out something about conducting pattern; "I'm conducting 3 + 2 here" or a change in time signature, or letting someone know they will be cued	We can't code activities or actions--only if they verbally talk about looking
	2. Kinesthetic	1. Body awareness-- "Feel your bow hand" "Let me see your bow at the frog." "Is your bow at the frog?" MAY CROSS WITH EP-4-2 2. Indirect requests to pay attention to body (like choirs thinking about vowel or soft palate placement) 3. Asking a question you can only answer by checking in with your body 4. Talking about what playing your instrument does to your body (swelling, painful lips, etc.)	

Planning (P)	1. Performing Logistics	1. Reminders to arrive to concert or rehearsal/festival/audition early, or call time announcements, or concert/festival schedule 2. Performance clothing/dress 3. Where/how to sit during the concert 4. Reference to how things will be during the concert, saying what will be said at the concert, the order, what will happen, what the audience will be like, what will happen or might happen 5. Discussing/scheduling performance dates	Performance Logistics generally overrides Mental Preparedness when talking about being ready for concert.
	2. Mental Preparedness (musical or otherwise)	1. Requests for having music in order, having fingers ready, having pencil out; or having materials ready for rehearsal "(bring your lunch to the district rehearsal") 2. Preparatory words (including when said mid-playing); "ready?"; "watch out"; "here we go"; "ready, set"; "deep breath"; "here it comes!"; "think!"; "sing!"; "go"; "my hands are still up" 3. giving a count-off to come in MAY CROSS CODE WITH I-1-2 4. acknowledging problems that could have been avoided with preparation 5. Discussion of how breath has to come before sound, or "breathe" as a prep to sound 6. "Watching out" for something that doesn't literally mean visual looking; just being aware 7. Yelling things while playing to prepare --"and", "repeat", "go"," wait", or a countoff	

	3. Goal-setting	1. Discussion how much is left to be done in class, before concert 2. Sharing the rehearsal plan (of repertoire or goals) for the rehearsal 3. Sharing the plan for the piece of repertoire before they begin it or the plan for a following rehearsal 4. "What are you working on when we play this again?" 5. "Let's see if we can do this in this way…", "Let's do this for balance"; Why you're doing something again; What the plan for a future class is (or for a procedure) 6. Listing things that need to be worked on 7. Why something is being done - "We're doing this to try Bb concert" 8. Talking about logistics for a future rehearsal	The only difference between evaluate and goal setting might be wording. What tense are you in? If you're in the present tense, code both goal setting and evaluate. Needs to be more than an order/direction("We're clapping the rhythm now" is not a goal)
Recognition of more than one correct answer (RCA)		1. Reference to notating things in multiple ways 2. Asking for "artistic decisions."; "Do you want to play it this way or this way?"; "Should it sound like this or like this?" 3. Discussion of the idea of artistic interpretation	
Reflect (R)		1. Recalling past rehearsals or how something was played in the past or a past activity or what needs to be worked on based on just playing it, "that happened yesterday, too."; "we've worked on this before" 2. Telling students they will have a reflection activity 3. "Let's see what we remember from last time."	This is different from asking a student to evaluate.

Addendum for Disciplinary Situations	
Any attention called to one person	Accountability (C3)
With the words “focus” or “engage” or other keywords from or similar to the engage section of manual (can be said to one person or many people)	Engagement EP4 (May cross with Persistence EP3)
Because there is a limited amount of time left in the rehearsal or the school year, or because people are leaving or there is a lot to do before they go, and they need to be efficient (can be said to one person or many people)	Persistence (EP3)
General “be quiet” or “stop playing”	No code