NORTHWESTERN UNIVERSITY

Musical Independence in the Large Ensemble Classroom

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Abstract

This multi-study dissertation investigates the nature of musical independence in the instrumental large ensemble and the instructional practices that are used to foster its development. The dissertation is comprised of three separate papers, each addressing different aspects or approaches to the practice of independent musicianship in large ensembles. While each paper is guided by its own specific research questions, the overarching questions for this dissertation are:

- What is the nature of musical independence when it is taught in large ensemble settings?

- What elements are necessary to be musically independent, specifically within the context of rehearsal and performance within a large ensemble?

- What pedagogical considerations contribute to the development of musical independence in large ensemble courses?

Paper 1: Developing Musical Independence in a High School Band

This qualitative case study describes how one band director whose objectives included the development of musical independence designed his classroom, curriculum, and instruction and how this pedagogical practice was experienced by his students. The teacher and students of a secondary-level concert band were observed and interviewed over the course of an eight-week concert cycle. The lead teacher utilized a constructivist approach comprised of three interrelated elements: a deliberately structured band environment, teacher-moderated instruction, and student-led engagement. The teacher-moderated and student-led elements were situated within a educational space that emphasized musical rigor, social engagement, and extramusical skills. This environment promoted students' musical growth with support from social and extramusical resources. The teacher facilitated learning through scaffolded instruction that included modeling,

guided problem-solving and decision-making, and intentional vagueness. These strategies invited students to actively engage in critical thinking and take personal responsibility within the large ensemble setting. Students applied their learning from teacher-moderated instruction to student-led music opportunities in both large and chamber ensembles. The teacher monitored but did not participate in student-led activities, allowing the students to make their own musical diagnoses and decisions. He used his observations to determine specific student needs and inform his own instructional practice. Students demonstrated musical independence to varying degrees as the teacher facilitated learning differently depending on the student, the content, and the situation.

Paper 2: A Grounded Theory of Musical Independence in the Large Ensemble

This constructivist grounded theory inquiry investigates the nature of musical independence within the large ensemble context. In part, this study responds to the argument that the traditional large ensemble is not compatible with the development of musical independence. This study is based in observations of and interviews with the teachers and students of three secondary band programs that include musical independence as a primary instructional objective. This study presents a model of musical independence in the large ensemble that includes its key components and pedagogical practices for its development. In this emergent, theoretical model, the key components of musical independence in the large ensemble classroom are student agency, critical decision-making, and lifelong musicianship. These components develop as a result of specific instructional practices related to cognitive apprenticeship that utilizes teacher modeling, scaffolded instruction, and authentic, regular opportunities for student-led music-making in curricular small and large ensemble settings.

These instructional practices build upon the musical, social, and personal foundations typically found in the traditional large ensemble classroom.

Paper 3: The Effect of Group Practice Strategy Instruction on Middle School Instrumentalists' Individual Practice

This quasi-experimental study investigated a transfer of learning of strategies for effective practice from large ensemble rehearsal to individual student practice. Five middle school bands were randomly assigned to one of three conditions. Two treatment conditions had teachers use a repeated, explicit instruction protocol to teach one of two specific practice strategies during a sight-reading activity. The treatment was delivered over the course of six lessons in two weeks using a novel piece of music for each lesson. The control condition included sight-reading activities without specific practice strategy instruction. A sample of students from each band (N=66) participated in a cycle of pre-test/post-test/delay-test observations that involved a 10-minute practice session followed by a performance on a new piece of music similar to those used in the treatment sessions. Student practice sessions were analyzed for frequency of usage of the targeted strategies, and performances were rated for pitch and rhythmic accuracy. Using a 3x2x3 ANOVA, a significant main effect was identified for the positive change in frequency usage of strategies within groups ($F(1,63)$=122.388, $p<.001$, η^2=.660), but no significant effects or interactions were found between groups as a result of the instructional treatment. The results of a 3x3 ANOVA identified a moderate-sized main effect for test cycle on performance scores ($F(2,63)$=2.192, $p<.001$, η^2=.414) and a series of post hoc repeated measures t-tests demonstrated significant changes in performance scores from pre- to post-test in both treatment conditions but not in the control condition. Further ANOVA analysis

identified no significant interaction between the treatment condition and the test cycle on

performance scores across all three groups.

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Dedication

To my family, friends, and colleagues who forever continue to help me work toward my highest potential.

To N2 and to all my students—past, present, and future—that I might help you to find your highest potential which is limited only by your imagination.

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Introduction

A Brief History of Musical Independence

The term *musical independence* began to appear regularly in music education literature in the late 1960s and early 1970s (Leonhard & House, 1972; Regelski, 1969), though its roots extend through music education for centuries. Historically, approaches to independent musicianship have focused on issues as varied as musical literacy, musical awareness, creativity, and performance mastery. These past discussions are reflected in the ways in which musical independence is discussed in modern academic discourse and practiced in our classrooms today.

In the 11th century, Guido d'Arezzo developed and taught the modern solfege system based off of the hymn *Ut queant laxis* as a way for the chorister to be able to sing his religious chants "unhesitatingly by himself without a teacher" (Guido in Pesce, 1999). Similar to the medieval *scholae cantorum* or the early American singing schools, this version of musical independence was about the engagement in musical worship through music literacy without the need of a song leader. More than half a millennium later, Pestalozzian principles applied to music education emphasized aesthetics and "the importance of music in engendering and assisting the highest feelings of which man is capable" (Pestalozzi in Mark, 2013). This approach was represented in the practices of Mason's Boston Academy of Music in the 1830s and in Cady's music programs in Dewey's Laboratory School in 1890s (Cady, 1936) and taught that musical knowledge "may be acquired by the pupils themselves, rather than from the dictation of the teacher" (Mason, 1841, p. 14). Musical independence shifted from being able to reproduce music from print on one's own to being able to think about music in increasingly independent ways.

Major methods of music education of the 20th century have similarly included varied definitions of musical independence. Orff-Schulwerk Method was designed to "awaken the imaginative musical powers of the child and to develop them in a way which the child will find enjoyable" (Liess, 1955/1967, p. 159) through self-guided, creative exploration. By contrast, Suzuki saw independent musicianship as the end goal of his Talent Education program, where the "mother tongue" method emphasizes that all people have the potential to master music and that learning occurs through gradual exposure to mastery models (Suzuki, 1978, p. 6). While Orff-Schulwerk method espouses innate ability for independent music-making and Suzuki's method expects that years of exposure, training, and practice in music lead to independence, both methodologies build on the proposition that with appropriate opportunities, individuals have the propensity to develop abilities for individual music engagement.

Current interest in musical independence can be traced to music education reform during the 1960s at events such as the Yale Seminar in 1963 (Palisca, 1964) and the Tanglewood Symposium in 1967 (Music Educators National Conference, 1967) as well as sustained efforts such as the Manhattanville Music Curriculum Project from 1966-1970 (Thomas, 1970) and the Contemporary Music Project's Comprehensive Musicianship seminars (D'Arms, Klotman, Werner, Willoughby, Dello Joio, & Schaeffer, 1973) and Institutes for Music in Contemporary Education (Belgarian, 1967) from 1967-1973. Among other goals, these gatherings promoted an approach to music education that emphasized the role of the student in independently creating, performing, and reacting to music. This philosophy is reflected in the standards for music education first established in the 1974 *The School Music Program: Descriptions and Standards* (Music Educators National Conference, 1974), revised in the 1994 *National Standards for Arts Education* (Consortium of National Arts Education Associations, 1994) and revisited in the 2014

National Core Arts Standards (National Coalition for Core Arts Standards, 2014). These

standards emphasize an approach with depth and breadth in music learning that includes multiple

modes of musical engagement with demonstrated independent mastery by students.

While independent musicianship has become a common focus across modern music

education in recent decades, it has not assumed the same meaning for music educators. One

approach to musical independence has emphasized meaningful problem-solving and decision-

making (Duke, 2012; Kennell, 2002; Shieh & Allsup, 2016). Similarly, others have advocated

for meaningful student comprehension of music experiences within the rehearsal classroom

including opportunities for collaborative learning (Johnson, 2009; Miksza, 2013; Prichard, 2012;

Smeltz, 2012; Webster, 2011). Student-led music-making coupled with a less-authoritative role

for the ensemble director has been another common theme in these discussions (Allsup &

Benedict, 2008; Blair, 2008; Brown, 2008; Berg, 2008; Morrison & Demorest, 2012; Stamer,

2002; Wiggins, 2015a/b). The music ensemble as an interdependent, democratic space with

opportunities for student discourse about music has also be connected to musical independence

(Tan, 2014; Woodford, 2005). A lifelong pursuit of active musical engagement of varying types

is often cited as the purpose of the development of the independent musician that emphasize

conscious awareness of musical aesthetics (Allsup, 2012; Elliott & Silverman, 2014; Jones,

2009; Leonard & House 1972; Reimer, 2003). Strikingly, few of these positions have been

accompanied by an empirical grounding. Only two existent studies related to musical

independence have been conducted within instrumental large ensembles (Bazan, 2011;

McGillen, 2007). Only the Bazan study directly considers musical independence in a traditional

large ensemble setting, finding that while teachers frequently intend to use student-centered

learning practices, they seldom provide opportunities for students to assume leadership within the classroom.

My own interest in musical independence arose from my experiences as a high school ensemble director and fine arts coordinator. At numerous points during these secondary level experiences, I found myself questioning how to support my students' lifelong musical pursuits. Similar to the positions taken by Allsup (2012), Jones (2009), and Reimer (2003), I felt that being a member of the band or enrolling in a guitar class was not enough if the students were not able to walk out of my classroom able to engage meaningfully with music on their own terms. Recognizing that most of my students would not continue as performers on their school instruments post-high school, I questioned the benefits that they experienced as members of their high school ensembles if I solely focused on teacher-led development of performance expertise. I believed that the students needed to become intimately involved throughout the learning process by engaging them in the conscious processes of all stages of music-making. Developing musical independence, not just as performers but in all musical roles across music genres, became a focus of my pedagogical practices that have guided my dissertation research.

Dissertation Rationale

Previous approaches to musical independence have addressed the contextual needs of their society, culture, and purpose. While their philosophical positions certainly inform our approach to musical independence today, they do not necessarily address the unique demands presented by the modern American secondary music education classroom and, specifically, the large instrumental ensemble. The large size, the hierarchical structure, the performance-focused function, and director-centric traditions of bands and orchestras present unique expectations regarding the development of musical independence that were not necessarily present in the

situated contexts of the previously discussed practices. Given that the majority of music students at the secondary level receive their music education in some sort of large ensemble (Abril & Gault, 2008), this line of inquiry into these classroom settings is critical to pursue if music educators believe that the development of musical independence is a worthwhile objective of music education. My intentions are not to refute the arguments posed by Kratus (2007), Williams (2011), and others that musical independence might be better taught in other musical settings. Rather, I seek to consider how music educators might go about "revitalizing and reimagining" ensemble music instruction (Miksza, 2013, p. 48) to be more responsive to supporting student independent learning in our existing music education programs.

While musical independence has been discussed fairly extensively in philosophical discourse, little empirical research has been conducted to understand the practice for musical independence within large ensemble settings. Outside of music education, research in independent learning has a long tradition that has focused on the role of the classroom in providing scaffolded learning opportunities for students (Bruner, 1960; Moore, 1973) by acknowledging the teacher's role as a model, coach, and moderator of learning (Brown, Collins, & Duguid, 1989; Vygotsky, 1978) within collaborative social spaces (Bandura, 1977; Ryan & Deci, 2000). Within music education, studies that deliberately connect pedagogy to learning outcomes, such as musical independence, are largely absent, as noted by Colwell (2011). Independent learning in music education is currently a theoretical construct lacking empirical foundations upon which to build effective pedagogy. While traits of independent musicians have been studied such as self-regulation (McPherson, Nielsen, & Renwick 2013; McPherson & Zimmerman, 2002; Miksza, 2012), deliberate practice (Duke, Simmons, & Cash, 2009; Ericsson, Krampe, & Tesch-Romer, 1993; Jørgensen, 2002; Sloboda, Davidson, Howe, & Moore, 1996;

Williamon & Valentine, 2002); and metacognition (Hallam, 2001b; Miksza, 2015), the impact of instructional practices within large ensembles on musical independence has not been directly considered. Without models for ensemble instruction that focus on the development of musical independence, music educators are left without a clear understanding of the nature of musical independence and the pedagogical methods that can be used to promote its development. The guiding questions spanning across the papers of this dissertation are:

- What is the nature of musical independence when it is taught in large ensemble settings?

- What elements are necessary to be musically independent, specifically within the context of rehearsal and performance within a large ensemble?

- What pedagogical considerations contribute to the development of musical independence in large ensemble courses?

Responses to these questions can provide perspectives into practices of musical independence in large ensemble classrooms and serve as a foundation for future research and pedagogical development. In contrast to previous scholarship that has considered musical independence outside of traditional large ensembles (e.g. Allsup, 2003; Green, 2008; McGillen, 2007) or has presented models for musical independence in large ensembles without direct, empirical inquiry to support them (Allsup & Benedict, 2008; Morrison & Demorest, 2012; Shieh & Allsup, 2016; Tan, 2014), this series of studies used classroom observation, participant interviews, and experimental methods to understand the nature of pedagogy for musical independence derived from the actual experiences of teachers and students in large ensembles.

Dissertation Overview

This dissertation was written using a multiple studies format that was structured as a collection of interrelated scholarship around a central topic of musical independence in large

ensemble settings. This format allowed me to use multiple methodologies and a sequence of studies to systematically investigate the nature of musical independence. The observations of existing classrooms provided models for musical independence, while the final study used experimental methods to test specific instructional practices for its development through instructional transfer from large ensemble rehearsal to individual practice.

This alternative format allowed for a more emergent investigation into musical independence and its pedagogical practices than the traditional dissertation format typically allows. The three research studies emerged from one another in response to questions that the previous studies generated. This dissertation format also allowed for a more rapid dissemination of research, greater methodological versatility, and greater breadth of investigation within a given topic. To date, at least two dissertations in music education have taken this approach (Kelley, 2015; Shevock, 2015), both of which led to journal acceptance and publication of articles included within the dissertations shortly after the dissertation's defense. This current dissertation, along with those of Kelley and Shevock, provides a model for future music education doctoral dissertation for researchers looking to investigate multi-faceted issues.

This dissertation is written in five chapters, including this introduction and the concluding implications that connect the three, journal-length articles to one another. Each of the internal chapters is intended to stand on its own while serving to investigate the central questions from differing perspectives. Supplemental materials for each of the studies can be found in the appendices.

The first paper, "Developing musical independence in a high school band," is a descriptive case study of a high school concert band whose lead director identified musical independence as a primary curricular objective. I observed his ensemble over the course of one

8-week concert cycle in the winter of 2015 before I obtained doctoral candidacy, and the article was published prior to the completion of the dissertation in the *Bulletin for the Council of Research in Music Education*. This paper responded directly to the lack of empirical research in large ensemble pedagogy for independent musicianship by investigating classroom, curriculum, and instructional design in a band committed to musical independence. This study served to fill a critical gap in existing literature by providing a description of the environmental, student, and teacher characteristics of a classroom focused on independent musicianship. The descriptive nature of this study provided a model for what musical independence could look like in a large ensemble classroom and led to several critical questions for the subsequent studies, particularly regarding what is included in a definition of musical independence in a large ensemble and how teachers specifically teach to that model of independence.

The second paper, "Musical independence in the large ensemble: A grounded theory," used constructivist grounded theory (Charmaz, 2014) to investigate the practice of musical independence in three high school concert bands. This study expanded upon the descriptive findings of the previous paper by constructing a theory of the key components and processes of musical independence in the concert band. This approach allowed me to build a model of musical independence in the large ensemble setting from the evidence presented in the observations and interviews of three high school bands' teachers and students while still considering the contextual background of existent theories of musical independence. This model included the foundational elements needed for the development of musical independence, instructional practices that foster its development, and a component-based definition of musical independence.

The first two studies presented models of musical independence in the large ensemble setting but did not investigate whether specific instructional practices actually promoted independent musical behaviors by students. The third paper, "The effect of group practice strategy instruction on middle school instrumentalists' individual practice," directly addressed the third research question of the dissertation regarding the effectiveness of instruction on the development of musical independence. This quasi-experimental, pre-test/post-test/delay-test study looked at the impact of instruction on effective practice strategies during large ensemble rehearsal on the transfer of those strategies to individual practice, which would be necessary to support the models created in the previous two studies. While this study did not address all possible areas of independent musicianship, it did isolate a single element, namely effective individual practice, and investigated whether transfer of learning for a component of musical independence is possible between large ensemble and individual practice settings.

Combined, these three papers provide a broad perspective into the pedagogy of musical independence within large instrumental ensembles. These studies provide a foundation of how musical independence is manifested in the large ensemble and what methods are currently being used to impact its growth. With these baselines in place, further inquiry can continue to refine our understanding of musical independence and how the large ensemble can be used to positively impact students' growth as independent musicians.

Paper 1

Developing Musical Independence in a High School Band

The development of musical independence has been an objective for music ensembles for decades. Regelski (1969), in a paper entitled "Toward Musical Independence," encouraged "the discovery or problem-solving approach, in which the student, through the structuring of learning situations and guidance through these situations by the teacher, participates in the formulation of concepts and the acquisition of meaningful musical learning" (p. 78). More recently, Kindall-Smith (2010) stated that "the primary objective of the school music program is fulfilled when the student can participate in music experiences independently by making personal decisions about the music" (p. 36). The development of musical independence has also been a rationale for incorporating specific instructional approaches including authentic performance settings (Blair, 2008), chamber ensembles (Berg, 2008), practice monitoring (Johnson, 2009), and questioning techniques (Tutt, 2007). The National Core Art Standards (NCAS) (National Coalition for Core Arts Standards [NCCAS], 2014) expect students to analyze, interpret, refine, perceive, respond, synthesize, and relate to music and state that "students' ability to carry out these operational verbs empowers them to work through the artistic process independently" (p. 16).

Paradoxically, concert bands are ensembles where, historically, director leadership "is a highly prized commodity, favoring decisive action informed by extant intelligence, 'best practice' professionalism, and custom" (Allsup & Benedict, 2008, p. 157). Band is a place where music students' "responsibility is not just dissuaded, but abdicated" (p. 161). By contrast, Allsup and Benedict describe a different, student-focused band designed to develop independent musicianship and heightened musicality. In this setting, music teachers must "facilitate a rehearsal space in which students as well as conductors negotiate the meanings and understanding of both the ways in which dominant discourse frames subjective positions of musician, teacher, and learner, and also what music and music making is as well" (p. 168). Similarly, Berg (2014) calls for conductor-educators to reject "teacher-directed, authoritarian approaches" (p. 263) and instead promote critical listening, musical thinking, and risk taking.

Allsup (2012) states that "the moral ends of public schooling are to equip young people to be independent thinkers and actors, to free them from adults' care" (p. 182) and that the band is "an ideal space for moral exercise and growth" (p. 179). A student's band education is judged "by the degree to which she can create and recreate—fuse and refuse—a life of complex and self-fulfilling musical engagement" (p. 186). The current study investigates instruction in the secondary-level concert band as a vehicle for the development of musical independence in the spirit of Allsup, Benedict, and Berg's visions, emphasizing student agency, critical thinking, and self-directed music-making as part of the band director's teaching practice.

Related Research

While the teaching of independent musicianship in large ensembles has not been previously researched, the development of independent practice has been studied in the private lesson and small ensemble settings. Factors such as on-task time with a teacher (Sloboda,

Davidson, Howe, & Moore, 1996) and deliberate instruction and modeling of behavioral and

metacognitive strategies (McPhail, 2013; Miksza & Tan, 2015) have shown to be effective in

supporting the development of independent practice skills. Musical independence has also been

discussed in informal music making in school settings with small groups (Allsup, 2003; Green,

2008), where student responsibility and democratic action emerged as critical for the

development of student skills and critical thinking. As Allsup (2003) notes, "our [collaborative

small group's] experience depended on acts of reciprocity and caring. I needed to teach *with* my

students, rather than *to* my students" (p. 34).

Teaching "with rather than to" students is a social constructivist approach to instruction

where "learners act in agentive ways, supported by teacher and peer scaffolding, but in the

context of a meaningful, conceptual curriculum" (Wiggins, 2015a, p. 116). The students actively

build knowledge from old and new material through engagement with content and skills guided

by the teacher. "In a constructivist classroom, learners, not the teacher, are at the core of the

learning process" (Shively, 1995, p. 122). Shively finds that the requirements for the

constructivist teacher are possession and continued development of "a knowledge base that

reflects the domain knowledge of musicians and teachers" and the ability to "design learning

environments that respond to the constructive process of the learner" (p. 130).

A model for this broad knowledge base of content and pedagogy is Comprehensive

Musicianship through Performance (CMP). CMP developed out of the Contemporary Music and

Manhattanville Music Curriculum Projects and addresses music making in the ensemble in a

broad, deep, and comprehensive manner. CMP's original proposal directly linked it to musical

independence stating that "musical independence as a performer and listener is an important goal

of the program" (Sindberg, 2012, p. 96). CMP focuses on the content and processes of musical

learning in its framework comprised of learning outcomes, literature selection, music analysis, music and teaching strategies, and assessment. While CMP is not definitively constructivist, its focus on meaningful student engagement and deep content knowledge are conducive to constructivist practices and provide an operational and observable definition for Shively's domain knowledge of musicians and teachers.

In addition to *what* is taught, the teacher is also aware of *how* students are taught in the constructivist classroom. The teacher remains engaged in the learning process through artful teacher scaffolding, which relies on a thorough understanding of music concepts, practice, and pedagogy and is used to guide student-centered construction of knowledge and skills through active student engagement (Wiggins, 2015b). A constructivist learning design for music is contingent on two components: a teacher who offers "direct instruction when students need specific content knowledge and, in dialogue with students, provides educational environments where students bring analytic awareness to music and the processes of music performance" (Scott, 2011, p. 192). Teacher-led instruction and student-focused engagement constantly interact through cognitive apprenticeship, which includes direct instruction and modeling, guided practice, and independent work (Brown, Collins, & Duguid, 1989). Prichard (2012) proposes a similar model for large ensemble instruction that sequentially uses cognitive modeling, performance modeling, and independent practice to build student knowledge. In these models, increased student independence is the result of scaffolded teacher instruction and monitoring.

Purpose

The purpose of this qualitative case study was to investigate how a secondary-level band director whose ensemble objectives include the development of student musical independence designs his classroom, curriculum, and instruction and how that design is experienced by his

students. At the center of this study was a guiding question: What are the characteristics of a band experience when its teacher is focused upon developing student musical independence?

Methodology

The site for this study, Lakefield High School (LHS), was intentionally selected due to its lead director, Pete Guss. We had collaborated numerous times on honors ensembles and student leadership camps while serving as band directors at neighboring high schools. Now in his seventeenth year of teaching and second at LHS, Mr. Guss has impressed me with his focus on developing student independence, initiative, and decision-making and his methodical approach to teaching coupled with high standards of musical excellence. Over eight years at his previous school, he developed a regionally respected band program that included curricular chamber ensembles for all band students and a strong student leadership program. He brought that experience and philosophy with him to LHS as he assumed lead director responsibilities.

LHS Bands. LHS is a large suburban high school in the Midwest with a national reputation of musical excellence. With Mr. Guss' arrival at LHS, the expectations for musical excellence for the bands from the school, community, and music staff of six remained just as high as with former lead directors, but Mr. Guss added musical responsibility and independence to the bands' curricular objectives. He expected students to demonstrate musical growth not only due to teacher instruction but also due to their independent musical efforts.

Required chamber ensembles met every Wednesday during scheduled band rehearsal, with each student assigned to a chamber ensemble. The band staff monitored the weekly rehearsals, but students were responsible for all aspects of music preparation and rehearsal. The chamber ensembles' purposes were to provide students with an additional ensemble model for post-high school music making and to promote the development of musical independence.

There were four bands at LHS, each with two directors. The Wind Ensemble and Symphonic Winds were the "performance-based", auditioned groups with mandatory private lessons. The Concert Band was a freshman-only ensemble. The Symphonic Band was the third ensemble open to non-freshmen, was non-auditioned, and served as the subject of this study due to its focus on developing foundational concepts including musical independence, its varied student enrollment, and its relative lack of students enrolled in private lessons.

LHS Symphonic Band. Mr. Guss and first year assistant director Steve Kinder directed the Symphonic Band. Its membership included freshmen who auditioned out of Concert Band, "apathetic upperclassmen who were socially promoted", and students who were working on developing skills to move into the upper two ensembles. The ensemble's 47 musicians were roughly equally divided in thirds as freshmen, sophomores, and upperclassmen and were evenly split male-female. The students were predominantly white, with one Hispanic and four Asian students. Less than a quarter of the students were in private lessons. For Mr. Guss, Symphonic Band was a place to establish musical fundamentals that students would rely on when they become part of the upper-level ensembles and could use to continue in music after graduation.

Data Collection and Analysis

This study focused on one rehearsal cycle of the Symphonic Band lasting eight weeks during the winter quarter of 2015. I observed 15 sessions of 45-55 minutes each, including large and chamber ensemble rehearsals and a concert, looking at the interactions between members of the band and instructional activities. I was granted full access to all rehearsals and met with students and teachers before, during, and after rehearsals. As a former band director of 12 years, I was invited to be a chamber ensemble coach providing a participant-observer perspective.

I conducted semi-structured interviews with three adults and 26 students. All participants were informed of the study's purpose and their right to not participate prior to each interview. All interviews were recorded and later transcribed to ensure accuracy and completeness. Participants reviewed all direct quotations in this manuscript, and Mr. Guss reviewed a final manuscript of the study to ensure its accuracy in reporting and interpretation, which resulted in slight changes. Aside from snacks during interviews, no participant compensation was provided.

Three interviews and numerous e-mail exchanges were held with Mr. Guss, and individual interviews were conducted with the assistant director and a student teacher. Adult interviews focused on program philosophy, objectives, instructional strategies, and assessment.

Short student interviews were held during rehearsals or passing periods, while longer interviews were scheduled during lunch periods, utilizing both convenience and purposeful sampling. Student participation was voluntary, with some students choosing to participate and others being selected by Mr. Guss or me due to unique perspectives. The interviewed students reflected the band's makeup in gender, ethnicity, school year, and instrumentation. Student interviews focused on their band experiences, their motivations to participate, and their perceptions of the directors' objectives, behaviors, and philosophy.

Artifacts including the band website, course syllabus, and evaluation documents were used to provide additional perspectives on the ensemble and to triangulate findings.

Access was granted by multiple gatekeepers, including Mr. Guss and school administration. Parents and students were informed of the nature of this study in writing and given the opportunity to not participate in the interviews. One student opted to not participate. IRB review was submitted for this study, and Northwestern University's IRB determined these activities were not research involving human subjects requiring review.

Trustworthiness was established through triangulation of data, peer scrutiny, participant review, and reflective commentary (Shenton, 2004). Findings were triangulated between observations, multiple interviews, and artifacts. A university professor and a fellow PhD student researcher provided scrutiny of the process utilized in the study and addressed issues of reflexivity given my prior experiences with Mr. Guss. My familiarity with his philosophy and practice prompted the selection of the study site and provided me insight into my observations, but it also biased my expectations for his teaching practices. Efforts were taken in interviews to ensure that my interpretation of observed behaviors accurately reflected his intentions.

All observation field notes and interview transcriptions were initially coded concurrent with collection using in vivo, process, and descriptive coding (Saldaña, 2013), resulting in 129 total codes organized in MAXQDA. During second cycle coding, these codes were grouped into eight pattern codes by hand using a priori categories derived from the five components of CMP (Sindberg, 2012), the two components of Scott's (2011) constructivist model, and an additional "other" category. These pattern codes were used to create a network display to aid in analysis (Miles, Huberman, & Saldaña, 2014). As the early versions of this diagram included extensive and confusing interrelationships between the eight a priori categories, further analysis and diagraming during an additional cycle of coding condensed the eight categories into three themes, built strongly around Scott's model. This display's final form can be found in Figure 1.

Findings

The development of musical independence in the LHS Bands derived from the interaction between three elements: the band environment, teacher-moderated instruction, and student-led engagement. As shown in Figure 1, teacher-moderated and student-led elements were situated within a band environment that fostered musical expertise, social engagement, and extramusical

skills. This environmental component was critical for allowing instructional activities to impact musical independence by providing students with music content and skills through social and extramusical skill support. At the same time, the other two elements shaped this environment and were dynamically altered by one another with the teacher both leading and responding to the students' engagement, and the students applying and adapting teacher-moderated instruction to their own activities. Musical independence was observed on a continuum from dependence to independence as Mr. Guss provided scaffolded support differently due to student and situation.

Figure 1.

The Development of Musical Independence in the LHS Band
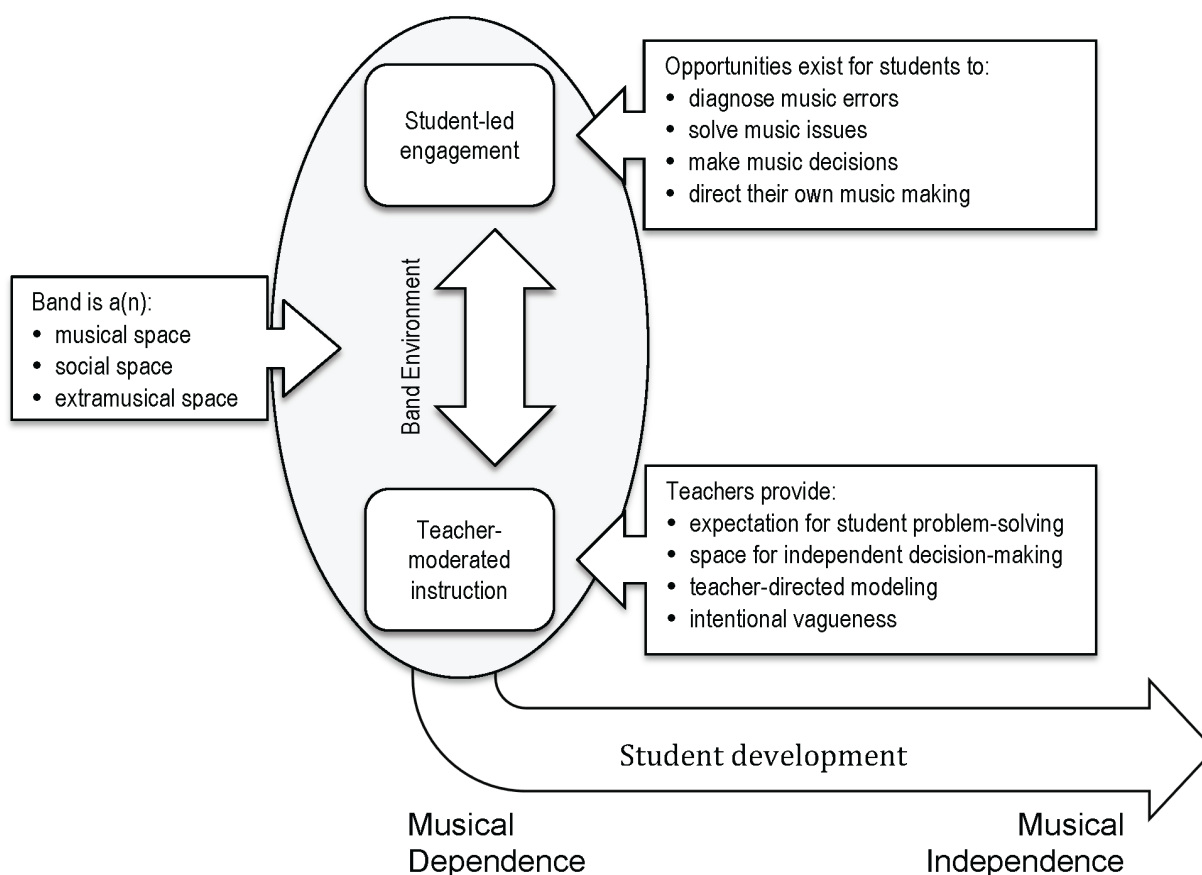
Band Environment

The band environment refers to the physical and emotional space in which the band existed that was created by the activities and interactions of the teachers and students. This environment is identified as a musical, social, and extramusical space. In all three interviews and most casual conversations I had with him, Mr. Guss emphasized the importance of all three elements in creating a successful band environment. The musical elements addressed the development of musical expertise. The social elements recognized the relationships that form between members of the band, including the teachers. The extramusical elements included the development of skills necessary not just for academic and performance success in music but also for all academics and life. While band was explicitly a musical space, the social and extramusical elements were implicitly necessary as motivating factors, student and parent rationales for band participation, and support structures for musical growth and risk taking.

Band as a musical space. The musical focus of the LHS Bands was on the transfer of concepts and skills developed for a specific piece to long term, non-specific applications. According to Mr. Guss, "so while I'm using the pieces and the individual problems that we encounter, trying to trouble shoot and correct those, I think I am trying to always, sometimes overtly, sometimes less so, phrase it in the larger scale scope." While strong performance was demonstrated by the band, Mr. Guss placed little importance on the concert, which he termed as "just another run-through." Much greater attention was put on the experiences that led to the concert and the transfer of them to future musical engagement. Chamber ensembles were designed to facilitate this transfer. He noted that incorporating chamber ensembles into the curriculum showed students a different approach to music from the large ensemble and provided

an opportunity for them to develop skills such as rehearsal technique and error diagnosis that are necessary to be effective as lifelong, independent musicians outside of a school program.

Band as a social space. For many students, band's social elements were their reason for being in band. Sophomore clarinetist Ann said that the main benefit of being in band is that she "got to meet new people and make new friends." Other students talked about band as their biggest circle of friends, a surrogate family, and their safe place. These social connections led to opportunities for building support for risk taking, critical thinking, and student agency. For example, freshman saxophonist Ray and sophomore bass clarinetist John made a game of identifying and correcting each other's mistakes. John noted that there was no hostility toward Ray's public correction of him because they were friends; rather, he said Ray was "just making sure we sound good, and making sure that no one messes up so that no one can hear it [an error]." Junior hornist Lizzie stated the reason why her section was able to work together on musical problems was that "we're just comfortable around each other." Social relationships encouraged the demonstration of critical skills by creating a safe and supportive environment.

This social support network extended to the band directors, who the students saw as friends and teachers, which impacted the nature of their interactions. Junior trombonist T.J. said, "You didn't realize how good of a friend [the band directors] could be. At the same time, it's like a coach. They push you." Mr. Guss developed this rapport through self-deprecating humor, personal stories, and fallibility, and students said that this created "a fun side" and "a serious side" that fostered a friendly relationship with the directors and drew the students into what was happening in class. Mr. Guss realized that "most of the memories [of band] will be around the social stuff, because that's how we operate, but when you think about the music side of it, you feel like you came away with quality experiences in terms of the literature, the social

environment, the deeper musical education you got in terms of fundamentals." The development of social relationships supported student willingness to engage actively, be exposed, and demonstrate musical awareness and skill.

Band as an extramusical space. The band ensemble depended on the development of skills that were necessary for but not exclusive to music. Mr. Guss identified "being prepared, working together with others, [and] understanding that everyone's contribution is important" as key expectations for his students. Students identified extramusical skills as a benefit of being in band, noting that band increased their confidence, ability to engage, and independence in other classes. Mr. Guss felt that these skills benefited musical development as well as general personal well-being. Teaching extramusical skills "is going to pay off in terms of being a great musician, but that's also a good life skill too. We can target both of those [musical and life skills] with one activity, you know. I'm a big believer in music for music's sake, but music is also good for all those other things, so let's use it for both." He saw these skills as being critical for musical independence and explicitly taught them as they benefited both musical and general growth.

Teacher-moderated Instruction

Teacher-moderated instruction closely resembled the traditional approach to large ensembles. As stated by Mr. Guss, "The podium has been called the 'last great dictatorship.' I think that is all too true in the best of ensembles, simply for efficiency's sake." His approach differs from the traditional model in that he incorporated opportunities for students to interact critically, make decisions, provide feedback, and engage their own music skills. Specifically, Mr. Guss expected students to problem solve and make independent decisions. He supported their development by using cognitive apprenticeship (Brown et al., 1989) that modeled strategies and provided guided practice with intentionally broad and vague support.

Expectation for student problem solving. As part of his rehearsal technique, Mr. Guss gave problem-solving responsibilities to his students, particularly through his use of questioning techniques. In his words, "It's hard to have them question and answer, but in the long run, that builds better musicians. It's about making choices and making mistakes, letting the kids make some of those decisions." For example, when stopping to address balance issues, Mr. Guss asked, "What happens when we split from unison to parts?" and a trumpeter responded, "It gets softer, so we need to play out more." Similarly, when a flutist asked what a septuplet was, Mr. Guss responded with, "Well, what does it look like that you already know?" When she told him it looked like a triplet that divides into three parts so a septuplet must do the same thing in seven parts, he nodded and said, "There you go. You figured it out on your own." Answers rarely came straight from the podium but were constructed by the students with varying degrees of teacher support. Rather than tell students how to perform music, Mr. Guss extended the critical analysis to them and expected them to diagnose problems and create answers.

Space for independent decision-making. Mr. Guss' rehearsal technique relied strongly upon students making independent decisions about how they performed their individual parts, making changes in their performance, and being able to back their decisions with reasoned support. In some cases, he provided a series of options, such as vocally modeling several articulation patterns for an excerpt and then telling the students, "Play it the way you think is the clearest out of the ways I just showed you." In other cases, he prompted where students should make a choice, as when an excerpt was marked "loud and scary." He told them, "What would a piece that looks like me sound like?" as he made a hideous face. Students recognized Mr. Guss' expectations for them to make independent decisions within the large ensemble. As junior horn Lizzie stated, "It really is up to the directors whether they approve of what you are doing or not,

but for the most part, you are allowed to take liberty with what the music is trying to convey."

Providing opportunities for independent decision-making weighed heavily into Mr. Guss'
literature selections. Reflecting the literature selection component of CMP (Sindberg, 2012), he
selected "well-crafted music" where every part has meaning and space for interpretation. "The
up side is that it really informs your teaching when you can go to the tuba player and say, 'I
know it looks like you only have half notes, but this line is really important. I know this
composer's thinking about this half note and wants you to do something with it. So you need, as
an individual, to do something with it'." He regularly encouraged his students to not only play
the notes but to interpret their parts. He also recognized that the difficulty of music
interpretation differed dependent on whether students had teacher support, so music for chamber
ensembles was less demanding than the band literature. In both settings, the literature served as
the catalyst for skill development for musical decision-making.

Teacher-moderated modeling. The one time where Mr. Guss regularly used traditional,
direct instruction was in teaching practice and rehearsal strategies. He did this using extensive
explanation and modeling. While this modeling took many different forms, his approach
followed the process suggested by Prichard (2012). First, students were shown how to use a
strategy, then given structured opportunities to try it in large ensemble, and then given
independent practice.

Modeling took many forms. In some cases, Mr. Guss modeled behaviors himself either
verbally or vocally. For example, when working through a section of fast runs, he worked the
students through a practice strategy as he very meticulously detailed each step, starting and
ending the sequence with, "When you encounter runs like this one, here is how you can practice
it." When observing chamber ensembles, I saw students utilize the same sequence in their own

work. As stated by sophomore flutist Cassidy, "It's really just watching how Mr. Guss does it [rehearsal practice]. How he listens to it…. I'm watching them [the teachers] for what is important to them." Students transferred the explicitly taught strategies to self-directed practice.

Other modeling occurred by pointing out strong models from within and outside the classroom by isolating individuals or sections or playing recorded examples. When a model was absent, he mentally created it for the ensemble. "If I handed soon-to-be-Dr. Weidner a blank score, could he notate the dynamics that you just played? Then you didn't play fully enough." The next run-through demonstrated the characteristics of contrast that he desired.

Practice techniques and approaches were captured in what one student called "Guss-isms." These were often stated reminders of good practice. When Mr. Guss said them, they sounded like instructions of the moment such as, "There are two options for playing high notes: press 'n' pray or air!", "It's okay to play a wrong note once, but then mark it," and "Don't tell me. Show me." It was when I heard students repeating Guss-isms verbatim that I saw them as a form of method modeling. Students remembered how to approach problems by repeating these Guss-isms and then applying them to their own practice.

Intentional vagueness. Underlying Mr. Guss' instruction was what I have termed "intentional vagueness". These were moments of intentionally vague direct instruction that required students to think critically in order to reach understanding. Issues were addressed through broad, non-specific questions, requiring students to consider their performance and approach carefully. Directions often required interpretation or were left incomplete, leaving students to bring their own musicianship into play. Additionally, analogies were used that made familiar connections from life to unfamiliar conditions within music. Many of these analogies became Guss-isms over time, such as the description of smooth dynamic contrasts as "ADA-

compliant crescendos," poor tone usage as profanity usage with Grandma, and out of control

accelerandos as a bike ride down a sled hill without brakes. Whether analogic or merely broad,

these techniques rooted in vagueness required students to actively engage in direct instruction.

Student-led Engagement

Teacher-moderated instruction prepared students to lead engagement in music. At the

same time, student-led engagement was monitored, though rarely interfered with, by the band

staff to inform future teacher-moderated instruction. For the LHS bands, student-led

responsibilities were shown in both large and chamber ensembles and included diagnosing music

errors, solving music issues, making music decisions, and directing their own music making.

Diagnose music errors. For Mr. Guss, the large ensemble was a space for students to

develop awareness of their music making skills with teacher support, while the chamber

ensemble was the place for students to test those skills with peer collaboration. He recognized

that many students' greatest challenge was that they had not developed mastery skills for self-

diagnosis of problems. This was seen when a woodwind sextet found that they had lost their

central pulse and went through multiple hypotheses to explain why before realizing that the bass

part with the pulse in it was being played by only one player and needed to be brought out.

To accommodate for the students' lack of expertise with diagnosing error, Mr. Guss

instituted the 60% rule: 60% of the chamber ensemble time should be spent playing. This helped

control socializing during unsupervised rehearsal and aided in the diagnosis of errors through

repetition and exposure. "The least self-aware of them is aware enough that there is something

that needs working on." By playing more, they increased their chances of identifying problems

and trying different ways of correcting them, usually by applying strategies taught in band.

Solve music issues. After diagnosing errors, students needed to find solutions for their

problems. During large ensemble rehearsal, students not being addressed by teachers could be seen and heard developing solutions for challenges they encountered, ranging from how to choreograph percussion instrument changes to how to play a particularly difficult horn passage. Students were encouraged to independently solve their problems as part of band rehearsal.

In chamber ensembles, student responsibility for problem-solving became much more apparent. The students stumbled into problems in their music and used relatively small skill sets to find solutions. These rehearsals were slow moving compared to the large ensemble, but they allowed students space to test their own abilities. For example, the first chamber rehearsal I observed was of a brass quintet. They spent their first 30-minute session focused entirely on aligning entrances. They used three strategies in that time: macro-micro-macro, counting out loud, and measure isolation. All strategies had been modeled in class. In my last chamber music visit, seven weeks later, I observed the same group again. They appropriately used an extended set of practice strategies and showed greater precision in their diagnoses of and solutions to problems in their performance. Over time, students became more proficient at correcting their diagnosed problems through practice, exposure, and expectations to find solutions on their own.

Make music decisions and direct music making. Student responsibility for making musical decisions was part of the entire band program, and particularly the chamber ensembles. As stated by Mr. Guss, "I could walk you through it, but I need you to decide, are your notes important? . . .You need to be responsible for your musical decisions. Don't be afraid to be wrong." The band environment played strongly into musical decision-making, based on the students' current knowledge. In chamber groups, students supported others in the decisions that were made and readily applied their interpretations. There was often uncertainty from students about their interpretive decisions, but the Guss-ism of "Don't be afraid to be wrong" would be

stated by another member. Students supported or rejected interpretations with specific rationale.

Most students saw the chamber ensembles as a mandate to develop their own musicianship. When asked about the benefits of the chamber ensembles, Sarah stated, "You have to be a leader and you have to figure out your part. Usually, during band, the conductor can help you out if he knows there's something wrong, but it's more based on you. It's your responsibility to figure it out." Similar to informal music making (Green, 2008), student-led engagements were often disorderly with many false starts and detours. By contrast, these students relied on the instruction of the large ensemble from which to draw strategies. Following band rehearsals that included concepts such as pyramids of sound and textural analysis of music, the students were seen applying these concepts to their own work along with other strategies that they had developed over time. These music-making skills developed due to modeling, exposure, and practice with all stages of musical engagement, resulting in increased musical independence.

Discussion

Mr. Guss' instructional practice serves as an example of Allsup and Benedict's (2008) imagined, student-centered band. The structure of LHS's program provided opportunities for explicit instruction (Miksza & Tan, 2015) and modeling paired with independent practice (Prichard, 2012) that are necessary for promoting independent musicianship. Mr. Guss' approach used artful teacher scaffolding (Wiggins, 2015b) to create a classroom that responded to student needs and provided opportunities for student agency. When concepts were new to students, his instruction was relatively direct, but when students already had necessary exposure, he guided and monitored their active engagement in problem-solving and decision-making.

The chamber ensembles were a critical component to this process, as they provided the independent practice called for in cognitive apprenticeship (Brown et al., 1989). In other music

programs, this same role of student-led engagement might be played by sectionals, solo preparation, or student-directed large ensembles provided that students could practice making music without teacher guidance in a safe, supportive setting. The students' independence was advanced through constructivist opportunities to encounter and assimilate knowledge and skills into their own practice, initially with support and later on their own.

Development of student independence required a broad, comprehensive understanding of music and teaching, as exemplified by CMP (Sindberg, 2012). With musical independence established as a long-term outcome of band, all instruction potentially contributed to its development. Literature was selected that allowed for the explicit teaching of music strategies and scaffolding of student engagement. Assessment focused not only on what students currently knew and could do but on what they still needed to develop in order to allow for greater independence. Students were made accountable for analyzing their own musical progress and adjusting their approach to music using the clear model of the teacher. The teacher's comprehensive musicianship was the foundation upon which the constructivist band was built.

The independence-focused band begins and ends with the band environment. Berg (2014) states that the conductor-teacher's first job is the creation of "a positive learning environment" (p. 264) through the formation of relationships with students and the promotion of musical awareness and critical thinking. Similar to Allsup (2003) who said that "participants [in cooperative peer learning settings] discover more thanks to the input of their peers" (p. 33), the students in the LHS Symphonic Band used the social support from the band community to safely "operate above their levels of competence" and take risks (Wiggins, 2015b, p. 156). The band environment created the space in which musical independence could develop with support and rigor. At the same time, the environment was created by an instructional practice focused on

constructing student knowledge toward musical independence.

Moving forward

These findings suggest that a band focused on musical independence requires varied and scaffolded musical engagement. Notably, students need to be provided with comprehensive exposure to all elements of the musical experience and have opportunities to experience music with teacher modeling, guided support, and finally independent practice (Brown et al., 1989). Preservice and continuing teacher education needs to promote collaborative teaching practices that encourage critical thinking and self-direction including questioning techniques (Johnson, 2011; Tutt, 2007), artful teacher scaffolding (Wiggins, 2015b), and small group music making (Berg, 2008). Teachers need a comprehensive understanding of music and learning as limited understandings "result in a hit-or-miss kind of musical experience for students rather than one that reflects deeper musical values" (Sindberg, 2012, p. 53).

Finally, constructivist models of ensemble instruction need to be incorporated into preservice teaching that allow students the opportunity to see how these settings can be used to actively build musical knowledge in socially supportive environments. The conductor-dependent model that is traditionally presented in collegiate and pre-collegiate bands is one that is not conducive to developing the independent musician. Space, time, and opportunity need to be allotted not only for student independent engagement but for the mistakes and the correction of mistakes that are part of that engagement, accompanied by scaffolding that gradually removes the teacher from the process. The change that occurs is a move from classrooms driven by the music literature to ones designed around the music learner.

This study provides an example from which future work can investigate the development of musical independence through the large music ensemble, which is particularly critical as a

majority of secondary students receive their music education in this setting. Greater understanding is necessary as to what theoretically and operationally defines musical independence and whether its requisite skills, competencies, and attitudes vary with musical setting and are able to transfer between settings. Additionally, longitudinal study of students would provide insight into how musical independence develops and is effectively nurtured through pedagogical practice. A better understanding of musical independence and its associated processes could result in large ensembles that are more student-centered and nurture lifelong, independent musicianship.

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Paper 2

A Grounded Theory of Musical Independence in the Large Ensemble

Musical independence and large ensembles are frequently described as incompatible with one another due to the *traditional ensemble's* large size, hierarchical structure, performance-centricity, and disconnect from modern music culture (Cope & Smith, 1997; Kratus, 2007; Williams, 2011), yet these claims lack empirical support. Colwell (2011) noted the absence of research regarding how specific teaching practices impact individual student learning outcomes, and reviews of qualitative studies of bands (West, 2014) and orchestras (Berg, 2014) showed that research into ensemble teaching practices emphasized teacher-centric rehearsal pedagogy, band director lives, and student perceptions. The lack of focus on student musical independence in large ensembles can be seen in instrumental music pedagogy texts as well, where it is typically overlooked in favor of teacher-centric rehearsal and assessment practices and ensemble administration (Burton & Snell, 2015; Colwell & Hewitt, 2011; Cooper, 2015).

Several music educators have argued for a *reimagined ensemble* that focuses on student musical responsibility and independence. Allsup and Benedict (2008) reimagined the ensemble director as one who served as an advocate for a "process of inquiry" by mediating and promoting independent student learning, rather than dictating music-making as in the *traditional ensemble* (p. 157). Other music educators have called for reforms to allow the *reimagined ensemble* to become more student-centered through collaboration, problem-solving, and comprehensiveness (Duke, 2012; Miksza, 2013). Independent musicianship underlies many music education initiatives such as the National Core Arts Standards (National Coalition for Core Arts Standards, 2014) and Comprehensive Musicianship through Performance (Sindberg, 2012) by envisioning a *reimagined ensemble* built upon student responsibility and critical engagement in music studies.

A small number of empirical studies have investigated the nature of independent musicianship in ensemble settings with mixed results. Bazan (2011) found that even in the ensembles of band teachers who emphasized student-led learning, student-centered instruction was limited to open-ended questioning and student reflection due to demands for efficiency and classroom management. By contrast, Weidner (2015) observed that students in a band focused on musical independence often led music activities in large and small group settings without the intervention of the classroom teacher. At other times, the teacher modeled strategies and promoted students to critically think and independently engage with the music being studied.

Research on popular music pedagogy has frequently addressed a different model of student independence within schools. Small ensembles designed around student interest included high levels of student autonomy and musical ownership but progressed more slowly with more frequent deviations than *traditional ensembles* (Allsup, 2003; Green, 2008). In McGillen's (2007) study of a non-traditional large ensemble, students collaboratively workshopped composition and rehearsal while fluidly moving between individual, small group, and large group settings, while the teacher provided coordination and instruction as needed. But, while popular music pedagogy provides a description of what musical independence might resemble in school settings, the models it presents are not necessarily applicable to traditional large ensembles in form or function.

Outside of ensemble settings, possible components of musical independence have been extensively researched. Self-regulation, which is the ability to control one's learning processes, has dominated the scholarly work on musical independence. Effective self-regulation relies upon positive self-concept and self-efficacy, personal goal-setting, metacognitive awareness, critical-thinking, a nurturing environment, affective regulation, musical identity, and quality

deliberate practice (Baltazar & Saarikallio, 2016; Hallam, 2009; Lehmann & Jørgensen, 2012; MacDonald, Hargreaves, & Miell, 2009; McPherson, Nielsen, & Renwick, 2013; Younker, 2002). Notably, the ability to self-regulate was strongly correlated to instruction in self-regulation strategies (Varela, Abrami, and Upitis, 2014), and modeling of and guided practice with self-regulation skills led to growth in self-evaluation abilities, effective practice, and self-efficacy (Burwell & Shipton, 2013; McPhail, 2013; Roesler, 2016). In large group settings, direct instruction in critical-thinking (Johnson, 2011), self-evaluation processes (Kruse, 2006), and self-regulation (Mieder & Bugos, 2017) led to increased self-efficacy and more effective skills for music listening and practice monitoring.

Outside of self-regulation and popular music pedagogy, philosophical and pedagogical writing have dominated discussions about musical independence. Nearly all major philosophies in music education discuss the issue of musical independence in some manner. Democratic practices focus on collaborative critical-thinking that engages students in active discourse and decision-making (Tan, 2014; Woodford, 2005). Praxial music pedagogies stress the importance of individual music engagement in the development of independent mastery (Elliott & Silverman, 2014). Aesthetic and comprehensive music education approaches emphasize approaches to music that allow for meaningful experiences with music across a lifetime (Leonhard & House, 1972; Reimer, 2003). While not empirically demonstrated, these philosophies served as a backdrop for this current study.

This constructivist grounded theory inquiry is an attempt to address the calls to turn *traditional ensembles* into *reimagined ensembles* by incorporating musical independence into large ensemble experiences, using previous philosophical and empirical scholarship as the foundation for inquiry. Two questions guided this study:

- How do teachers and students describe and define musical independence when its development is a primary objective of the ensemble?

- What student experiences and teaching practices contribute to the perceived development of musical independence?

Method

This study used constructivist grounded theory to understand the nature of musical independence in large ensembles by "collecting and analyzing qualitative data to construct theories from the data themselves" (Charmaz, 2014, p. 1). The constructivist approach recognizes the researcher's subjectivity and personal involvement in building a theory of musical independence in the context of prior experiences and existing scholarship while constructing theories through inductive and abductive processes (Charmaz, 2014; Thornberg, 2012). Induction is used to "select or invent a hypothesis that explains a particular segment or set of data better than any other candidate hypotheses" (Thornberg, 2012, p. 247). Adbuction is "a mode of imaginative reasoning researchers invoke when they cannot account for a surprising or puzzling finding" (Charmaz, 2014, p. 200) and was used in the creation of some analytical memos. By using constructivist grounded theory, I was able to observe and analyze the actions, processes, and rationales used by band directors and their students within the context of established theories and approaches to musical independence.

At each school site, I observed a single ensemble on average once a month throughout the school year, totaling between nine and thirteen observations per school. I wrote field notes that included a script of activities and short interpretive jottings (Miles, Huberman, & Saldaña, 2014). I attempted to gain an insider perspective as individual students spoke with me before and after rehearsals regarding educational and musical needs and casual social chat.

With each teacher, I conducted semi-structured, extended interviews at the beginning of the study regarding their philosophies, curricula, and pedagogies. After the end of the school year, I interviewed them again using questions derived from preliminary analysis of interviews, field notes, and analytical memos. I also conducted numerous spontaneous interviews and e-mail exchanges with them based on daily observations. Additionally, I formally interviewed approximately one-third of each ensemble's students regarding their music activities and attitudes (N=43). Initially, semi-structured interviews were held in open group discussions by convenience during lunch and after school. Later, the teachers and I invited specific students who had unique perspectives that included student leaders, student composers, frequent class contributors, reluctant participants, and self-described "not-band-kids."

Finally, I collected syllabi, course websites, and assessments to contextualize my observations and analyses. Throughout data collection and analysis, I wrote analytical memos of varying lengths to record my in-situ reactions and abductive interpretations. These analytical memos informed my interpretations of data and served as independent data during analyses (Charmaz, 2014).

All data were transcribed, analyzed, and coded using MAXQDA11. First cycle coding included descriptive, hypothesis, and in vivo codes (Saldaña, 2013). I also conducted discourse analysis of morphology (Gee, Michaels, & O'Connor, 1992) focused on pronoun usage to indicate collective responsibility (plural first-person), intended goals of instruction (second-person), and actual actions taken by members of the ensemble (singular first-person and third-person). I conducted a second coding cycle using pattern and theoretical codes to generate meaningful themes, resulting in thirteen categories (Charmaz, 2014; Saldaña, 2013). I used partially-ordered meta-matrices (Miles et al., 2014) to sort the categories into the final model.

My own experiences as a former high school band director, my decade-long professional acquaintance with each of the teachers, and my own pedagogical practices influenced my perspective and positionality. Trustworthiness was established through triangulation of significant data between at least three points of reference in interviews, classroom observations, and analytical memos. Member checking was conducted with the teachers and a convenience sample of students regarding the final model of musical independence, which led to significant additions, notably the inclusion of foundations for musical independence. Each teacher received an initial draft of the manuscript to ensure accurate representations of their philosophies and beliefs, leading to no significant revisions.

Participants and Context

I purposefully selected three high school band directors and their students in northern Illinois as participants for this study through a multi-stage screening process. All band and orchestra directors participating in one district of the Illinois Music Education Association received an e-mail that asked them to identify their top three to five instructional objectives. Of twenty-four responses, seven included objectives that explicitly mentioned "musical independence" or elements aligned to it in previous literature. I purposefully selected three of the seven schools based upon contrasting demographics and gatekeeper permissions. The study began with two schools at the beginning of the 2015-2016 school year and a third was added shortly thereafter.

Churchill High School[1] is a large, academically-rigorous high school in an affluent suburb with a comprehensive fine arts program including two upper-level bands and one

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[1] All places and names throughout this study are pseudonyms.

freshmen band directed by Dr. Michael Evans for the past 28 years. He had a professorial air about him, and his students described him as "brilliant" and "parental." The Symphonic Band was the focus of this study and was a well-balanced, non-auditioned second band comprised of 47 sophomores through seniors.

Stanford High School is located in a rural community that has transitioned in recent decades from a majority white to a majority Hispanic student body and band program. The school and its community were experiencing a shrinking population as a result of the loss of local factory jobs. Kurt Carter was in his seventh year at Stanford and emphasized the importance of community traditions for the band and school. The Concert Band was the school's second ensemble with a heavy high woodwind and percussion balance comprised of 15 mostly freshmen and sophomore students, many of whom Mr. Carter had taught since fifth grade.

Due to administrative policy changes just before the start of the year, a third, predominantly urban school withdrew in the first week of the study, and Sherman High School was added before the close of the first semester after administrative permissions were granted. This large high school is in a working-class suburb with many urban characteristics including a significant Hispanic population and a largely low-income student body. Emma Simek was Sherman's band director for twelve years and self-described as a "teacher first, and musician second." The program was comprised of a beginning band and the 90-student Symphonic Band including freshmen through seniors, which was the ensemble of focus for this study.

Like most other programs in the area, the teachers were fully certified with graduate degrees in music or education and were their schools' only band directors. The concert bands were curricular and augmented by co-curricular jazz and athletic bands, extra-curricular community groups, and solo-ensemble opportunities. The bands performed a broad repertoire

with four primary concerts per year and many community performances. A majority of the students began band during middle school. To the casual observer, these bands closely resembled *traditional ensembles*, but on deeper inspection, the teachers had created *reimagined ensembles* that differed from *traditional ensembles* due to their focus on developing and asserting student independent musicianship.

Findings

The model that developed through this grounded theory relies upon a foundation of musical, social, and personal elements that are commonly found in experiences with *traditional ensembles*. Through specific instructional practices including student-led music-making and cognitive apprenticeship, the teachers leveraged these *traditional ensemble* foundations to transform the students' experiences to support musical independence, which included three distinct outcomes of student agency, critical decision-making, and lifelong musicianship as shown in Figure 1.

Figure 1.

Musical Independence in the Large Ensemble
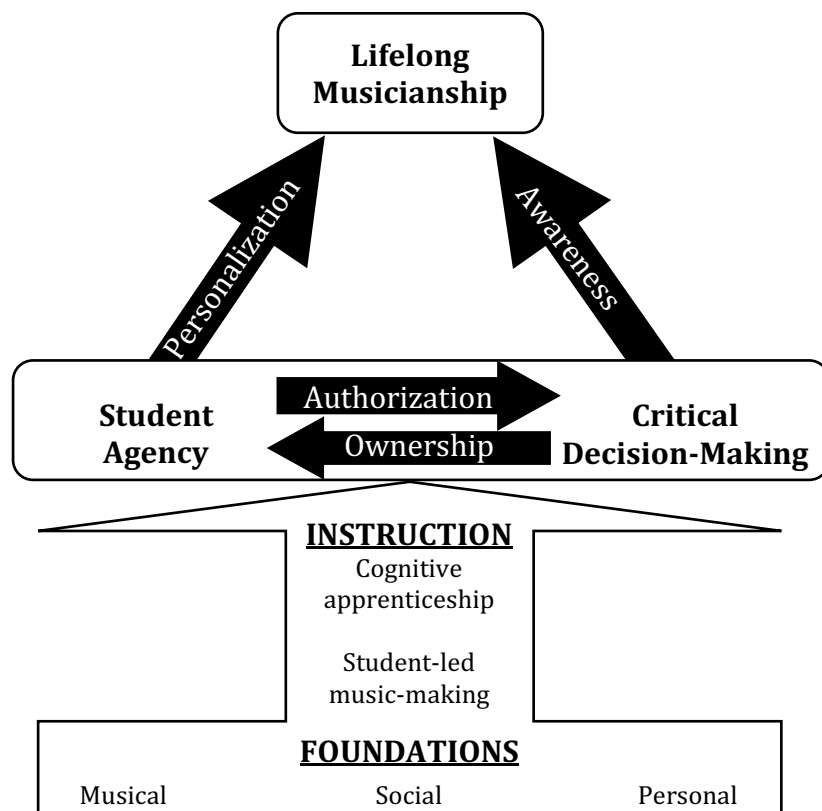
Foundations of Musical Independence

Musical Foundations. Mastery of music literacy and fundamentals is a common goal of both

traditional and *reimagined ensembles*. In the *traditional ensemble,* literacy and fundamentals

ensure accurate performance through proper notational reading and quality performance

techniques.   In these *reimagined ensembles*, literacy and fundamentals still served this role but

also acted as prerequisites to allow for critical decision-making. Ms. Simek emphasized musical

foundations due to her own experiences, as she started college unable to read music, which

inhibited her ability to understand the musical choices she was expected to make. For Dr. Evans,

musical decision-making was based upon the students' detailed understanding of the "six basic things: tone, intonation, correct notes, rhythm, style, and notation." Mastery of music fundamentals served as the foundation for meaningful decision-making and high-quality performance.

Social Foundations. Common social elements were also leveraged to support the development of independent musicianship. Student leadership was present and visible in these classrooms with students assuming musical and administrative responsibilities, but the teachers avoided the highly hierarchical structures commonly found in *traditional ensembles*. Similar to Tan's (2014) democracy, student leadership in these *reimagined ensembles* was highly egalitarian, and students relied upon one another interdependently for growth and development. As Stanford sophomore clarinetist Maria observed, "It's not only your job to take your own responsibility, but you also have to help encourage everyone else around you." While each band had official positions such as drum majors and section leaders, all students rotated through part assignments and were expected to lead others. For example, Ms. Simek told her band, in anticipation of the first summer rehearsal with the following year's freshmen, "Remember, no one is actually in charge. Everyone is a leader. Everyone takes on responsibility for helping everyone else." During rehearsals, students turned to one another to address problems and seek solutions, as opposed to the *traditional ensemble* where only the conductor issued directions and corrections. The teachers described themselves as "mediators of learning" who avoided playing the role of "tyrannical director" or "dictator." All three stated in identical words that they hoped to "work myself out of a job" by relegating rehearsal responsibilities to the students.

As noted previously by Abril (2013) and Morrison (2001), music ensembles typically possess a unique culture that provides students with an identity apart from the rest of the school.

The same was true in these schools, as noted by senior flutist Calvin regarding the music wing at Churchill. "It is called R hall, like the letter R, but then we call it O-U-R hall, because we kind of live in here after a while." These teachers leveraged the band's culture to create a collaborative, respectful, and growth-oriented space where the social connections between students encouraged risk-taking and interdependent support, as suggested by Tan (2014). Bobby, a Sherman senior trumpeter and self-described "slacker" and "not-a-band kid," explained how the band culture was leveraged to promote interdependent responsibility.

> There's sixty other people who could say it ["Hey, you flubbed that note on the scale"] in a way that will actually make you feel, "It was just a mistake. I can do this better." You can find whatever you need in band.

This egalitarian approach to leadership and band culture was used by the teachers to emphasize student agency in problem-solving by having students assume accountability for progress and rely upon each other, not just the teacher, for growth.

Personal Foundations. The final foundational element for musical independence was the fostering of personal skills for collaboration, critical-thinking, communication, and creativity, often referred to as 21st-century skills (P21, 2016). While it is not uncommon for entire schools to adopt these cross-curricular skills as de facto, interdisciplinary curricula, these teachers and students saw 21st-century skills as a necessary element that contributed to success "inside and outside of band" (Emily, Churchill junior bass clarinet). The teachers referenced these skills regularly and explicitly to encourage students to assert collaboration, agency and problem-solving in rehearsal. When combined with musical mastery and the band's supportive social culture, these personal skills promoted student engagement and commitment to the music-making process.

Instructional Practice

In order to take advantage of the musical, social, and personal foundations common within *traditional ensembles*, the teachers used specific instructional strategies to promote independent learning in the *reimagined ensemble*. While these teachers' approaches differed greatly from one another, they shared a set of instructional approaches based around cognitive apprenticeship (Collins, Brown, & Newman, 1989; Weidner, 2018). These practices included teacher modeling, scaffolded practice, and student-led engagement. While modeling and scaffolding are common tools in *traditional ensembles* to promote technique and musicality, the purpose for their application here was different. The end goal of instruction in these groups was on comprehensive understanding of the music rehearsal and the cognitive steps taken to execute it, emphasizing not only how to *play* but also how to *think* about music.

Open-ended, guiding questions were key tools of the teachers' modeling and scaffolding. The questions the teachers asked demonstrated how the teachers thought about music problems and guided students in how to think about rehearsal issues. As seen in the following vignette, Mr. Carter used questioning to push students to assume problem-solving roles. In this excerpt, Celia, a freshman trumpeter, has identified an issue in her part during rehearsal.

Celia: We keep playing it, but I can't get the rhythm at 38.

Mr. Carter: (writes the rhythm on the board) Clarinets, can you help out?

Kate (sophomore clarinet): It's different than ours. She plays every time we don't.

Mr. Carter: So what do we do?

Kate: Maybe split the band and clap it out. (Clarinets clap their rhythm and everyone else claps with Celia as she is the only trumpet in the band.)

Sam (sophomore alto sax): Our part is like it [the trumpet part], but has some long notes.

Can we work on that with the trumpet? (Trumpet and alto sax play their part together.)

Kate: And now us too? (Trumpet/alto part and clarinet part combine together.) Can we

try it everyone together? (The band plays measure 38 accurately in all parts.)

This sort of interchange can happen in the *traditional ensemble*, but it is typically infrequent, teacher-initiated, and context specific. By contrast, in a single 80-minute rehearsal in Mr. Carter's classroom, it was common for these exchanges lasting several minutes to occur seven or eight times, complemented by more traditional, director-led rehearsal strategies and cognitive modeling. The students frequently initiated the conversations by stating their observations, concerns, or solutions. Mr. Carter then guided students through the key processes of identifying, diagnosing, and solving errors (Roesler, 2016) using broad, scaffolded questions to promote student problem-solving. Similar practices were seen in other classrooms as well. In one 50-minute rehearsal, Ms. Simek did not give a direct instruction until 37 minutes into the period and in another, the first came after 40 minutes, preferring instead to use guiding questions to elicit student responses and critical-thinking. Students were expected to not only prepare their own parts but problem-solve the issues experienced across the band and influence rehearsal.

This sort of questioning led to increased student management of the rehearsal. As students became more adept at the steps of problem-solving, the teachers allowed them to assume more of those responsibilities. Ms. Simek in particular placed the expectations for rehearsal monitoring and planning on her students by both figuratively and physically stepping away from the podium. Following the first read-through of a piece at the beginning of January, Ms. Simek asked, "Is it OK to fail?" to which the band shouted resonantly, "YEEEESSS!" as hands popped up to volunteer personal failures. A clarinetist grabbed a whiteboard marker and

created "the failure list" on the board. Students called out their failures in the read-through, ranging from specific rhythms and measures to large concepts like balance and intonation. Ms. Simek moderated the conversation as the students created a plan for the next several rehearsals including what and how they would work on student-identified issues. Ms. Simek relied upon the students to monitor their own progress, suggest and implement rehearsal strategies for rehearsal, reflect on their practice, and vote to "cross it off" as failures became successes.

These sorts of reversed-role classroom activities where students assumed instructional responsibilities led to the most significant departure from the *traditional ensemble:* the inclusion of student-led, large and small group music-making such as student-run rehearsals, chamber ensembles, and sectionals as a regular part of the bands' required curricula. The teachers observed what students did during these sessions, but the students assumed all responsibilities for planning and executing the rehearsal, just as called for by Morrison and Demorest (2012). Some groups worked collaboratively while others delegated specific responsibilities to individuals in the group. When the teachers observed that students lacked the skills to effectively impact their independent rehearsal, they modeled strategies in subsequent teacher-led, full ensemble instruction but rarely interrupted the student-led sessions. These rehearsals allowed students to practice independent musicianship while having other members and the teachers as resources.

The importance of these student-led opportunities was made readily apparent from the first day of school at Churchill. On the first two days of school, Dr. Evans divided the band into chamber groups with the task of reinterpreting the SATB chorale, "Forest Green." In addition to preparing "right notes, right rhythms, and good musical concepts like tone and expression," he instructed them to "do something original, like dynamics, voicing changes, or textural alterations," stressing that they needed to make "good musical decisions that they can explain

and justify." With no further direct instruction, the students collaboratively created custom arrangements by fragmenting parts, repeating phrases, and changing textures and dynamics. During rehearsals, most students actively and aggressively engaged in contributing to the decisions being made, and every group had detailed discussions over specific interpretations or rehearsal approaches. On the third day, each chamber ensemble performed for the class, and Dr. Evans moderated a discussion with the rest of the band, prompted by a list of the "Big Six" fundamentals. Students questioned arranging, orchestration, expressive, and performance decisions. This activity set the expectation for the chamber ensembles that were used regularly throughout the rest of the year in projects that ranged from a few days at a time to once a week for a quarter. The large group rehearsals promoted more effective small groups by modeling and scaffolding practice strategies that Dr. Evans observed the students lacked, and the small groups enhanced the large ensemble by giving students rehearsal accountability and opportunities to develop critical-thinking in a music setting.

In all stages of music-making, students were provided with low-risk opportunities to actively contribute to the ensemble as performers, critical-thinkers, and decision-makers, as called for by Duke (2012). Notably, the teachers and students embraced failure as a necessary step to mastery and, in many cases, actively pursued it. Students talked about perfection as being unrealistic and unattainable. Instead, students expected to fail yet constantly pursued growth as musicians who could articulate their weaknesses and effect change to overcome their failures. By accepting failure as a step toward success, the students assumed responsibility for making musical decisions and taking risks as the principal agents of music-making and learning.

Student Agency

The extensive use of student agency set these bands apart most strongly from the *traditional ensemble* and served as a component of how the *reimagined ensembles* defined musical independence. In this context, *agency* refers to student autonomy and ownership of the musical processes and products of the band. As described by Allsup and Benedict (2008), these teachers expected their students to think, be vigilant, and enact change in music on their own. Following the model proposed by Morrison and Demorest (2012), the students had significant roles to play in rehearsal preparation, practice, and performance, at times without contact with the teacher. While agency can be a component of *traditional ensembles*, these teachers expected all students, not just identified leaders, to provide feedback about what occurred in the band rehearsal and to impact its crucial elements, including what and how to rehearse. As stated by Ms. Simek, "I want every single kid to have 100% ownership in their education."

During rehearsals, students frequently talked with one another to correct individual issues. Some of these conversations involved the entire ensemble, with the teacher moderating the discussion as in the earlier vignette with Celia in Mr. Carter's classroom where students assumed responsibility for correcting issues they heard in class with and without teacher prompting. As discussed by Churchill junior clarinetist, Emily, "If you hear a wrong note, you just go 'I need to fix that' without him [Dr. Evans] having to tell you." The students felt a responsibility to actively shape the ensemble's rehearsal, as explained by Sherman senior saxophonist, Courtney: "Any time anyone plays a wrong rhythm, I feel like it is a jab right in my heart, because I feel like it was my job to prepare them for this, and I didn't do my job." Unlike the *traditional ensemble* model that "places complete control in the hands of the teacher"

(Williams, 2011, p. 53), these *reimagined ensembles* asserted student ownership by expecting active student commitment, attention, and contribution to music-making activities.

In each of these bands, the social culture was used to promote collaboration and interdependence, just as envisioned by Tan (2014). This cultural expectation was passed on through veteran students' habits and examples, as expressed by the sentiment of, "You want to be the person who helped you once" (Jeff, Sherman sophomore trumpet). The directors emphasized the role that every musician played in creating the music and in pushing others, leading to a sense of ownership in process and product. During rehearsals and interviews, "we" was used much more frequently than "I" when discussing progress and next steps, and the students regularly were responsible for the creative and logistical decisions of the rehearsal.

The teachers provided opportunities throughout the rehearsal for students to alter the focus and direction of the class. While there were moments when the directors were still autocratic leaders, they often encouraged and frequently demanded that students be the primary actors for the ensemble's music-making. Student agency was required for the small ensembles and sectionals to function, as students did all the planning and rehearsal on their own. To prepare for these student-led experiences, the teachers used focused questioning and encouraged unsolicited student contributions to large ensemble rehearsal. The rehearsals then changed to align to the students' observations. When the students' decisions were ineffective, the teacher did not correct the problem, but the students collectively reflected and identified new paths to pursue with teacher moderation. In small and large ensemble rehearsal, the students served as primary agents for music-making with the teacher supporting and mediating their involvement.

Critical Decision-Making

Critical decision-making served as the second key component of this model for musical independence and was closely related to student agency. Agency authorized students to make meaningful and thoughtful decisions about the rehearsal, because they saw the music as their own, not the director's. At the same time, the critical decisions students made and the resultant alterations to the rehearsal granted them ownership, increasing their sense of agency.

Expectations for student critical decision-making provided opportunities for agency as students could meaningfully impact rehearsal progress. As suggested by Shieh and Allsup (2016), a primary component of musical independence was the expectation that "students make musical decisions that matter" (p. 31). A key difference between the *traditional* and *reimagined ensembles* is that the decisions the students made were about significant issues of music rehearsal and production for the group, as opposed to surface features or expressive decisions. The teachers expected students to make decisions about all aspects of rehearsal including identification of problems, diagnosis of causes, and solutions for growth, following the framework suggested by Roesler (2016), and emphasized the students' roles in impacting the focus and direction of rehearsal. As stated by Mr. Carter,

> It's my job to make sure kids are thinking critically, and so when we've listened to music, I'm asking those questions. What specifically about it wasn't good or was great….They're not going to think that way unless I get them to start doing it, so it's my job to get them to start thinking critically and provide them opportunities to do so.

When the students expressed their opinions and provided direction, they were expected to justify why those decisions were made based on context and musical knowledge, guided by scaffolded questioning. The students saw that they were expected to influence the rehearsal's direction.

When we are participating in the class, we have a more open opinion. We can actually

talk about, "Hey, let's do this," or "Hey, let's do that." Simek lets us do this, because she

wants us to be independent. Some time, we're going to need to be independent, and we'll

need to be the director (Matt, Sherman freshmen alto saxophone).

In rehearsals, I regularly saw this process of student decision-making and justification

that ensured that students understood the reasons for and consequences of their decisions. In one

rehearsal, Sherman junior clarinetist Chris directed the band through a piece he had written, and

they struggled to play a section with fast triplet rhythms written in triple meter. With Chris on

the podium, the ensemble repeated the same four measures three times, and Chris and other

students were visibly frustrated and unsure of what was wrong or how to fix the problem.

Ms. Simek: Are you happy with measure 79?

Chris: No, but I don't know what's wrong.

Ms. Simek: What could be wrong with measure 79?

Chris: There's lots of accidentals. Maybe we should isolate those. (The band played

each note accurately out of time, but when put back in context, the problems continued.)

Betsy (junior flute): I think it's the triplets. We should "sizzle" each beat, so we can

check the rhythm without notes.

Ms. Simek: What makes this section of the music hard?

Courtney (senior tenor sax): I can't figure out where counts 2 and 3 are at. (Several

students agreed.)

Ms. Simek: Why can't you find those counts?

Courtney: We're only seeing count 1 and the rhythms are all messed up.

Ms. Simek: So how do we practice it?

Chris: I could conduct all of the beats, probably slowly in three because it moves too fast to do all of them in time. (After several tries, the band "sizzled" the part accurately by articulating the airstream, accelerating up each time until playing with a pulse in one.)

This episode demonstrated the importance Ms. Simek placed on having the students figure out why they were having problems and how to fix them. The students' decisions dictated the direction of the rehearsal, and she allowed them to choose the rehearsal activities, even when she could have more quickly corrected problems on her own. These rehearsals using trial-and-error mirrored the experiences students have outside the classroom, as stated by Ms. Simek:

My philosophy is that I'm a facilitator and my kids are teaching each other. In order for my kids to teach effectively, they've got to understand the material….Clearly, students need to go ahead and make their own decisions, because they have to be confident with them. They have to be able to work critically and work independently.

Just as Woodford (2005) advocated for the creation of a music room focused on public discourse, exploration, and examination, these teachers created classrooms where students tested and challenged one another's critical abilities with the safety of teacher support and encouragement.

All three teachers described their roles in the classroom as different from that of the "tyrannical director" in the *traditional ensemble*, emphasizing that they consciously transferred decisions typically done by the director to the students. They noted that they were initially concerned about this transfer of responsibilities as it would reduce the rehearsal's efficiency and efficacy. With time, they saw that by encouraging students to become critically aware and responsible for their music-making, the students took on the task of self- and peer-correction of basic issues that often bog down a rehearsal. With time to practice problem-solving and the authority to act on their own observations, students in the *reimagined ensembles* became more

effective and responsive to their own needs, allowing the rehearsal to remain fast-paced and address more advanced concepts as the students took care of solving simple problems.

Lifelong Musicianship

For each of these teachers, the development of lifelong musicianship served as the philosophical rationale for teaching musical independence. These teachers saw lifelong musicianship along the same lines as Leonhard and House (1972) and Reimer (2003)—to be meaningfully and critically musical in everyday life through multiple modes of engagement. These teachers embraced lifewide musicianship (Jones, 2009) by emphasizing skills typically found in informal and non-academic music-making and engagement including both performance and other forms of music consumption. Dr. Evans stated that his job as a music teacher was to:

> show kids what they can experience in music beyond playing the third-clarinet part in the band piece—how to understand, how to analyze music. To evaluate music, to open their ears to music from different time periods and different ethnic groups in different parts of the globe and to hopefully give them a lifelong appreciation for what it is that music does for us, to give them as many experiences as possible where they have that kind of high aesthetic experience to really make that something they are going to seek out for the rest of their lives.

In contrast to praxial approaches that emphasize lifelong performance (Elliott & Silverman, 2014), these directors were more concerned with their students' abilities to engage intentionally and consciously in all types of music cultures and music roles in the future, though stating that they hoped their students would continue as performers. This responds to Williams' (2011) criticism that because most students do not continue as performers after high school, the large ensemble is ineffective for developing "skills and understandings [the students] can make use of

throughout life" (p. 55). By shifting attention from music performance to critical-thinking about and ownership of music experiences, these teachers supported lifelong musicianship.

The other principal components of this proposed framework—student agency and critical decision-making—supported the development of students' lifelong musicianship. By experiencing agency in the large ensemble rehearsal, students such as Lauren, a Sherman senior clarinetist, saw their musical engagements as a matter of personal choice.

> With music and being able to make my own choices, I'm taking control of something. I have control over something, and I'm able to pour my heart and soul and heartbreak into this one thing, and make it something absolutely beautiful. That's my motivation to be independent.

Similar to other students who spoke about their out-of-school music experiences including participating in a garage band, learning other instruments, composing EDM, and curating personal music collections, she attributed her experiences in band to her ability to identify what music activities were truly important to her, leading to an interest in song-writing and regular pop-punk concert attendance.

The critical-thinking that students experienced as members of the band made them more conscious of the music choices they made outside of the classroom. Students such as Churchill senior clarinetist Jenn identified the rigorous experiences she had in band as the foundation for understanding her own musical decisions outside of band, stating, "I think there is a much greater awareness of what music is, what music does, what music can do for people once you're older." Other students stated that they were more consciously aware of what they heard and felt about music than their non-musician peers, as echoed by Mr. Carter.

Being able to express to somebody else why they think this is or isn't good music and

being able to first formulate that opinion and then being able to back up that opinion.

That's a lifelong musician, whether they are performing or not.

Lifelong musicianship relied upon the personalization of all music experiences and the critical

awareness of why personal choices about music were made.

Conclusion

Some of the mixed results of previous research may be due to the fact that these programs

looked very different from one another on the surface, but, when considering them closely, they

shared the components discussed in this model. Mr. Carter maintained the majority of the power

in the rehearsal, closely resembling the ensembles observed by Bazan (2011), but he ensured that

students had critical-thinking responsibilities exceeding preparation of their own music. Musical

independence was one of several objectives, and he alternated student-led and director-led

rehearsal multiple times per class period. Dr. Evans modeled his instruction on Comprehensive

Musicianship through Performance (Sindberg, 2012) and saw musical independence as a means

to an end. He sought to teach his students to make "conscious artistic decisions" as

"sophisticated players and aware musicians," much as the teacher did in Weidner's study (2015).

Teaching for musical independence was always present, but the large ensemble was dominated

by teacher modeling and questioning, while student-led activities were saved for frequent

chamber ensemble rehearsals. Ms. Simek saw the band as a tool for social justice to address

inequality her students experienced and believed independent musicianship would give her

students valuable skills for success within and outside the music classroom. She sought to create

a band that was not just "student-centered but student-driven," and she used the band to foster

capable, autonomous students in band and life by having student decision-making and agency at

the center of every rehearsal, similar to how students guide all music decisions in popular music practices (Allsup, 2003; Green, 2008). In these classrooms, teaching for independent musicianship was not a one-size, fits-all proposition. The unique characteristics of the bands and their teachers influenced how, when, and why independence was taught in each classroom.

While it may be true that the large ensemble is not the most natural space for the development of musical independence, the processes and philosophies observed in these classrooms directly challenge the positions of those stating that large ensembles *cannot* be used as places for its development (Cope & Smith, 1997; Kratus, 2007; Williams, 2011). Rather than replace these ensembles that serve well-established musical, political, and cultural roles within our schools and communities, the band should be reimagined in the spirit of Allsup and Benedict (2008) and Duke (2012) and can answer the call by Miksza (2013) that music educators "would be better served by emphasizing innovative approaches for curricular change from within the system rather than by advocating tearing the system down" (p. 48). Incorporating this model into the large ensemble is one way to innovate by providing opportunities for awareness and engagement with music in daily life, as stated by Churchill senior trumpeter, Kaitlyn:

> Being in band can give you more recognition of the music out there. Like now, I go and listen to music and I hear all the different parts, the unique rhythms, the instrumentation and stuff you wouldn't notice unless you were in band and you were familiar with music. We're always told to listen to everyone around us, so opening up your ears to the instruments around you and how they play, what they play, and what they sound like gives you a better sense of music in general.

The large ensemble that includes agency and critical decision-making can advance musical independence through lifelong musicianship while creating powerful and moving performances.

This model for developing musical independence in large ensembles was created in response to observations of high school band directors trained in the *traditional ensemble* model. The teachers discussed how they did not start teaching in this way and that their practices continued to evolve and grow, incorporating more student responsibility as they reimagined their ensembles. While maintaining quality performances and regular community and interscholastic involvement, Dr. Evans expanded chamber ensemble activities every year, and Ms. Simek continually investigated ways to eliminate formal student leadership programs and emphasize student-led large ensemble rehearsal. Their practices suggest that teaching for musical independence is not an "either-or" proposition but can be a "both-and" component of music education methods and teacher practice by allowing large ensembles to continue to serve the many musical, social, and personal roles they have held historically while advancing student independent musicianship. By incorporating pedagogy for student-led music-making and cognitive apprenticeship into teacher training and professional development, music educators can transform *traditional ensembles* into ones that support musical excellence and independence.

Additional research is needed to understand how teaching for musical independence develops in different settings and what factors most strongly impact its growth. As this study was conducted entirely in high school bands, further work can consider how ensemble type, student age, and demographics might alter this model. Additionally, while this study does not measure the impact of specific instructional practices on specific elements of independent musicianship, the parameters proposed by the model can be used to investigate the development of musical independence over time in longitudinal or comparative studies.

If we as a profession believe that students should develop skills for independent engagement in music as a consequence of their music education, it is imperative that large

ensembles are reimagined to allow for the development of musical independence including student agency, critical decision-making, and lifelong musicianship. This is not to say that every program should be the same, but every program should ensure that every student has the opportunity to have a meaningful, lifelong association with music. One of the best ways to meet this expectation is to include teaching for musical independence by prioritizing that each student develops skills to engage with, critique, and value the wide range of music experiences that they can choose to pursue across a lifetime.

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Paper 3

The Effect of Group Practice Strategy Instruction on

Middle School Instrumentalists' Individual Practice

Lifelong musicianship is a significant goal of music education. Elliott (1995) illustrated this point, arguing that "all schools should attempt to teach all students to make and listen for music well" (p. 236). Similarly, Reimer (2003) advocated for a focus on the musical experiences of the individual, stating that one major goal of music education is "enhancing every person's ability to experience the power of music as fully as possible" (p. 47). The impact of performance-based music education on promoting lifelong engagement with music was demonstrated by the findings of Elpus (2018) that showed that individuals who participated in performance-based music classes during their schooling were 348% more likely than their peers to play musical instruments as adults. As the majority of students receive their music education in a large ensemble setting (Abril & Gault, 2008), bands, choirs, and orchestras play a significant role in fulfilling this proposed mission of promoting lifelong musicianship.

However, little is known about how large ensemble instruction impacts critical skills for lifelong musicianship. One critical skills that has been frequently studied outside of ensemble settings is the ability to effectively practice (McPherson, Nielsen, & Renwick, 2013). While previous scholarship has stated that ensemble directors should focus attention on scaffolded instruction for effective practice during ensemble rehearsals (Duke, 2012; Hoy, 2000; Kennell, 2002), little attention has been given as to whether the teaching of these skills in group setting transfers to individual practice. If large ensemble instruction is going to be effective at teaching

skills for individual practice that impact lifelong musicianship, it is imperative that music

educators understand how effective transfer of learning functions in the group rehearsal setting.

Transfer of Learning

Transfer of learning (ToL) is "our use of past learning when learning something new and

the application of that learning to both similar and new situations" (Haskell, 2001, p. xiii). ToL

is typically shown to exist on a taxonomic continuum from non-specific close transfer to highly

creative, analytical far transfer. A key component for effective ToL, termed the common

elements theory, is that the new context for learning must share elements with the older learning

context that the student has previously mastered (Butterfield & Nelson, 1989; Thorndike &

Woodworth, 1901). For transfer to occur, the students need to recognize the association between

new and old situations and have a high degree of effectiveness in the old context (Hunter, 1971).

Under this theory, the difficulty of transfer is measured as the distance of transfer from the old

context of learning to the new context of learning; the more similar the new and old contexts are,

the nearer the transfer is.

The teacher's role in promoting ToL is creating a curricular environment conducive to

transfer through highly scaffolded, explicit instruction (Butterfield & Nelson, 1989). ToL "does

not always occur automatically, or efficiently. Significant and efficient transfer predictably

occurs only if we teach to achieve it" (Hunter, 1971, p. 2). Teachers provide students explicit

reminders of the targeted concepts, create authentic situations for new and old learning, teach

using an iterative process, and call attention to similarities and differences between old and new

learning contexts (Larsen-Freeman, 2013, p. 120-122).

Transfer of Learning in Music Education. Colwell (2011) applied ToL research to

music education and suggested explicit instructional sequences within ensembles to facilitate

ToL of musical objectives. He stated that instruction should focus on broadly applicable concepts as opposed to specific content and include daily review, direct instruction of new material, guided student practice, teacher feedback, independent practice or homework, and teacher-led review. His proposed approach places the teacher at the center of the classroom by explicitly presenting skills with the intention of having students transfer them to their own experience.

As noted by Tunks (1992) and reiterated by Forrester (2018), music education research into ToL has been extremely limited. Most previous studies have addressed ToL indirectly by assuming transfer is effective without expressed investigation into whether it is actually effective in music settings. The model of ToL assumed in these studies is a near transfer paradigm in which the conditions for learning are highly similar between old and new contexts except for one primary element (Haskell, 2001). In music education, effective practice studies, such as those by Barry (1992), Mieder and Bugos (2017), and Miksza (2015), have applied variations of near transfer paradigms to practice in music education. In those studies, the students showed changes in their practice as a result of these approaches, suggesting that direct instruction can result in the transfer of requisite skills for individual practice.

Effective Practice for Musicians

Effective practice studies have focused on two general areas of research: typical practice of musicians of varying levels and instructional interventions for promoting effective practice. The first group of studies demonstrate broad differences in the practice of advanced versus novice musicians. Studies of advanced students and professional musicians document highly systematic, intentional, and personalized approaches to practice (Araújo, 2016). Expert musicians practice in specific phases by focusing on large scale rehearsal initially and become

more critically detailed as practice progresses with an emphasis on planning, analysis, and versatility of strategies (Duke, Simmons, & Cash, 2009; Hallam, 1995). Advanced musicians use an extensive range of strategies and change their approaches to practice dependent on their familiarity and mastery of the music being practiced (Chaffin, Imreh, Lemieux, & Chen, 2003; Nielsen, 1999).

By contrast, in studies comparing school-aged to more advanced musicians, musicians with less experience typically lack responsiveness and mastery in their performance execution and their approach to practice. They display a less extensive collection of strategies, less versatile approaches, less intentionality, fewer self-regulatory behaviors than their more experienced counterparts, and more usage of ineffective strategies (Barry, 1991; Hallam, 2001a; McPherson & Renwick, 2001; Miksza, Prichard, & Sorbo, 2012). But, while most student musicians use a very limited range of practice strategies, some outliers show highly sophisticated, analytical, and varied practice approaches (Austin & Berg, 2006; Pike, 2017; Rohwer and Polk, 2006).

Numerous studies have looked at how specific interventions impact individual practice. These studies have involved a range of treatments including one-on-one instruction (McPhail, 2013), small group instruction (Barry, 1992; Bergee & Cecconi-Roberts, 2002; Burwell & Shipton, 2013), video- or computer-based tools (Brook & Upitis, 2015; Miksza, 2015) which have collectively suggested that instruction in these settings that included metacognitive or reflective activities and focused on establishing strategic, versatile approaches positively impacted effective practice. The only published experimental study (Mieder & Bugos, 2017) to look at the impact of explicit instruction in the large ensemble setting on individual practice found no significant changes in practice strategy usage or effectiveness. However, this study

also focused on a broad set of possible skills for effective practice, so it did not align to the near

transfer paradigm's needs for iterative instruction and control for highly similar contexts.

Rationale

Several scholars (Duke, 2012; Hallam, 2001b; Miksza, 2007; Nielsen, 2001) have

suggested the importance of having teachers present effective practice strategies to their students,

but they remain unclear as to how instruction can contribute to the ToL from large ensemble to

individual practice. The purpose of this study is to identify whether conditions that are ideal for

ToL can impact the transfer of instruction for effective practice from large ensemble to

individual practice for developing instrumentalists. This study was guided by the following

questions:

- Does a treatment involving explicit, iterative instruction of effective practice strategies

  using highly similar musical materials lead to greater transfer of the targeted strategies

  into individual practice than a control condition involving implicit, non-specific modeling

  of effective approaches to practice?

- Does this treatment lead to improved performance accuracy as compared to the control

  condition?

For this study, greater transfer was operationalized as an increased usage frequency of the

targeted strategies during individual practice. The null hypothesis for the first question was that

there would be no significant changes in the frequency of strategy usage across tests between

groups. Similarly, the null hypothesis for the second question was that there would be no

significant difference in performance accuracy between groups across tests.

Method

Sample

Participants in the study included student members of five suburban middle school bands

in the greater metropolitan area of a major Midwestern city. The bands were selected when their

band directors expressed interest in being involved in a study focused on teaching effective

practice following the receipt of an e-mail soliciting participants delivered to all middle schools

across the metropolitan area. Each band was taught by a different director, but the programs

were similar in student demographics, program size, and students' musical experience. While all

students in each band received ensemble instruction using either the experimental or control

conditions, only a portion of each band's members participated in the observational portions of

this study, representing between 20-25% of each band's overall membership. Student

participants were selected through convenience sampling and included all students in each band

who submitted consent forms and completed all three observational tasks (N=66). Each

experimental group included students in 6th, 7th, and 8th grades with between one and five years

of study on their current wind instruments (M=2.67 years, SD=1.13 years) and showed no

statistically significant differences in years of experience.

Design

This study used a mixed ANOVA design (Field, 2014). Four bands were randomly

assigned to one of two treatment conditions, in which the ensemble director used an explicit

instructional protocol during a sight-reading activity to teach one of two practice strategies:

chaining (n=23) or tempo alteration ($n=23$). The remaining band was assigned to a control task

involving group sight-reading using the same materials as the treatment groups (n=20). All

members of each ensemble received one of the three conditions as part of their regular band class.

The participants were observed during individual practice sessions on three occasions: a pre-test, a post-test, and a delay-test three weeks after the post-test to evaluate whether any observed changes persisted (O_1 X O_2 O_3). Change in strategy usage was defined by the change of usage frequency of practice strategies. Performance change was based on assessments of pitch and rhythm accuracy.

Procedure

The four treatment bands followed an assigned instructional protocol delivered by their own band director that consisted of six consecutive lessons over the course of two weeks during regular band rehearsals. The first lesson lasted for 10 minutes. The treatment protocol included four steps: explicit naming of the strategy, explicit explanation of how to use the strategy using its operational definition, teacher modeling of the use of the strategy, and guided practice with the strategy on a provided piece of music written specifically for this study. This instructional sequence was repeated using the same strategy for five minutes during five consecutive lessons with a new piece of highly similar music for each lesson. The fifth band was assigned to a control condition that involved teacher-directed sight-reading on the same pieces used by the treatment groups for the same time frame for each lesson without any assigned strategy or explicit instruction in effective practice. The six pieces were used in randomized order by each of the bands to avoid unintentional bias.

The targeted strategies were operationally defined as follows:

- When *chaining*, musicians break down difficult sections of music into smaller, manageable chunks. Chunks are as small as needed for the musician to be able to

perform with accuracy, potentially being as short as a single note to as long as a phrase. Typically, once a chunk has been worked on, the musician "chains" the chunk to another chunk either immediately before or immediately after it.

- *Tempo alteration* refers to the practice of slowing down a difficult section of music to allow for more detailed practice. Typically, after the section can be played accurately at the slower tempo, the tempo is increased.

These specific strategies were selected in response to previous research which demonstrated that beginning and intermediate music students frequently use chaining and tempo alteration, albeit not necessarily effectively, (Austin & Berg, 2006; Hallam, 2001a; Leon-Guerrero, 2008; Miksza, 2007; Miksza, Prichard, & Sorbo, 2012; Rohwer & Polk, 2006) and a pilot study that showed greatest change in usage frequency for these two strategies as compared to six other common strategies as a result of instruction using similar though not identical instructional and experimental protocols with students in a local middle school band.

The observations consisted of a pre-test during the week before the treatment, a post-test during the week after the conclusion of the treatment, and a delay-test three weeks after the post-test. The test materials were three original pieces of music matched for parallel form presented in randomized order. Each test in the sequence included a 10-minute individual practice session on a test piece followed by a performance of the piece. Aside for the recitation of a brief introduction script by the researcher prior to each session, no teacher or researcher was present during the practice sessions. The researcher returned after 10 minutes and remained in the room during a final performance of the piece. These sessions were video recorded using either a Panasonic SDR-H18 or Panasonic DMC-ZS6 camera on a mounted tripod positioned to the side of the student to allow for later analysis. While facilities varied between bands, each student

returned to the same practice room or classroom for all three sessions and was recorded by the same camera during their regularly scheduled band class.

Demographic information was collected through a survey prior to the admission of the first observation. This survey included questions regarding the student's grade, instruments played, number of years on their current instrument, and private lesson enrollment. The entire protocol and all forms were approved by the Northwestern University IRB.

Quasi-experimental conditions were established through randomization of the ensemble treatment condition and standardization of the instructional and experimental protocols. The bands (but not the individual students) were randomly assigned to one of the three conditions and were of similar size, structure, and demographics. The treatment and individual practice observations occurred during the regularly scheduled band rehearsal to avoid bias in student participation due to scheduling or transportation issues.

Materials

Reliability and validity of the test materials were established through multiple means. Before the study began, nine pieces were composed by the researcher specifically for this study with strict parameters to ensure similarity including a duration of eight measures, matched range within a half-step, the use of less common band key signatures (e.g. G and Db), sixteenth-note runs, dotted-eighth rhythms, and similar melodic and rhythmic sequences. All nine pieces were tested for parallel form reliability. First, a panel of seven experienced middle and high school band directors was given the pieces and asked to individually rank them in order of difficulty. They provided no consistent rating of the pieces, with an average standard deviation of rankings of 2.16 on a 9-point ranking scale. Given a lack of consensus from the expert panel, the nine pieces were performed in random order by 15 intermediate musicians at a local high school.

After the performances were scored by three experienced music educators, the pieces with the most similar average scores were assigned as the three test pieces, with a high degree of score correlation (r=.92-.96). The test pieces were also presented in randomized order during the test observations with a third of the students receiving each piece in each observation cycle to mitigate the impact that differences in the test pieces had on statistical measures. The remaining pieces were used as the source material for the instructional treatment.

Analysis

A panel of five experienced music educators served as raters for the test videos. Each video was divided into twenty, 30-second segments. For each practice segment, the raters identified the presence or absence of each of seven practice strategies associated with developing musicians' individual practice in previous research (Austin & Berg, 2006; Hallam, 2001a; Leon-Guerrero, 2008; Miksza, 2007; Miksza, Prichard, & Sorbo, 2012; Rohwer & Polk, 2006). These included the two target strategies of chaining and tempo alteration, three additional effective strategies of fingering through parts, silent practice, and simplification, and two typically ineffective strategies of distraction practice and run-throughs. Raters were provided with operational definitions of each strategy but were blind to the target strategies used in the study and the conditions of the participants being rated. Each rater viewed all three videos of 17 or 18 of the 66 students, which were randomly ordered and coded so that the raters could not identify which video aligned to which test in the sequence. Every video sequence was viewed by one rater and 15 students' entire video sequences (for a total of 45 videos) were viewed by two raters each to establish interrater reliability. Each rater overlapped with another rater on two students per condition. These overlapped videos represented 22.7% of the overall videos collected and included 900 practice segments with seven observations each for a total of 6300 possible

agreements of the presence or absence of a strategy. Reliability was calculated as a percentage of agreements over possible agreements. Interrater agreement was acceptable with 89.4% of possible observations in agreement.

The test performances were scored separately by two experienced band directors not on the practice rating panel. Performances were scored for pitch and rhythm accuracy. Each half measure received one point for correct pitch and one point for correct rhythm, giving each performance a score between 0 to 32. Each rater viewed all three performance videos from 41 students in randomized order using the coding scheme from the observation videos. 15 students' videos, totaling 45 videos (22.7% of all videos), were viewed by both raters to establish interrater reliability.   With 32 possible observations per performance and a total of 1440 possible agreements, interrater agreement was acceptable at 88.9% of all observations in agreement.

Results

Strategy Usage

The first research question considered whether an explicit, repeated, and contextually similar instructional protocol focused on teaching specific practice strategies would significantly impact the frequency of usage of those strategies during individual student practice. Mean scores for strategy usage frequency are shown in Table 1. Results from a one-way ANOVA of pre-test frequency usage of chaining and tempo alteration showed no significant differences between the conditions. Therefore, subsequent analyses assumed that these groups were equivalent prior to the administration of the experimental treatment.

Table 1.

Mean Scores of Strategy Frequency by Test and Condition

Condition	Pre-test		Post-test		Delay-test	
	Chaining strategy *M* (SD)	Tempo alt. strategy *M* (SD)	Chaining strategy *M* (SD)	Tempo alt. strategy *M* (SD)	Chaining strategy *M* (SD)	Tempo alt. strategy *M* (SD)
Control	7.075 (5.79)	1.175 (1.51)	5.850 (4.27)	.700 (1.08)	6.425 (5.45)	.725 (1.25)
Chaining treatment	5.935 (4.16)	.804 (1.64)	7.043 (4.36)	.587 (.79)	7.087 (4.28)	1.348 (1.55)
Tempo alt. treatment	6.174 (5.54)	.587 (1.11)	7.217 (5.59)	.717 (1.44)	6.674 (4.92)	1.000 (1.47)
Overall	6.364 (5.13)	.841 (1.43)	6.742 (4.76)	.667 (1.12)	6.742 (4.81)	1.038 (1.44)

Chaining was the most frequently used of any of the strategies across the test cycle and across all groups (*M*=6.616, *SD*=4.88). Overall, tempo alteration was found to be used less than once per observation (*M*=.848, *SD*=1.34). Run-throughs (*M*=3.452, *SD*=3.45) and silent study (*M*=2.541, *SD*=2.77) were the only non-targeted strategies observed on average in more than one rehearsal segment per observation in any observation cycle. Repeated measures *t*-tests showed that individual students' frequency of usage of the target strategies did not significantly change between subsequent tests in any condition.

Data were analyzed using a mixed 3x2x3 ANOVA with test cycle and strategy as the within-subject variables and instructional condition as the between-subject variable. There was a large main effect for strategies used within groups ($F(1,63)=122.388$, $p<.001$, $\eta^2=.660$). This effect was due to the previously-cited differences in the use of chaining and tempo alteration

seen consistently across all conditions throughout the test cycle. Regarding the targeted intervention, there were no significant main effects for treatment condition or test cycle and no significant interactions between the dependent variables.

Performance Scores

The second research question considered whether the instructional protocol for practice strategies would affect individual student performance, with mean results shown in Table 2. Results of a one-way ANOVA of the pre-test scores between conditions demonstrated a significant difference in performance scores between groups ($F(2,63)=7.914$, $p<.001$). Results of independent t-tests showed that the chaining condition had a significantly higher initial score than the control group ($t=2.754$, $p=.009$) and the tempo alteration group ($t=4.667$, $p<.001$) which persisted across the other testing sequences. Results of a 3x3 ANOVA with test cycle as the within subjects factor and treatment condition as the between subjects factor showed a moderate-sized main effect for test cycle across groups ($F(2,63)=2.192$, $p<.001$, $\eta^2=.414$). Post hoc repeated measures *t*-test analysis by condition showed that this effect was not evenly distributed across all conditions and test cycles, with significant change in performance scores occurring only between the pre- and post-tests in the tempo alteration ($t=2.36$, $p=.028$) and chaining groups ($t=3.76$, p$<.001$) with no significant change in the control group ($t=1.63$, $p=.118$). No significant differences were observed in any condition between the post- and delay-tests.

Table 2.

Mean Scores of Performance by Test and Condition

Condition	Pre-test Performance M (SD)	Post-test Performance M (SD)	Delay-test Performance M (SD)
Control	12.875 (8.69)	14.125 (9.03)	15.725 (9.89)
Chaining treatment	18.609 (4.61)	21.478* (6.33)	23.239 (4.77)
Tempo alt. treatment	11.358 (5.87)	14.044* (6.25)	15.261 (5.37)
Overall	14.341 (7.15)	16.659* (7.95)	18.182 (7.74)

*indicates significant change in score from the previous test in cycle ($p<.05$)

Because the raw scores were significantly different between groups in the pre-test, the change of score between test cycles was used as the variable of comparison for effect of the treatment condition. Regarding performance scores, results of a mixed 2x3 ANOVA with test cycle as the within subjects factor and by treatment condition as the between subjects factor revealed no significant interaction between condition and test cycle ($F(2,63)=.543, p<.464$). While students in the two treatment conditions saw significant positive change in performance scores from pre- to post-test, the impact of the experimental instructional protocol on overall performance improvement over the control group could not be considered significant.

External Independent Variables

Student background regarding years on an instrument or private lessons had little effect on how students' usage of effective practice strategies and performance changed with time and training. The number of years students played their instruments correlated with changes in the

usage frequency of chaining from pre- to post-test ($r=.274$) but did not correlate significantly with chaining from post- to delay-test or tempo alteration usage or performance between tests. Similarly, post hoc independent *t*-tests of students who took private lessons compared to those who did not showed no significant differences in strategy usage frequency or performance outcomes between any test cycle.

Discussion

This experimental study served as a critical test of the most commonly used paradigm for near transfer applied to the learning of effective musical practice. Its design was robust and met the conditions under which near transfer typically occurs as shown in previous work in transfer (Haskell, 2001; Hunter, 1971; Thorndike & Woodworth, 1901). The instruction was highly explicit and repeated over the course of multiple, concurrent lessons. Treatment and test materials were highly similar, and the difference between the treatment and the test was the independent setting in which students engaged in sight-read activities.

The lack of significant change in the frequency of strategy usage or in the performance scores between conditions suggests that transfer of learning for music practice does not follow the near transfer paradigm that has been implicitly assumed in previous work (e.g. Duke, Simmons, & Cash, 2009; Hallam et al, 2012; Miksza, Prichard, & Sorbo, 2012; Rohwer & Polk, 2006). As previous research has suggested (Christensen, 2010; Hallam, 2001a), this study confirms a disconnect of learning between what is experienced within the ensemble classroom and what is applied in the individual practice room. The lack of a significant change in strategy usage for the treatment groups in response to explicit, repeated, highly similar instruction suggests that effective musical practice may not function under the parameters for near transfer of learning as has been previously accepted. The significant differences in performance scores

pre-test to post-test within the two treatment groups, while not sufficient to distinguish them from the control group which saw no significant change, suggests that the treatment may have affected student performance but in a more subtle way.

The evidence that effective practice does not meet the standard expectations of near ToL has consequences for the ways in which this critical skill is taught. When looking at studies of advanced musicians (Araújo, 2016; Chaffin, Imreh, Lemiuex, & Chen, 2003; Hallam, 2001b), it is apparent that mastery of effective practice that includes intentional use of practice strategies does develop in at least some musicians. At some point, ToL likely occurred that enabled expert musicians to practice effectively. Given the failure of ToL in this study, it is likely that effective practice follows a different paradigm of learning than is presented by traditional approaches for near transfer.

An additional possibility is suggested by the statistically significant change in performance scores within the two treatment conditions from pre-test to post-test shown in post hoc, repeated measures t-tests. This change was not significant enough to distinguish the treatment groups from the control group in mixed ANOVA analysis over all three test cycles, but the findings suggest that the treatment did have a significant effect as no significant change was identified in the control group. This change in performance but not in the frequency of strategy usage might suggest that while the students did not use the strategies more often, they did use them more strategically. This change in effectiveness of strategy usage was not able to be assessed directly in this study, but future studies might benefit from the inclusion of a student reflection immediately following each observation that asked the students to explain their approach to practice. This reflection could provide insight into the cognitive processes that the

students applied during their practice regarding their use of strategies which could reveal more intentional application of target strategies.

These results suggest that ToL for music practice may take a different path than the near transfer paradigm previously assumed in existing research. Where traditional models of transfer (Thorndike & Woodworth, 1901; Haskell, 2001) focus on the content of what is being transferred to establish transfer distance, Salomon and Perkins (1989) focused on the cognitive tasks required for effective ToL to occur. They argued that the "what" of ToL is of less importance than the "how" of transfer (p. 116). In other words, the differences in the ease of ToL is responsive to the cognitive demands required, not the change in context. Under their description, the design of this study (and most other ToL studies) assumed a *low-road transfer* paradigm that required relatively few repetitions and little cognitive attention to ensure transfer.

By contrast, *high-road transfer* requires intentionality and "metacognitive guidance" to establish transfer of complicated tasks (p. 126). As noted by Tunks (1992) and described by Roesler (2016), the transfer of strategies in music learning may require high-road transfer as effective practice relies upon multiple metacognitive steps including accurate identification of errors and diagnosis of their causes in order to effectively use practice strategies. In studies on ToL in computer programming (Pea & Kurland, 1984) and visual art creation (Erickson, 2005), transfer of similarly complex tasks requiring metacognitive problem-solving took years to accomplish due to the demands of this high-road transfer paradigm. Students in these studies were able to describe the strategies they needed to use and accurately apply them to new situations when instructed to early in the instructional delivery, but they struggled to strategically use strategies to solve problems without prompting until much later in the training sequence.

This current study's design was modeled on research for low-road near transfer, as this is the most commonly assumed paradigm for transfer in most educational literature. It is possible that the failure to show ToL for effective practice was because this task requires a different transfer paradigm. If effective practice transfer occurs under a high-road transfer paradigm, future research might include a metacognitive component in the instructional protocol, similar to ones used by Mieder and Bugos (2017) or Miksza (2015), to emphasize these reflective processes and an extended period for study lasting a year or more with periodic observational testing to address the slower development of transfer.

A second possibility for a different transfer paradigm is that ToL of effective practice requires cognitive apprenticeship (Brown, Collins, & Duguid, 1989). Similar to high-road transfer, cognitive apprenticeship assumes a more active role on the behalf of the learner, but it additionally places a higher expectation upon the teacher to intentionally serve in a succession of roles for the student by first modeling cognitive practices, then coaching students through those strategies, and then fading back to allow the students to assume full responsibility of learning tasks. This model for cognitive learning aligns closely with Vygotsky's zones of proximal development (Vygotsky, 1978) by providing a careful scaffolding of learning activities that are sensitive to what students are capable of doing on their own and with teacher support at any given time.

Applied to ToL for effective practice, cognitive apprenticeship acknowledges the high cognitive demand required for effective practice to occur and the role the teacher plays in helping students to develop the metacognitive skills needed to shape that practice. Numerous researchers have noted that developing musicians lack the meaningful reflective skills required for highly effective practice (Hallam, 2001a; Hallam et al., 2012; Miksza, Prichard, & Sorbo,

2012; Rohwer & Polk, 2006). Previous practice studies that have successfully applied treatments that approximate the near transfer paradigm have included a metacognitive or reflective component that mirrors the types of activities experienced during the fading stage of cognitive apprenticeship (Burwell & Shipton, 2013; Miksza, 2015). This gradual development of student agency in musical execution may be a missing component for effective ToL from large ensemble to individual practice. A replication of this study could include an added component to the treatment protocol that allows for teacher fading to ensure student cognitive mastery of the target strategies prior to observation testing.

Conclusion

For ensemble music educators, this study suggests that explicit, frequent large ensemble modeling and guided practice with specific strategies does not result in the ToL of effective practice from large ensemble instruction to individual practice. This finding refutes the traditional assumption of ensemble pedagogy that students develop the ability to independently practice by applying the strategies presented within the classroom to their individual practice. As most wind, string, and percussion instrumentalists have not developed mastery of effective practice at the intermediate level (Hallam, 2001a; Hallam et al., 2012; Miksza, Prichard, & Sorbo, 2012; Rohwer & Polk, 2006), it is important that ensemble directors consider how their instruction impacts student growth for effective, independent practice. The students' growth relies upon the development of many skills, one of which is the application of practice strategies with intentionality. While the instructional mechanisms for effective ToL from ensemble instruction to individual practice are not fully understood, ensemble exposure to effective strategies in the large ensemble setting is not enough. If teachers want to ensure that students are practicing on their own effectively, teachers may need to monitor student practice to see if

strategies are being applied to individual practice and then provide guidance that leads to more effective individual practice. Continuing research should investigate what pedagogical approaches to the large group instruction result in more effective ToL and support the growth of individual student musicianship.

Paper 3 References

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Implications

Collectively, the papers within this dissertation provide a multi-faceted perspective on musical independence and its relationship to instruction within the large ensemble classroom. It must be noted that these studies focused on traditional instrumental large ensembles. While many findings in these studies are likely applicable to other areas of music engagement, they should not be interpreted as representative of musical independence across all music experiences as the traditional instrumental large ensemble possesses specific characteristics that could alter the nature of music engagement. These characteristics include its rigid hierarchical structure, its director-centric tradition, its expectations for notated music literacy, its typical focus on final performance as opposed to growth, and the demographic characteristics of the average instrumentalist that differ from that of the general school population. While I took care to identify programs that included a range of participants and teaching practices, the unique factors of instrumental music education certainly could present confounding factors that interfere with extending these findings to other types of music engagement. With that said, these papers together expand the understanding of musical independence and particularly the role that large ensemble music-making can play in its development.

Student Agency and Decision-Making

The findings in these studies suggest that student agency and decision-making play critically important roles for empowering students to engage competently in collaborative and independent music-making activities with confidence. Given that the design of the *traditional ensemble* places the teacher at the center of decision-making activities, these findings support calls for reform to ensemble music education to provide opportunities for students to engage meaningfully in the rehearsal process (Allsup & Benedict, 2008; Duke, 2012; Miksza, 2013;

Morrison & Demorest, 2012).   The experiences of the students in these studies demonstrated that teaching for musical independence goes well beyond allowing students to make decisions about surface features of the music or select performance literature based on taste, as is often done in the name of student choice. The students had opportunities in every stage of the rehearsal process to "make musical decisions that matter" (Shieh & Allsup, 2016, p. 31) including what, when, and how music was rehearsed. With student agency and decision-making at the center of the teachers' instructional practice, the students could see that the activities of the classroom were responsive to the choices that they made, and they developed deeper understanding of their musical experiences by needing to justify their choices. This shared ownership in the music classroom's daily functions allowed students to see themselves as the primary music-makers and encouraged them to practice conscious, self-determined musicianship inside and outside of the classroom.

Teacher's Role in Developing Musical Independence

It should be recognized that the teachers still played active roles in these music classrooms when teaching for musical independence. Particularly in papers #1 and #2, the teacher's role was different than that of the *traditional ensemble* director in that the teachers regularly and deliberately provided significant opportunities for students to impact the rehearsal's progress through self-direction of music rehearsals in large and small ensembles. The students' contributions altered the direction of the entire rehearsal, and students were expected to have the competencies to critically observe the music-making activities of the classroom. As called for by Allsup and Benedict (2008), Duke (2012), Miksza (2013), Morrison and Demorest (2012), and others, the teacher's role became one of support as opposed to direction.

At the same time, the teachers' power in these classrooms was not significantly diminished. The teachers still maintained the ultimate power, as they actively chose to delegate responsibilities commonly held by the director to the students. Unlike popular music pedagogies (Allsup, 2003; Green, 2008) where the students learn skills largely independent of the teacher through a discovery-based process, the teachers in these classrooms remained actively engaged with students through cognitive apprenticeship (Brown, Collins, & Duguid, 1989; Weidner, 2018) by modeling cognitive processes, providing varied coaching support such as Socratic questioning techniques and crowd-sourced rehearsals, and providing opportunities for collaborative, student-guided music-making. As students encountered challenges that they did not know how to overcome, the teachers both modeled and guided effective practices to develop greater student capacity for their own independent work. According to student interviews throughout these studies, this combination of teacher instruction and student-led music-making contributed to an increased perception of independent musicianship.

Connection between Teacher Instruction and Student-Led Music-Making

When considering paper #3, one possible cause for the lack of transfer between ensemble and individual practice may be the lack of opportunity for the kind of student-led music-making within the large ensemble setting observed in the ensembles of papers #1 and #2. While the students had repeated, explicit instruction using highly similar materials as suggested by transfer literature (Haskell, 2001), the students had few experiences with the strategies without the teacher directing the activities in the full ensemble prior to individual testing. The connection that was made between teacher-directed and student-led rehearsal through teacher modeling and coaching in the two qualitative studies was missing in the experimental study. Large ensemble and individual practice were not deliberately established as an extension of one another beyond

the teachers' statements that students should "use these strategies while in individual practice."

As seen in previous studies by Christensen (2010) and Hallam (2001a), it is possible that the students did not see the instruction for effective practice within the large ensemble as something that could apply to their independent practice, as the individual sessions were seen as separate from the rest of the band experience as they were in a different room with a different adult administering the practice session. The teachers served in the role of model and coach but never faded from the learning setting as is done in the final phase of cognitive apprenticeship (Brown, Collins, & Duguid, 1989). The students did not get the experience of using the strategies during collaborative, student-led activities prior to being observed completely on their own. Still, as there was a significant change from pre- to post-test in the performance outcomes for the students in the treatment groups, there may be some sort of significant impact on student practice as a result of teacher modeling and scaffolding on its own that could be investigated in future research.

Teaching for Concept over Application

Observations of and interviews with the teachers in the qualitative studies demonstrated another key consideration in developing pedagogy for fostering musical independence.   While these ensembles did rehearse specific pieces of music, the instruction they engaged in emphasized broadly applicable concepts as opposed to specific music performances. For example, when Mr. Guss rehearsed Grainger's *Green Bushes*, he directed attention to the concept of tempo control on the accelerando and crescendo using the analogy of riding a bike on a sled hill instead of discussing the exact nuances of the score of *Green Bushes*. The benefit of this approach can be seen in the students' application of the same concept using Mr. Guss' analogy

during their own collaborative practice.   Similar concept-over-context instruction was seen in the classrooms of Mr. Carter, Dr. Evans, and Ms. Simek.

To teach for musical independence, instruction focused on the transferable concepts as opposed to the exact execution of the concepts contextualized within the music. This may run counter to the typical vision of the effective rehearsal in the *traditional ensemble,* which can place a laser-specific emphasis on the needs of a given piece of music. While this traditional model may be a more efficient approach in the short-term for getting to high-quality performances, it becomes a hindrance in the long-term as students only learn about the performance of specific pieces as opposed to applicable concepts and skills that lead to more efficient, more independent practice in rehearsals that rely on the application of previously learned skills and concepts to novel settings by the students.

Acceptance of Failure

Another aspect that was visible within each of the studies was the role that open acceptance of failure played in creating environments conducive to student initiative and risk-taking. From Ms. Simek's poster that outlined an acrostic of "FAIL: First Attempt In Learning" to the tendency in each classroom to use the word "fail" as an acknowledgment and not an admonishment, failure was an accepted part of the independent learning process. While the students acknowledged that they did not enjoy the experience of failing, they realized that it was necessary in order to move forward. The teachers likewise sought out opportunities in which students could encounter failure and figure out how to deal with it on their own terms. They taught coping strategies for dealing with failure by using the social relationships of the classroom, the cognitive strategies for rehearsal, and the application of life skills.   Anecdotally, as observed in post hoc analysis of videos from the study for Paper #3, students verbally engaged

in meta-talk regarding their progress, at times vocally narrating their practice by addressing their failures and explaining how they were going to move forward from failure. The students' shortcomings and failures presented the foundation upon which their progress forward was based. As noted by Duke (2012), "how learners deal with the unsettled feeling and frustration has everything to do with hose well they learn and how independent they become" (p. 40). These classrooms demonstrated that *fail* does not need to be an unspoken four-letter word in the classroom focused on developing musical independence; rather, it can be embraced as a critical step for acknowledging personal needs in order to progress toward advancement.

Peer Collaboration

Finally, these studies demonstrated the importance of promoting collaboration between students as the engagement of peers served many purposes in the development of musical independence. Peer influence through modeling and persuasion created motivation for learning, persistence, and grit. As stated by Jeff at Sherman High School, "You want to be that person who helped you once. If you've helped someone once, not even on purpose, and see their improvement—that feels really good when you help someone improve." This collaboration between students reinforced the lessons experienced in the large ensemble setting and allowed students to serve as models for one another. More experienced students facilitated the learning of other students while at the same time seeing themselves as being the agents of change within the ensemble. Collaboration encouraged interdependent problem-solving (Tan, 2014) which in turn strengthened students' independent musicianship. In these classrooms that were respectful but not pin-drop silent, the students and teachers actively and comfortably used one another as resources, cheerleaders, and collaborators.

Continuing Directions

These studies open several possibilities for continuing research, both within my own research agenda and that of others. As this is the first sequence of studies to investigate musical independence in the actual practice of large ensemble directors, a logical next step is to identify how the dynamics seen within these classrooms are manifest in other settings. While the qualitative studies were conducted with teachers of varying years of experience in demographically different communities, they all occurred within high school band programs that had already adopted musical independence as a primary objective in a single state in the Midwest. Considerations for how musical independence is manifest in other types of ensembles, grade levels, methodologies, and regions could strengthen our understanding of musical independence across music education. One particular area of interest for future study could be to look at choral programs to identify how the different expectations and experiences of vocally-based ensembles impacts the nature of independent musicianship. Another option would be to study ensembles that have not explicitly or previously adopted musical independence as a priority so to understand the impact of teacher intention on practices of musical independence. Both of these settings present a different set of pedagogical priorities from the *reimagined* bands studied in these papers and could provide a deeper understanding of the role that large ensemble instruction plays in the development of musical independence.

Paper #3 presents an additional line of inquiry regarding why explicit, iterative instruction in effective practice strategies did not lead to more effective practice. Further research could explore the disconnect between ensemble instruction and individual practice seen in this study to identify the factors that strongly impact or impede student development. Just as Christensen (2010) found in her research on middle school students' musical practice, it is

possible that the lack of significant change in approaches to practice as a result of strong, extrinsic instruction and modeling was that while the students understood the concepts of effective practice, they lacked the critical skills to be able to meaningfully diagnose their musical issues and effectively apply strategies to remedy them. As suggested by recent scholarship focused on teaching metacognitive strategies in individual or small group settings (Miksza, 2015; Roesler, 2017; Upitis, Abrami, Varela, King, & Brook, 2016), future studies could include reflective practices such as active goal-setting and monitoring, self-assessment, and self-affirmation to understand the impact of explicit instruction for effective practice strategies.

The next step directly from these studies is to consider empirical measurement of the development of students' musical independence as a result of ensemble instruction. These studies provide examples of what instruction for musical independence might look like and a framework upon which the impact of various pedagogical applications could be measured. The model presented in Paper #2 provides a definition of musical independence within the large ensemble setting built around student agency, critical decision-making, and lifelong musicianship that could be operationalized, observed, and evaluated in future research. This research could be conducted comparatively, looking at matched programs that adhere to different instructional objectives, or longitudinally for the impact of sustained instruction on students' independent musicianship as defined by the terms proposed in this model.

A final unexplored question that these three studies lead to is what the long-term implications of instruction for musical independence are for the student. Presuming that these instructional interventions do indeed impact musical independence, what difference does it make on the post-secondary lives of the students in these programs, musically or otherwise? The participants in these studies reiterated throughout the interviews that the students' developing

independence allowed them to more meaningfully engage in music of all sorts, thereby providing a more complete cultural understanding of the world in which they participate. Little empirical research supports or refutes this position. Further research could probe into the lives and experiences of former school musicians and non-musicians to identify if music experiences supporting musical independence do impact their musical experiences outside of school. While it has been assumed that musical independence is a positive trait to possess, these sorts of studies could provide the evidence for advocacy regarding the lifelong benefits of independent music engagement.

Conclusion

The challenge of teaching for musical independence lies in ensuring that the surface demands of performing ensembles such as concert schedules, performance expectations, community commitments, and competitive mindset do not overwhelm the students' opportunities to engage meaningfully with the music of the ensemble. This calls for a philosophical shift in the *traditional ensemble* that places the students' growth at the center of the ensemble experience as opposed to the music literature they are performing. This does not mean that high expectations for music production need to be cast aside; in fact, the reverse is very much true. By emphasizing students' growth as the central focus of the ensemble experience, students are able to assume greater degrees of responsibility for music preparation, allowing for more professional-level engagement in the rehearsal by permitting the teacher to address more advanced concepts as students assume the tasks of identifying and correcting errors. The teachers studied in this dissertation still emphasized high standards of musical excellence by maintaining expectations for mastery of musical fundamentals, functional music literacy, and a pursuit of high quality performance. Teaching for musical independence did not mean that they

no longer taught for musical excellence in the large ensemble. Rather, using their model,

teaching for musical independence meant that the students develop the skills to become the

makers of the musical decisions that create their art which can be applied to their musical

pursuits across a lifetime.

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Appendix A

Paper 1: Parent Information and Student Assent/Parent Consent Form

To the parents of students of the _____ High School Symphonic Band:

My name is Brian Weidner, and I am currently a PhD student-researcher at Northwestern University. Prior to my time at Northwestern University, I was a high school music teacher and administrator at McHenry High School for 12 years. I am writing to inform you about a research study that will take place in your child's band.

I am investigating how students develop as independent musicians in a high school band ensemble. This study is comprised of two parts: observations of daily class rehearsals and short interviews with students following/during class, during lunches, or before/after school. These interviews will focus on the decision-making process students demonstrate during class and their reflections on the band experience. Audio recordings will be made of these interviews. All students are anonymous in this study. Students are not required to participate, and no pressure will be placed on students to be part of this study. A student may also choose to participate initially and then later remove themselves from this study without recourse.

I selected this ensemble for this study for a few reasons:
1. Mr. ___and Mr. ___ have been generous to offer their classroom and their time to assist me in this study,
2. _____ High School has a tradition of excellence in music, and I intend to identify how that excellence develops, and
3. Mr. ____ is a highly experienced teacher who promotes excellence within his students and is someone I greatly respect as a colleague and fellow educator.

Administration at _HS and the Institutional Review Board at Northwestern University have been informed of this study. While no consent forms were deemed necessary by either party, Mr. ____, Mr. _____, and I wanted you to be aware of this study. Additionally, if you do not wish your child to be involved in this study, please contact Mr. _____. If you have questions about this study, do not hesitate to contact me at brianweidner2019@u.northwestern.edu.

Sincerely,

Brian N. Weidner
PhD Student-Northwestern University

Title of Research Study: Developing musical independence in high school musicians

Investigator: Maud Hickey & Brian N. Weidner

Supported By: This research is supported by Northwestern University-Bienen School of Music. ("NU")

Why am I being asked to take part in this research study?

You are being asked to take part in this research study because you are a member of the _____High School ("_HS") Symphonic Band ("SB"), which is serving as the host organization for this study.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at (847)467-4726 or brianweidner2019@u.northwestern.edu.

This research has been reviewed and approved by an Institutional Review Board ("NU-IRB"). You may talk to them at (312) 503-9338 or irb@northwestern.edu if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The development of musical independence is an important goal of many high school music programs. Skills for musical independence include the ability to practice effectively, identify problems in music performance, and correct those problems. The field of music education has studied musical independence extensively among college students and professional musicians, but relatively few studies have looked at high school musicians. This study seeks to understand what music independence looks like in high school musicians and how the experience in a music ensemble classroom influences its development.

How long will the research last?

We expect that you will be in this research study through the end of the 2014-2015 school year, with majority of your involvement being completed before March 31, 2015.

How many people will be studied?

We expect about 20 people will be in this research study out the entire membership of the _HS SB.

What happens if I say "Yes, I want to be in this research"?

You will be periodically interviewed to discuss your musical experiences, both in and out of class. These conversations will be about what you do while engaged in music. We will interview you at a mutually agreeable time in one of the music classrooms. You can decide how much or how little you wish to participate in the study. A faculty member of _HS will be present during all interviews but will not be part of the conversation between us. Interviews may be audio recorded to ensure accuracy of your statements.

Unless required by representatives of NU's IRB, _HS's administration, or other legal entities, the content of our interviews is confidential and will not be shared with those outside the research team.

What happens if I do not want to be in this research?

You can leave the research at any time and it will not be held against you.

What happens if I say "Yes", but I change my mind later?

You can leave the research at any time and it will not be held against you.

If you decide to leave the research, contact the investigator so that the investigator can discuss how data already collected should be handled.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of NU and of _HS.

We will not ask you about child abuse, but if you tell us about child abuse or neglect, we are required by law to report your name to state authorities.

Transcripts of interviews may be retained after this study for future research. The transcripts will be stored on personal data storage of the investigator and will not be made available to others without your explicit consent.

What else do I need to know?

In any publications or presentations that result in response to this research, your name and identity will not be used. All names used in these transcripts will be provided with pseudonyms to preserve your confidentiality.

Optional Elements:

The following research activities are optional, meaning that you do not have to agree to them in order to participate in the research study. Please indicate your willingness to participate in these optional activities by placing your initials next to each activity.

I agree	I disagree	
_____	_____	The investigator may audio record me to aid with data analysis. The investigator will not share these recordings with anyone outside of the immediate study team. These recordings will not be used as part of any presentation or audio-visual publication.
_____	_____	The investigator may contact me in the future to see whether I am interested in participating in other research studies.

Your signature documents your permission for the named child to take part in this research.

Signature of child	Date

Printed name of child

Signature of parent or legal guardian	Date

Printed name of parent or legal guardian

Signature of person obtaining consent and assent	Date

Brian N. Weidner

Printed name of person obtaining consent

Appendix B

Paper 1: Interview Protocol

Opening statement
To start, I thank you for agreeing to be interviewed as your participation in this study is voluntary. The focus of this study is on musical independence and the role that various individuals play in the ensemble classroom. We are audio recording this interview, so that I can focus on our discussion and not frantically scribbling down notes. Before we go on, if you could introduce yourself by first name and acknowledge that you are being recorded and that you are okay with that.

Lead teacher
Describe the band program.
Describe the symphonic band specifically.
Discuss how you envision the structure of your ensemble.
Can you describe the band program when you began at Libertyville High School?
How is what you do different from what was here when you started?
What objectives do you have for your classes?
   • What do those objectives look like in the classroom?
What expectations do you have for your students? →What responsibility do they have in the classroom?
What do you see as your role in your students' musical development?
What is the take away from your class for your students?
How do you select music for your ensembles?
How do you assign parts for concerts?
How do you evaluate your students' progress?
What does musical independence mean to you?

Students
Introduce yourself-first name, instrument, year in school
Take me through a normal rehearsal.
Tell me about today's rehearsal.
What expectations do you think Mr. Guss has of you?
What is expected of you when you arrive to class each day?
What role do you personally play in class each day?
What opportunities exist for you to talk about your perspective in rehearsal?
Talk about what being in band means to you.
Talk about the experience of working in chamber ensembles.
How is band like your other classes? How is it different from your other classes?
Describe what you were thinking when you _____ during class today.
How confident were you when you _____ during class today?

Other faculty
Describe the philosophy of the Libertyville High School Bands.
What is special/unique about the LHS Bands?
How do you see the Symphonic Band fitting into the overall band program at Libertyville?
What objectives do you have for the Symphonic Band?

Talk about the chamber music program.
- What value does it bring to the symphonic band?

What role do you see students playing in your classes?

Appendix C

Paper 1: Theme and Subtheme Exemplars

Theme	Subtheme	Teacher exemplary quote	Student exemplary quote
Band environment	Band as a musical space	Steve Kinder (asst director): Musically, just bringing them up to a level that I think that everybody is highly achieving and whether that is in their concert band literature, in their chamber ensembles, seeing that progress from the end of the year from the beginning of the year. There's already progress that we've been doing, and that's great, but seeing how high that can go.	Bill (senior percussion): Yeah, I mean if everything you want to be, everything you practiced in the last couple of months, all sort of falling into place. So if you're on a mallet, you want to hit the right keys. If you're on a drum, you want to hit the right tone and you know, at the right time, keep the right time so everything falls in place.
	Band as a social space	Pete Guss (director): I think you want it to be fun, you want it to be entertaining and compelling, you want it to feel like, "You know, he's enjoying this. We're, I'm enjoying this, this is what we want to get out of this, regardless of the level of music making that is actually occurring….We had a good time doing it. It was work, but we had a good time working."	Lizzie (junior horn): It's a good experience to be with people who are like-minded. It is very nice to have people who also share a love of music sitting around you. I like being on the stage playing the performances and it's just in general a very positive place to be.
	Band as an extramusical space	Pete Guss: Being prepared. Working together with others. Understanding that everyone's contribution is important. You know one of the worst pieces of legislation ever gave us one of the best ideas ever to what we do in band which is the No Child Left Behind. You can't hide those kids.	Maggie (junior horn) I personally like, being the only horn (in her chamber ensemble), I feel more confident. It helps me to feel more confident by doing this like knowing what notes I'm playing and something like that.
Teacher-directed instruction	Expectation for student problem-solving	Pete I think that starts their thought process going down that path, and the chamber ensemble's where they get to further develop that, where they get to go, "Alright. I heard this. I can do that." We [indicating students] can sort of ask those questions, or when we [indicating self] come in, we can ask those questions, because a lot of times, they (the students) don't know the questions to ask. That's key.	Jared (freshman alto sax): One person is sitting with the score and is like "Hey, this decision is wrong." It's also making you start to think like the conductors with the piece. 'Hey, this is not right. Maybe we should play it like this.' You can start to train your mind to think like they do, because you're hearing just the four people around you, not the whole band or huge masses of wrong sounds.
	Space for independent decision making	Pete Guss: You let them make their own mistakes. You let them make some of their own decisions. We had the chamber groups play in	Jessica (junior horn): So, it's sort of like taking a liberty. If you have a crescendo, you gotta do it the way that you think is right, and if it has a tone written on the top, you should

		January. They play and then afterwards you talk a little about it.	play it with what you think that tone is. It really is up to the directors whether they approve of what you are doing or not, but for the most part, you are allowed to take liberty with what the music is trying to convey.
	Teacher-directed modeling	Pete Guss: I think the kids in their section who are like, you know, 'Which kid in your section, if I went down the line and said, Brian, which kid do you want to play like this year, which kid do you look to? And I say, "If I were as good as fill in the blank, I'd be OK." Sometimes that's a personality, sometimes that's playing skill, sometimes it's a little bit of both. Maybe it's the trumpet player who does have great range, but he really understands style, or he never misses an entrance. He's always ready to go. It could be any one of those non-musical skills.	Cassidy (sophomore flute): It's really just watching how Mr. Guss does it for me. How he listens to it and we'll sometimes switch around parts to see where everyone else is with their part and look at that and see how the parts fit together. Like "Oh the French horn and the oboe are together" or parts like that and having to look at where everything fits together…. I'm watching them for what is important to them….How much they are emphasizing those things.
	Intentional vagueness	Pete Guss: So if we can use an analogy for something that is a little more approachable, a little more everyman, something you don't necessarily need to be a music person. We try to make those connections outside of music…It stuck in their heads. It's another way to make a connection.	Ray (freshman bari sax): Instead of just saying 'You gotta get quieter faster,' you remember, 'Oh yeah, this is when Mr. Guss said "It's like a race car."'
Student-led problem-solving and decision making	Opportunities exist for students to diagnose their own errors	Pete Guss: We talk about that. "What are you doing? Why are you going this fast?" And again, more questioning rather than dictating is key.	John (sophomore bass clarinet): I'm not responsible for the whole band. I'm going to need to carry my part in the band, because then when I mess up, whatever I do, it affects those around me.
	Opportunities exist for students to solve music issues	Mike Hill (student teacher): At least from the time I've noticed when I've been working with them, they have ideas and they ask about it. For example flutes are always "We need to tune. Can we split the octaves here?"	David (junior alto sax) It just kind of like working together. We did a piece for the final exam. Their expectations were that they want us to continue to work as a group and work on a piece and overall just make sure everything meshes well, that we have a good tone and we sound well, but at the same time the rhythms are all correct.
	Opportunities exist for students to	Pete Guss: At some point, we have to make the decisions from the podium. But in the chamber	Molly (sophomore percussion): Someone will count it off and then we'll go and then if it starts to get

	make music decisions	ensembles, since there's nobody to tell you that, the whole point is them making those decisions, and we do talk about that both explicitly and sort of a refresher post-performance. We go around and coach.	really bad, then we'll stop then because Kayla's our section leader so usually she'll do corrections and everything and then we'll try it again. Maybe a different section or maybe the same one.
	Opportunities exist for students to direct their own music	Pete Guss: Consistently. Top to bottom. All of them did it. They did it well. They played together. It was like they made their choice. Now when they make that choice it is upon us as directors to explain to them "Look, here's why this might not be the best choice," but at some point you kind of have to let them do it.	Molly: I was mainly talking with Bill, because he and I are on the same sort of part for the song we were on. We were working out who was going to be playing the woodblock or suspended cymbal and bells at which part, just so that it would make it easier for both of us to play the part correctly and effectively.

Appendix D

Paper 2: School Screening E-mail and Follow Up

Fellow music educators,

I am currently conducting a study looking into the curricular practices of high school instrumental teachers. Specifically, I am considering the objectives which instrumental teachers set for the curricular music ensembles and the commonalities that exist between various programs.

I am contacting you as a member of the northeastern Illinois region's cohort of instrumental music teachers. I would greatly appreciate if you could reply to this e-mail with a response to the following question:

What are the 3-5 most important student learning objectives for your curricular instrumental music large ensembles (including but not limited to bands and orchestras of any type)?

If you would rather leave a voice mail response to this question, you may call me at 815-861-3366.

Your responses will be kept completely anonymous in any report that is issued in regard to this study. This study has been reviewed by the Northwestern University Institutional Research Board and determined not human research requiring institutional review (IRB ID STU00201047). A follow up communication may follow for clarification of your response.

If you would like a report of this study when findings are released, please let me know in your e-mail.

Thank you for your time and assistance. It is greatly appreciated.

Sincerely,
Brian N. Weidner

My name is Brian Weidner and I am currently a PhD student researcher in music education at Northwestern University. I have been involved over the past year in a study looking at how large music ensembles impact individual student development, and I am looking for a collection of schools from different settings with successful music programs and established teachers to serve as research sites for an expansion of this project. When I asked various music educators about strong programs that fit this description, your program was among those recommended.

I am contacting you to see if you would be interested in being considered for this project. The actual study would take place during the fall of 2015, and would entail an extended interview with you, short interviews with some students, and a series of observations of one of your music ensemble's rehearsals over the course of fall semester with several observations early in August and September and then monthly visits later in the semester.

I would like to come and visit you and your school sometime between now and the end of the year to further discuss this study with you, understand your program better, and see if your program would be a good fit for the nature of this study.

Please let me know if you would be willing and available to meet with me. This is not indicating any commitment to this study. It is merely an opportunity for me to understand your program more thoroughly and for you to understand the conditions of this study before deciding to commit to it.

This study has been reviewed by the Northwestern University Institutional Research Board and determined not human research requiring institutional review (IRB ID STU00201047).

Thank you for your time and consideration!

Sincerely,

Brian N Weidner
PhD Student-Music Education
Northwestern University
brianweidner2019@u.northwestern.edu

Appendix E

Paper 2: Student Assent/Parent Consent Form and Adult Participant Consent Form

Title of Research Study: A comparison of instrumental ensembles' approach to developing musical independence

Investigator: Maud Hickey & Brian N. Weidner

Supported By: This research is supported by Northwestern University-Bienen School of Music. ("NU")

Why am I being asked to take part in this research study?

We are asking you to take part in this research study because you are in an ensemble that is serving as host to this study.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at (847)467-4726 or brianweidner2019@u.northwestern.edu.

This research has been reviewed and approved by an Institutional Review Board ("IRB"). You may talk to them at (312) 503-9338 or irb@northwestern.edu if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The development of musical independence is an important goal of many high school music programs, which is loosely defined as the skills and abilities to make music without direction. The field of music education has studied musical independence extensively among college students and professional musicians, but relatively few studies have looked at developing musicians. This study seeks to understand what music independence looks like in developing musicians and how the experience in a music ensemble classroom influences its development.

How long will the research last?

We expect that you will be in this research study through the end of the 2015-2016 school year, with your involvement being completed by June 30, 2016.

How many people will be studied?

We expect about a quarter of the student membership of your ensemble will actively participate in this study.

What happens if I say "Yes, I want to be in this research"?

Students who agree to participate in this study will be interviewed once by the investigator to discuss their musical experiences, both in and out of class. These conversations will be highly reflective on what students do when engaged in music and how and why they approach music as they do. These interviews will take place one-on-one or in small groups according to the participants' comfort level. Interviews will take place in the music rooms before and after school, during lunch, or open periods according to the availability of participants. Extemporaneous, short questions may take place during transitions or before/after class. The participants can decide how much or how little they wish to participate in the study. A faculty member of your school will be present during all interviews but will not be part of the conversation between participants and the investigator. Interviews will be audio recorded to ensure accuracy of participants' statements.

Adults who agree to participate in this study will be interviewed by the investigator to discuss their beliefs about music and musical independence and to discuss their role in the development of student musical independence. Interviews will take place according to the participants' availability and will occur in person at your convenience. Interviews will be audio recorded to ensure accuracy of participants' statements.

Unless required by representatives of NU's IRB, your school's administration, or other legal entities, the content of these interviews is confidential and will not be shared with those outside the research team with the identities of the participants attached.

What happens if I do not want to be in this research?

You can leave the research at any time and it will not be held against you.

What happens if I say "Yes", but I change my mind later?

You can leave the research at any time and it will not be held against you.

If you decide to leave the research, contact the investigator so that the investigator can discuss how data already collected should be handled.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of NU and representatives of your school.

We will not ask you about child abuse, but if you tell us about child abuse or neglect, we are required by law to report your name to state authorities.

Transcripts of interviews may be retained after this study for future research. The transcripts will be stored on personal data storage of the investigator and will not be made available to others without your explicit consent.

What else do I need to know?

In any publications or presentations that result in response to this research, participant names and identities will not be used. All names used in these transcripts will be provided with pseudonyms to preserve the confidentiality of participants.

Optional Elements:

The following research activities are optional, meaning that you do not have to agree to them in order to participate in the research study. Please indicate your willingness to participate in these optional activities by placing your initials next to each activity.

I agree   I disagree

_____	_____	The investigator may audio record me to aid with data analysis. The investigator will not share these recordings with anyone outside of the immediate study team. These recordings will not be used as part of any presentation or audio-visual presentation.
_____	_____	The investigator may contact me in the future to see whether I am interested in participating in other research studies.

Signature Block for Children

Your signature documents your permission for the named child to take part in this research.

_____   _____
Signature of child   Date

_____
Printed name of child

_____   _____
Signature of parent or legal guardian   Date

_____   ❑ Parent
Printed name of parent or legal guardian   ❑ Legal guardian

_____   12/10/15
Signature of person obtaining consent and assent   Date

Brian N. Weidner
_____
Printed name of person obtaining consent

Title of Research Study: A comparison of instrumental ensembles' approach to developing musical independence

Investigator: Maud Hickey & Brian N. Weidner

Supported By: This research is supported by Northwestern University-Bienen School of Music. ("NU")

Why am I being asked to take part in this research study?

We are asking you to take part in this research study because you are in an ensemble that is serving as host to this study.

What should I know about a research study?

- Someone will explain this research study to you.
  - Whether or not you take part is up to you.
  - You can choose not to take part.
  - You can agree to take part and later change your mind.
  - Your decision will not be held against you.
  - You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at (847)467-4726 or brianweidner2019@u.northwestern.edu.

This research has been reviewed and approved by an Institutional Review Board ("IRB"). You may talk to them at (312) 503-9338 or irb@northwestern.edu if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The development of musical independence is an important goal of many high school music programs, which is loosely defined as the skills and abilities to make music without direction. The field of music education has studied musical independence extensively among college students and professional musicians, but relatively few studies have looked at developing musicians. This study seeks to understand what music independence looks like in developing musicians and how the experience in a music ensemble classroom influences its development.

How long will the research last?

We expect that you will be in this research study through the end of the 2015-2016 school year, with your involvement being completed by June 30, 2016.

How many people will be studied?

We expect the band director and about a quarter of the student membership of your ensemble will actively participate in this study.

What happens if I say "Yes, I want to be in this research"?

Adults who agree to participate in this study will be interviewed by the investigator to discuss their beliefs about music and musical independence and to discuss their role in the development of student musical independence. Interviews will take place according to the participants' availability and will occur in person at your convenience. Interviews will be audio recorded to ensure accuracy of participants' statements.

Unless required by representatives of NU's IRB, your school's administration, or other legal entities, the content of these interviews is confidential and will not be shared with those outside the research team with the identities of the participants attached.

What happens if I do not want to be in this research?

You can leave the research at any time and it will not be held against you.

What happens if I say "Yes", but I change my mind later?

You can leave the research at any time and it will not be held against you.

If you decide to leave the research, contact the investigator so that the investigator can discuss how data already collected should be handled.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of NU and representatives of your school.

We will not ask you about child abuse, but if you tell us about child abuse or neglect, we are required by law to report your name to state authorities.

Transcripts of interviews may be retained after this study for future research. The transcripts will be stored on personal data storage of the investigator and will not be made available to others without your explicit consent.

What else do I need to know?

In any publications or presentations that result in response to this research, participant names and identities will not be used. All names used in these transcripts will be provided with pseudonyms to preserve the confidentiality of participants.

Optional Elements:

The following research activities are optional, meaning that you do not have to agree to them in order to participate in the research study. Please indicate your willingness to participate in these optional activities by placing your initials next to each activity.

I agree	I disagree	
_____	_____	The investigator may audio record me to aid with data analysis. The investigator will not share these recordings with anyone outside of the immediate study team. These recordings will not be used as part of any presentation or audio-visual presentation.
_____	_____	The investigator may contact me in the future to see whether I am interested in participating in other research studies.

Signature Block for Capable Adult
Your signature documents your permission to take part in this research.

_____   _____
Signature of participant   Date

_____
Printed name of participant

[signature]   1/6/16
_____   _____
Signature of person obtaining consent   Date

Brian N. Weidner
_____
Printed name of person obtaining consent

Appendix F

Paper 2: Student background questionnaire

Demographic Information

Student name _____

Student school _____

Current grade in school _____

Band Instrument _____Number of years on current band instrument _____

Other musical instruments played _____

Do you take private lessons on your band instrument?   Yes   No

Do you take private lessons on another musical instrument? Yes   No

     If yes, which instrument? _____

Appendix G

Paper 2: Interview Protocols

Interview protocol for semi-structured interviews

Opening statement
To start, I thank you for agreeing to be interviewed as your participation in this study is voluntary. The focus of this study is on musical independence and the role that various individuals and activities play in the ensemble classroom. We are audio recording this interview, so that I can focus on our discussion and not frantically scribbling down notes. Before we go on, if you could introduce yourself by first name and acknowledge that you are being recorded and that you are okay with that.

Students
Take me through a normal rehearsal.
Tell me about today's rehearsal.
What expectations do you think [your teacher] has of you?
What is expected of you when you arrive to class each day?
What role do you personally play in class each day?
What opportunities exist for you to influence rehearsal?
How do you make music on your own?
Describe your relationship with [your teacher].
Talk about what being in band means to you.
Do you consider yourself responsible for your own music making? Why or why not?

Teacher
Describe yourself. (Personal, professional, educational, musical)
Describe your band/orchestra program.
Describe the [ensemble class being studied] specifically. (Objectives, structure, specific characteristics)
What are the prior experiences of your students before being in your program?
What musical opportunities outside of the music classroom do students have?
What are the options/participation levels for private lesson instruction?

Discuss the structure of your ensemble. How do you organize your rehearsals?
Describe the environment of your classroom. (If not mentioned, what are musical, social, and extramusical characteristics of that environment?)
What are the hallmarks of your instructional practice?
What objectives do you have for your classes?
  • What do those objectives look like in practice in the classroom?
What expectations do you have for your students?
What opportunities do you provide for you students for…
  • Problem solving?
  • Independent decision making?

What do you see as your role in your students' musical development? (If not mentioned, what role does modeling play in your instructional practice? What role do questioning strategies play in your instructional practice?)

What responsibility do the students have in the classroom?

       (If not mentioned,
- How do your students make musical decisions for themselves?
- How do your students engage in directing their own music making?

What is the take away from your class for your students?

How do you select music for your ensembles?

How do you assign parts for concerts?

How do you evaluate your students' progress?

How, if at all, do you utilize technology as part of your instructional technique?

What does musical independence mean to you?

Appendix H

Paper 2: Excerpt from Partially-Ordered Meta-matrix Analysis

Participants	Definition	Category	Justifications	Stated practices	Supports	Hindrances
KC	"giving 100% of what they have every day." "come in the next day, ready to go where we left off"	daily preparation	rehearsal time is for going beyond what individuals can do on their own.	Tell students to "leave everything at the door" "come prepared for what you need to do."	daily rehearsal schedules that students prepare for Selection of music that allows for students to be stretched but to be able to perform it	student life in general "Johnny's sick. Someone else failed a class" "If you've got a cold that day, give me whatever you've got."
KC	"knowing their part"- count rhythms. Find answers if they don't know it	daily preparation	students are able to do things on their own.	Tell students to come with music prepared "know your part." Reminders that they have the tools and don't need to ask.	giving students fingering charts, rehearsal schedules, apps for metronomes and tuners (directed to do so in class), training in using metronomes and tuners	
ES	"Love of music so they can continue on and make decisions on their own"	independent decision making			Lots of opportunities for students to make decisions	Limited experiences prior to high school
ES	Being able to make your own musical decisions"	independent decision making	The purpose of learning is to be able to do things on your own	Letting students make the decisions of the classroom-trial and error	Opportunities for making choices Students actively support one another to make their decisions	Time
KC	"make decisions themselves and be critical of those decisions that are made"	independent decision making	"teach myself out of a job" role of the teacher is to prepare students	modeling of practices??? Cold calling of students to direct aspects of class listening to their own performances	In class practice with limited options Watching film/listening to recordings together to ensure accuracy	limited experience in trying new problems, inhibited experiences in the past

	"make decisions that let the music come alive"			and "asking them to make the music more musical"		
ME	students making choices in music	independent decision making	Allows them to make musical choices and ensembles upon leaving	jazz band-opportunities to arrange Sectional/chamber work "making sure to never put a kid on the spot that shouldn't be put on the spot" Specific questioning about musical experiences Goal writing Reflective recordings--listening	DB works as a resource and supervisors-structures the expectations for the classes	Don't do it often enough Time Sees musical independence as a large thing, not something that can intermittently occur Many questions lead to answer
KC	"love to play and find a way to engage in music somehow"	lifelong music engage-ment	music is always in the background--need to be able to respond to it	create a culture that is supportive for music making	exposure to music in different settings and types--different types of music, going to music performances together, putting together music events in town	not every develops at the same rate or is looking for the same aspects of the band limited opportunities for music outside of the school
ME	"how to understand, analyze, evaluate music from different time periods, ethnic groups" "lifelong experiences for music	lifelong music engage-ment	need to understand how music affects the world and life	Lots of different approaches and genres-specific focused sessions Comprehensive Musicianship Concert band is at the center of the band program	Constant discussion and other activities with music so students understand, not just performance	personal teacher training is as a tyrant on the podium

	engagemen t"			Assignments about things that are about thinking about music		
ME	Continuing to be musician for life "Be a performer or a patron of the arts" "If you didn't have a band director, you could make satisfying music on your own."	lifelong music engage-ment	Personal experiences with discovering music from early ages on Being in music is broader than just notes and rhythms There's not always a music teacher around	Providing opportunities for students to explore music as they wish (e.g. rock band instrumentation) Recognizing the differences between students and their reasons for musical engagement	pointing students to camps, lessons, outside groups, specific pieces and opportunities "Putting carrots in front of the students" Social contacts with other students	
ES	"I don't care how well students play. I want them to be able to read music so they can choose what they get to do with music." "Before being independen t, you need to be literate"	music literacy	She didn't know these things when she started in college and it was a disservice to her students.	Expectation of students to read music or ask for help Careful assignment of parts to ensure that students grow and can find success. "Challenge them, but not challenge them too much to the point that fail" Tell students that it is okay to fail, as long as you learn from it.	Beginning band in high school Focus on student success and appropriate levels of engagement for students Makes point of showing how learning evolves, even in the teacher-"counting systems"	Limited musical experiences prior to high school-pay to play programs or under engaged middle school programs
KC	"stretch ability and their knowledge	musical knowledge	"understand the range of the band world and the music that	range of music selections and student responsibilities	lots of experiences with lots of different music	need to support school functions "Hey we have a Veteran's Day

	base of music" "expand their knowledge"		goes along with it."			presentation. Do something for it. Results in pounding through a piece in 2 weeks, and there's no learning due to that." no private lessons
ES	Students doing and leading music-- student leaders	student leadership	"All these kids know how to do their work. I am just a resource"	Students lead as much as possible Student leadership program that gives real responsibilities Students are expected to go to section leaders for help Three strike system for assigning leaders "Ultimate goal is getting rid of student leadership program, because they students are doing it."	Students teaching students Teacher as facilitator	Freshmen and upperclassmen cannot be in class together due to scheduling
ES	"Create a whole student that includes music, but not only music"	whole student	Music is a part of the students' life, not the only thing that defines the student	Seeks to learn about students "Chat a lot about both music and other stuff" Encourage failure so they can fix it	Focus on helping one another	

Appendix I

Paper 2: Sample Excerpt of Discourse Analysis for Pronoun Usage

Second person	you kind of get that going where there are expectations and the kids buy into that, it kind of runs itself, because the older kids teach the younger kids how you comport yourself in a rehearsal, so I really don't have to say too much about that
Second person	I think when you are a young teacher, it's all just coming at you at 100 miles per hour and you're trying to make sure that the kids aren't misbehaving over here and trying to remember your lesson plan and everything. As you go on, and those things become more second nature, you really can listen a lot more and you have more models in your mind of what things should sound like, so you refine that sense of what you want your band to sound like and you're able to dig deeper into that.
Second person	you're not just working that performance,but trying to teach the whole of music through the literature you've chosen.
Second person	You can play in that group on any instrument.
Second person	If you have a guitar, you have your whole ensemble there, and it attracts people to hang around with you.
Second person	You'll see them in the band room practicing their etudes and stuff, which is neat.
Second person	You know some kids will do well if you say "OK, I'd like you demonstrate that for the section" but I'll never say "You play it. Now you play it. You play. You play." Because there's some kids that that would just destroy. Like in any class, you've really got to know the kids individually well enough to know what you can do, and what kids you can joke with and what kids you need to be more serious with.
Second person	It means that if you didn't have a band and a band director, you could still make satisfying music on your own where no one would be saying, "OK we have a concert coming up" or "here are the 7 people in your section and here is the music you are going to play". Can you sit donw and make your own music or can you leave here and join a community band or play in the non-major band at your college.
Second person	You've got to have good musical literacy skills, so that you don't have to have someone play it for you. So that you're not the kid in the playing test who says "I do this a lot better when the bands playing". Well duh, because they're playing it for you. You have to

have some musical confidence. You have to have a concept of what your sound should be. You have to have some musical taste. You have to gain an understanding of what makes music beautiful or

Appendix J

Paper 3: Student assent/Parent consent form

Title of Research Study: Transfer of effective practice strategies from ensemble instruction to individual practice

Investigator: Steve Demorest and Brian N. Weidner

Why am I being asked to take part in this research study?

We are asking you to take part in this research study because you are in an ensemble that is serving as host to this study.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at (815)861-3366 or brianweidner2019@u.northwestern.edu.

This research has not been reviewed by an Institutional Review Board ("IRB"). Review is not required as this study serves as a pilot study testing research design and as a course project and will not be reported publically.

Why is this research being done?

The individual use of effective practice strategies is integral to becoming an independent musician. It is not understood how young musicians develop competency with practice strategies. Specifically, it is not known whether practice strategies that are taught in the large ensemble are then applied when students practice on their own. This study will seek to understand what is required for instruction to transfer to independent practice.

How long will the research last?

We expect that you will be in this research study through the end of the 2015-2016 school year, with your involvement being completed by May 31, 2016.

How many people will be studied?

While all students in the ensemble will receive training in the practice strategies, around 10 are expected to participate in the observational portions of the study.

What happens if I say "Yes, I want to be in this research"?

Students who agree to participate in this study will be asked, on five different occasions, to prepare a short melody. These 10-minute practice sessions will be videotaped to allow for analysis of practice strategies used and musical concepts addressed and to assess their final performances of the melody using a standardized rubric. Each student will also be briefly interviewed by the researcher about their approach to practice. These videos will only be viewed members of the research team and will not be used in any public presentation format.

All students in the ensemble will receive instruction in the specific practice strategies as part of band instruction using instructional strategies that are typically found in band classes.

Unless required by representatives of Northwestern University, your school's administration, or other legal entities, the content of these videos is confidential and will not be shared with those outside the research team with the identities of the participants attached.

What happens if I do not want to be in this research?

You can leave the research at any time and it will not be held against you.

What happens if I say "Yes", but I change my mind later?

You can leave the research at any time and it will not be held against you.

If you decide to leave the research, contact the investigator so that the investigator can discuss how data already collected should be handled.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include representatives of Northwestern University and representatives of your school.

We will not ask you about child abuse, but if you tell us about child abuse or neglect, we are required by law to report your name to state authorities.

Videos may be retained after this study for future research. The digital files will be stored on personal data storage of the investigator and will not be made available to others without your explicit consent.

What else do I need to know?

No information from this study will be publically disseminated. It serves as a pilot study to test design for a broader study to be completed at a later date. All names used in reports of this study will be provided with pseudonyms to preserve the confidentiality of participants.

Signature Block for Children

Your signature documents your permission for the named child to take part in this research.

_____   _____
Signature of child   Date

_____
Printed name of child

_____   _____
Signature of parent or legal guardian   Date

_____   ❑ Parent
Printed name of parent or legal guardian   ❑ Legal guardian

_____   _____
Signature of person obtaining consent and assent   Date

Brian N. Weidner
_____
Printed name of person obtaining consent

Appendix K

Paper 3: Observation Test Pieces

These excerpts are written in C score for oboe. Parts were transposed for individual instruments to maintain concert pitch key and place the piece in a reasonable range for each instrument.

Appendix L

Paper 3: Treatment Practice Pieces

These excerpts are written in C score for oboe. Parts were transposed for individual instruments to maintain concert pitch key and place the piece in a reasonable range for each instrument.

Appendix M

Paper 3: Operational Definitions for Practice Strategies

Chaining- When chaining, musicians break down difficult sections of music into smaller, manageable chunks. Chunks are as small as needed for the musician to be able to perform with accuracy, potentially being as short as a single note to as long as a phrase. Typically, once a chunk has been worked on, the musician "chains" the chunk to another chunk either immediately before or immediately after it.

Distraction playing- Distraction practice refers to the playing of musical material not related to the target materials. Practice of scales or rhythms in isolation that relate to the target materials are not distraction playing. Similarly, using scales/arpeggiations to find pitches does not count as distraction playing.

Fingering/Sliding- This form of silent practice includes the manipulation of the instrument without actual sound production. While students finger or slide through the music, they may blow air, sing, or tongue, but they should not produce sound through the instrument.

Silent study-When doing silent study, a student reviews the sheet music without playing for a minimum of 10 seconds continuously (which can be spread over 2 practice frames). The student may make markings, talk to themselves about their intended approach to practice, or sing/hum. Non-playing behavior that does not involve studying the sheet music does not count as silent study.

Simplification- For this study, simplification is practicing with only pitch or rhythm in isolation from the other. Typically, once a student accurately performs the isolated element, the other is added back in to ensure that it can be performed in context.

Tempo alteration- Tempo alteration refers to the practice of slowing down a difficult section of music to allow for more detailed practice. Typically, after the section can be played accurately at the slower tempo, the tempo is increased.

Run-through-A run-through counts a run of the piece from beginning to end at the best of the student's ability without excessive repetition or the use of an additional strategy. Starts and stops are allowed for small corrective repetition.

Appendix N

Paper 3: Treatment Protocols

Explicit instructional model
1. Name the targeted strategy
    a. Chaining
    b. Tempo alteration
2. Define/Explain targeted strategy
    a. When chaining, musicians identify difficult sections of music and break them down into smaller, manageable chunks. Chunks are as small as needed to be able to perform with accuracy, potentially being as short as a single note. Once each chunk is learned, the musician "chains" the chunk to another mastered chunk either immediately before or immediately after it, until the entire passage can be played accurately.
    b. In this study, tempo alteration refers to the practice of slowing down a difficult section of music of at least a motivic concept in length. After the section can be played accurately at the slower tempo, the tempo is increased until the musician plays the section at full tempo. As not all students will necessarily have a metronome, metronome use will not be addressed as part of this study though students may use one if they bring it with them into the practice session.
3. Modeling of targeted strategy—Teacher demonstrates how to use the targeted strategy on supplied materials.
4. Guided practice—Teacher guides the ensemble through practice with the targeted strategy using the supplied materials.

Note: While other strategies may be included in support of the targeted strategies, they should not be named or explicitly taught during the instructional period in weeks 2 and 3. Following week 3, the targeted strategy should not be taught or explicitly used in regular rehearsal. Teachers will not be informed of the other targeted strategy or of the strategies being observed in the practice observation form.

Control instructional model
The teacher will direct sight reading activities on the supplied materials. The teacher may utilize strategies that are typically found in ensemble rehearsal but should not explicitly name, define, or model these practices. The teacher will not be informed of the targeted strategies being used in the treatment settings or of the other strategies being observed in the practice observation form.

Appendix O

Paper 3: Observation Test Protocol

Practice session prompt
(The room being used should have a chair, music stand, and a camera set up to the student's side so that the student's profile can be seen. The student may bring any other practice aids with them, but no other materials will be provided. The piece to be performed should be turned over on the stand so that the student cannot see the music before starting their practice session. Start video as the student enters room.)

 (After the student is seated, double check that the student is in the frame of the camera.)

Thank you for being part of this study. You are currently being video recorded. After I tell you to turn over the music on the stand, you can practice the piece in any way that you wish. In 10 minutes, I will return and ask you to play through the piece once. Do you have any questions before we begin?

(After answering questions)

You may turn your music over and begin your 10-minute practice now.

(The researcher leaves the room and sets timer for 10 minutes.)

(After 10 minutes, the researcher returns.)

I would ask you to immediately stop your practice session. Please play through your piece once as best you can.

(After student finishes, the researcher should excuse the student and turn off the video camera.)