Relationships Between Middle School String Teachers' Teaching Beliefs and Classroom Practices

by

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ABSTRACT

Since the 1980s, interest in the cognitive and affective influences on teaching has initiated studies on teacher beliefs and practices. Studies of teacher beliefs in academic areas such as reading, math, social studies, and science are prolific. However, studies about the teacher beliefs and practices of music teachers are scarce. The purpose of this study, therefore, is to explore the teacher beliefs of middle school orchestra teachers and to examine how their self-reported and observed teaching practices reflect these beliefs.

Based on the work of foreign language education researcher Simon Borg (2003) a conceptual framework was developed that shows the various sources of teacher beliefs and practices, including formative preservice musical experiences, inservice contextual factors, and inservice professional development. Employing a qualitative multiple case study method, six purposely-selected middle school orchestra teachers, representing a variety of experience levels and program characteristics, shared their teacher beliefs and practices. Data generation included observations, interviews, stimulated recall (think aloud teacher commentary of videotaped teaching episodes), and written reflection surveys. During analysis, six core teacher beliefs about middle school string students and how they learn were identified. These beliefs guided the teachers' observed practices.

Findings from this study illustrated that preservice formative musical experiences influenced the middle school orchestra teachers' beliefs about the value and importance of music teaching as a career. Data from the participants revealed a wide variety of instructional practices emanating from largely similar core pedagogical beliefs. Analysis suggested that experienced teachers held more developed teacher beliefs, and they selected instructional practices carefully, where inexperienced teachers were still

formulating their own beliefs and experimenting with instructional practices. Data from the study point out that contextual constraints sometimes prevent teachers from enacting their closely held beliefs. This incongruence influenced three of the six participants to change teaching positions or retire early from the education profession.

The study of music teacher beliefs and practices may be of interest to preservice and inservice music teachers and music teacher educators. Future studies may explore the relationship between teacher beliefs and practices and student achievement, and contribute to string music education research.

ACKNOWLEDGEMENTS

Over the years, many experiences have influenced my teaching beliefs. I would like to acknowledge the wonderful people who shaped my beliefs about the value of music, teaching, and learning in my life.

From my earliest formative experiences my parents supported and encouraged me in living, learning, and creating music. My mom is my original music mentor, playing and teaching piano and checking my intonation from the kitchen as I practiced in the living room. My dad was an example of participation in and enjoyment of many genres of music, from folk songs to Brahms to John Denver. I can still hear his voice, "Valerie, practice your wiggles!" My siblings were also abundant sources of my music teaching beliefs: Stephanie introduced me to Suzuki philosophy and pedagogy and started me down the teaching road; Bruce taught me to play the guitar and sing vocal harmonies when I was in junior high school; and Mark never passed up an opportunity to play fiddle tunes around a campfire with his upright string bass.

My formative experiences in school and community ensembles were inseparable from the individuals who nurtured my musical growth: Edward Gordon, my private violin teacher, who shepherded me through Dounis, Ševčík, and Kreutzer, and insisted upon pristine intonation; Gary DeRoest, my junior high orchestra teacher who directed the Lancaster District Orchestra and served as an example of a quality middle school orchestra teacher; and Joseph Acciani, my high school orchestra director who was a clarinetist, but loved strings and challenged our little class with Vivaldi, Beethoven and Copeland.

More recent inservice colleagues served to refine my teaching beliefs and shared their ideas and instructional practices as we worked together. Dave Clauss mentored me in my first public school job in California. He helped me teach beginning band and walked me through my first junior high adjudicated festivals. Later, in Arizona, I was fortunate to work with remarkable string educators who are true professionals: Russ Ash, Alex Zheng, Danelle Kennedy, Pamela Rheaume, and Julie Ivanhoe.

In my academic pursuits at Arizona State University, I was privileged to study music education with outstanding professors who opened up new inquiry in my teaching beliefs; thank you Dr. Jere Humphreys, Dr. Ted Solis, Dr. Evan Tobias, Dr. Jill Sullivan, and Dr. Sandy Stauffer. I am most grateful for my advisor, the tireless and persistent Dr. Marg Schmidt. You are an inspiration to me.

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TABLE OF CONTENTS

Page

CHAPTER Page

CHAPTER Page

APPENDIX Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

CHAPTER ONE

INTRODUCTION

What is it like to be in a middle school string orchestra? Distant memories highlight my personal experiences as an adolescent in a small Southern California desert town—one year of self-directed learning from a band teacher who provided some structure but mostly let us learn on our own, and one year of ensemble instruction from a string specialist who led a small class of string students with a wide range of playing abilities. Many of my peers in those classes chose to discontinue school string study. But personal influences and deeply held beliefs enabled me to persist, participate in private lessons and high school orchestra, and eventually become a private teacher and public school string specialist, teaching middle school orchestra for 31 years.

Various elements influence college students to become music teachers (Gillespie & Hamann, 1999; Pellegrino, 2014; Rickels et al., 2010; Thornton & Bergee, 2008). Using data from his interview research in Boston ("Five Towns" study) and data from NEA national surveys, Lortie (1975) gleaned five attractors to teaching: *interpersonal interest*—a desire to work with youth; *service value*—a perception that teaching is an occupation of "valuable service and moral worth" (p. 28), *the familiarity of continuation*—many teachers enjoyed their primary and secondary school experiences and wanted to work in an educational setting; *financial and occupational security*—despite a reputation for low salaries and status, teaching offers consistent employment, especially as a family's second income; and *time compatibility*—teaching hours parallel the schedules of school-age children. All of these considerations influenced my own personal decision to become a middle school orchestra teacher.

Over the course of my career I have been fortunate to know and interact with many accomplished music teachers. Within my current school district, my five middle school orchestra teacher colleagues and I have successfully worked together on curriculum and assessment projects, produced vertical articulation concerts, and organized district-wide honor groups. The connectedness and congeniality we each feel gives us a network of support that counteracts school environment stressors that many traveling music teachers experience, such as isolation, lack of professional inclusion at some school sites, burnout, challenging students, and limited resources (Sindberg, 2011).

Yet despite our similar activities and group projects, my colleagues and I have individualized backgrounds, beliefs, and personal priorities that lead us to conduct our own practices in specific and personalized ways. We each bring our own unique set of experiences and beliefs to our teaching style. Much of a middle school orchestra teacher's curricular practice may be built on individual fundamental teaching beliefs and personal value systems that teachers develop from their past experiences as students, in teacher development programs, and in their experiences as teachers.

Studying Teacher Beliefs

Educational research in the late 1970s started to follow the trajectory of cognitive psychologists in connecting teacher behavior with individual teacher thinking (Borg, 2006). These researchers' aims were to examine teachers' mental constructs to help understand their observable practice, acknowledging that teachers make classroom decisions based on individual perceptions. In the 1980s and 1990s studies on individual teachers' work became more qualitative and holistic in nature. Using this research approach, "teachers were not being viewed as mechanical implementers of external

prescriptions, but as active, thinking decision-makers, who processed and made sense of a diverse array of information in the course of their work" (Borg, 2006, p. 7). This early teacher cognition research revealed that teaching, itself, is complex and non-linear, and may be guided by deeply held and sometimes unconscious teacher beliefs.

In the 1980s educational researchers began to examine connections between teacher thinking and classroom practice with "classroom events in turn shap[ing] subsequent cognitions" (Borg, 2006, p. 10). Shavelson and Stern (1981) examined factors influencing teachers' judgments, decisions, and behaviors in showing the circular characteristics of antecedent teaching conditions (e.g., student ability, behaviors, nature of instructional tasks, classroom environment), teacher characteristics (e.g., teacher beliefs, subject matter, knowledge), teacher cognitive processes (information selection and integration, inferences), consequences for teachers (planning content, interacting with students), , teacher evaluation (of decisions, teaching routines), and back to antecedent teaching conditions. In their research, Shavelson and Stern acknowledge the foundational need for teacher practical knowledge in their subject area in order to make informed and effective teaching decisions.

With the foundation of the 1983 International Study Association on Teacher Thinking (ISATT), researchers recognized the "complex nature of teaching and the need to understand the subjective cognitive dimensions of teachers' work" (Borg, p. 14). Educational research in this decade branched out beyond laboratory locations, into real classroom settings, complete with contextual factors and cultural complexities.

In the third edition of the *Handbook of Research on Teaching*, Clark and Peterson (1986) wrote a literature review on teachers' thought processes. They included the

following model of teacher thought and action, showing the interaction between the two major components: observable teacher actions, and teachers' thought processes (Clark & Peterson, cited in Borg, 2006, p. 19):

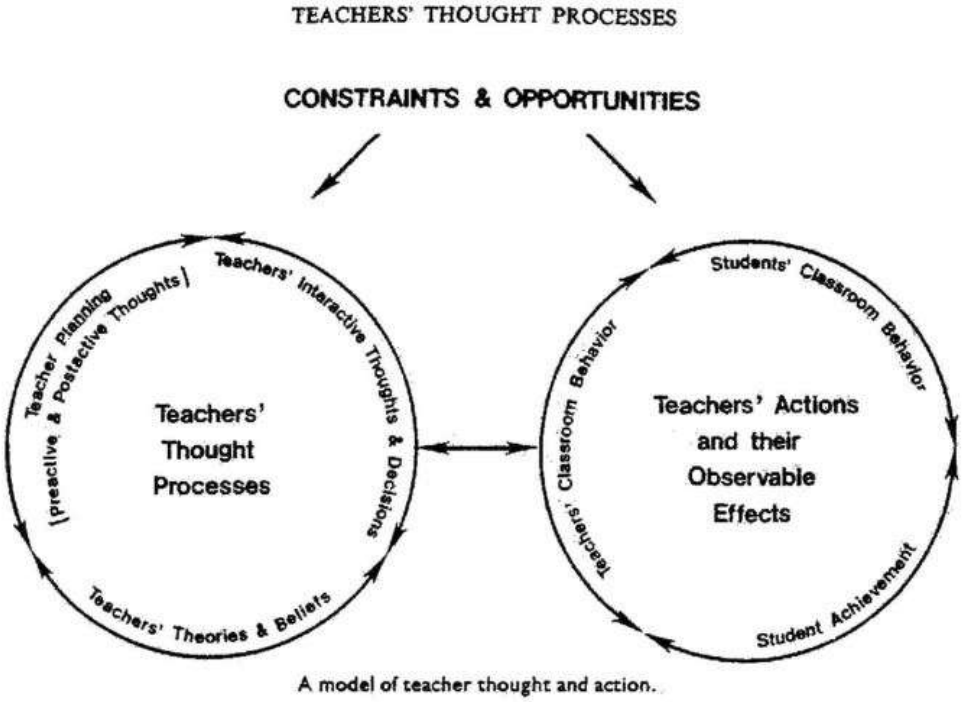

Figure 1. Clark and Peterson (1986) Teachers' Thought Processes Model

In addition to research on teacher thinking of the mid 1980s, Lee Shulman and his colleagues at Stanford University began to focus on the importance of subject matter knowledge in teaching, the sources of teacher knowledge, how subject matter knowledge is procured, and how it is disseminated in the classroom. They identified pedagogical content knowledge, defining it as "the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction," specific to each educational subject (Shulman, cited in Borg, 2006, p. 21).

Also addressing the topic of teacher knowledge, Clandinin and Connolly's research on teacher knowledge and teachers' beliefs and theories in the late 1980s pointed out that the then-current study of teacher thinking was clouded by a lack of clearly defined terms related to teacher thinking, teacher beliefs, and teacher cognition (Borg, 2006, p. 10). Clandinin and Connolly (1987) asserted that in order to examine teacher theories and beliefs, researchers needed to acknowledge and investigate teachers' practices and personal backgrounds. Clandinin and Connolly went on to make major contributions to qualitative educational research, taking a holistic approach to studying teacher knowledge by exploring teachers' personal experiences and personal histories. This work with personal practical knowledge helped educational researchers examine "knowledge which is experiential, embodied, and reconstructed out of the narratives of a teacher's life" (Clandinin & Connolly, in Borg, 2006, p. 22).

In the early 1990s, Pajares extended this educational research trajectory when he wrote a comprehensive review of literature on teacher beliefs. To narrow the vast subject area of teacher beliefs, Pajares stated that educational beliefs should be categorized for study, for example, as beliefs about teacher efficacy, beliefs about student performance, or beliefs about specific subjects or pedagogies. (For more information, see Pajaras' specific "fundamental assumptions" about teacher beliefs in Chapter 2).

In the 1990s, studies on teacher beliefs about specific content in the areas of science and mathematics were most prolific. Thompson (1992) wrote a chapter about mathematics teacher beliefs and practices wherein she addressed the relationship between the two:

> Thoughtful analyses of the nature of the relationship between beliefs and practice suggest that belief systems are dynamic, permeable mental structures, susceptible to change in light of experience. The research also strongly suggests that the relationship between beliefs and practice is a dialectic, not a simple cause-and-effect relationship. Thus, future studies, particularly those having to do with effecting change, should seek to elucidate the dialectic between teachers' beliefs and practice, rather than try to determine whether and how changes in beliefs result in changes in practice. (Thompson, 1992, p. 140)

Richardson (1996) and Calderhead (1996) wrote literature reviews on teacher beliefs and knowledge, and attitudes and beliefs in learning to teach, respectively, further connecting the fields of teacher education and cognitive psychology. Both researchers focused on the role of beliefs in preservice teacher education. Calderhead's research focused on teacher decision making, teacher perceptions and evaluations, and teacher knowledge and beliefs. Teacher beliefs that Calderhead examined included "beliefs about learners and learning, beliefs about teaching, beliefs about subjects, beliefs about learning to teach, and beliefs about self and the teaching role" (Borg, 2006, p. 31). Calderhead claimed that research on teacher cognition had made beneficial contributions to educational research. He wrote the following statements in the conclusion of his review:

> Research on teachers' cognitions has highlighted the complex array of factors that interact in the processes of teaching and learning. In particular, research has pointed to the elaborate knowledge and belief structures that teachers hold, to the influence of their past experiences, even experiences outside of teaching, in shaping how teachers think about their work, and to the diverse processes of knowledge growth involved in learning to teach. Research also has begun to unravel some of the pedagogical processes involved in classroom teaching and the different types of knowledge that teachers draw on in their efforts to help children learn and understand. (Calderhead, in Borg, 2006, p. 32)

Richardson focused on three areas of experience that influenced developing teacher candidates' beliefs: personal experience, instructional experiences encountered in school, and formal education knowledge acquired in a teacher preparation program. Of these three categories of experiences, prior life experiences and experiences of being a

student in formative years seemed to be the most powerful in shaping teacher beliefs. Teacher preparation programs were inconsistent in effecting change in preservice teacher beliefs—sometimes they did, and sometimes they did not. Several researchers (Calderhead, 1996; Pajares, 1992; Richardson, 1996) even suggested that teacher beliefs with roots in formative educational experiences may supersede teaching techniques and knowledge acquired in university coursework. However, professional coursework may affect teacher beliefs in some situations (Borg, 2006; Richardson, 1996).

Both in cognitive psychology and teacher education, researchers from the 1970s to the present have not arrived at precise terminology to describe how teachers conceive of and think about their work. Related research has been conducted under different terminology: teacher thinking (Mccrum, 2013), teacher perspectives (Zeichner & Tabachnick, 1985), teachers' thought processes (Clark & Peterson, 1986), personal practical knowledge (Clandinin, 1985), teacher knowledge (Clandinin & Connolly, 1987), teacher decision making (Smith, 1988), teacher conceptions (Evans, 1988), teacher beliefs (Fang, 1996; Pajaras, 1992; Thompson, 1992), and teacher attitudes (Calderhead, 1996). Some researchers focused on sources of teacher beliefs (Feiman-Nemser, 1990; Richardson, 1996), while others concentrated their efforts on teacher beliefs of different subject areas such as science (Hutner & Markman, 2016), math (Thompson, 1992), reading (Asselin, 2000), history (Mccrum 2013), and foreign language (Borg, 2006).

Choice of Teacher Beliefs as Central Concept

For the purposes of this study, I base my definition of teacher beliefs on Nespor's (1987) definition: beliefs are mental ideas that are individually held and subjectively true.

Skott (2015) identified characteristics of teacher belief systems, including that beliefs have affective and cognitive attributes that are relatively stable. Beliefs are integrated with values and are closely held with significant commitment by the individual, and although resistant to change, beliefs can also be developed or revised through substantial social pressures. Affective attributes may include self efficacy beliefs and intense emotional beliefs while cognitive attributes may involve thought processes and problem solving strategies (Nespor, 1987). Teacher beliefs can be explicit or implicit, primary or secondary, core or tangential, and isolated or integrated (Buehl & Beck, 2015). In this study, I endeavored to recognize these various types of teacher beliefs and discuss them with the participants.

In practice, teacher beliefs function as "filters for interpretation, frames for defining problems, and guides or standards for action" (Fives & Buehl, 2012, p. 478). By studying the teacher beliefs of the middle school orchestra teachers in this study, I explored their personal motivations and teaching practices in their own words and by their own actions. This data emphasized the dynamic relationship between teacher beliefs and teacher practices.

Purpose and Research Questions

The purpose of this study was to explore the teacher beliefs of middle school orchestra teachers and to examine how their self-reported and observed teaching practices reflected these beliefs. The following research questions guided this investigation:

1. How do middle school orchestra teachers describe their classroom practices?

2. What are middle school orchestra teachers' stated and/or implied beliefs about their pedagogy, middle school students, and their middle school orchestra programs?
3. How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?
4. How do inservice contextual classroom experiences and professional development influence teacher beliefs and practices?
5. What is the relationship between teachers' beliefs and their observed classroom practices?

To learn more about the participants' teacher beliefs and classroom practices I conducted a multiple case study, using observation, semi-structured interviews, videotaped observation of teaching examples, participant discussions about their videotaped teaching, and written teacher reflections to understand the decisions they made while teaching and the motivations behind their choices. By exploring the justifications that six middle school orchestra teachers gave for their classroom practices, I investigated the teacher beliefs that influenced their instruction and shaped their interaction with students in the classroom.

Conceptual Framework

In his 2006 book, *Teacher Cognition and Language Education: Research and Practice*, Simon Borg summarizes general educational research about teacher cognition and discusses specific research with respect to his subject area, foreign and second language teaching. His research focused on *teacher cognition,* a term he used to describe, "beliefs, knowledge, theories, attitudes, images, assumptions, metaphors, conceptions,

and perspectives about teaching, teachers, learning, students, subject matter, curricula, materials, instructional activities, and self" (Borg, 2003, p. 82). In his overview of the research area of teacher cognition, Borg (2003) states the assumption that "teachers are active, thinking, decision-makers who make instructional choices by drawing on complex, practically-oriented, personalized, and context-sensitive networks of knowledge, thoughts, and beliefs" (p. 81). He suggests that teachers hold cognitive and affective beliefs about *all* aspects of teaching. Teacher cognitions stem from teacher learning (formative schooling and professional preparation) as well as from classroom practice. He states that, "teacher cognitions and practices are mutually informing, with contextual factors playing an important role in determining the extent to which teachers are able to implement instruction congruent with their cognitions" (Borg, 2003, p. 81). Borg suggests that teacher's early educational experiences as students, professional teacher education coursework, classroom practice, and contextual factors all affect teacher cognition. He also suggests that teacher cognitions can reciprocally affect professional teacher education coursework and classroom practice.

Borg created a schematic conceptualization of teaching with *teacher cognitions* as the central idea (see figure 2, below). Schooling and professional coursework serve as influences to teachers' cognitions about many aspects of teaching. In Borg's model, contextual factors can change both teachers' cognitions and their practice. Incongruence between teacher cognition and classroom practice may be attributed to contextual factors. The influences of classroom practices and teacher cognition are interdependent; teacher cognitions can affect classroom practices and classroom practices can affect teacher cognitions.

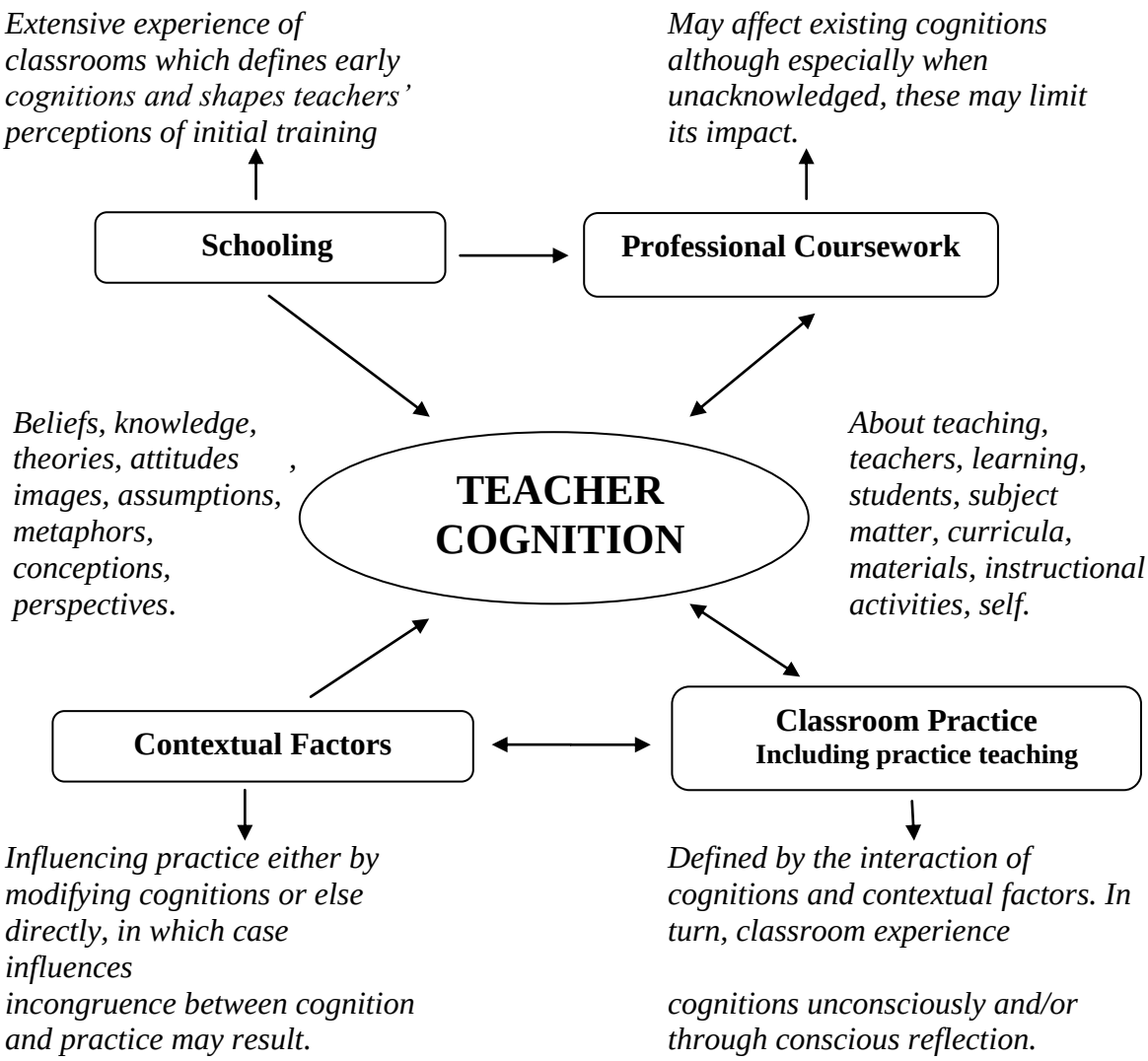

Figure 2: Teacher Cognition Model (Borg, 2003, p. 82).

In Borg's description of and justification for using *teacher cognition* as the central concept of his research, he uses "teacher beliefs" as a part of the "teacher cognition" definition. In contrast, I am choosing to study "teacher beliefs" as my central concept; Utilizing Borg's schematic conceptualization, I propose a similar model for middle school orchestra teachers, but I change Borg's emphasis on sources of *teacher cognitions* to a focus on sources *teacher beliefs* as the central concept (figure 3, below).

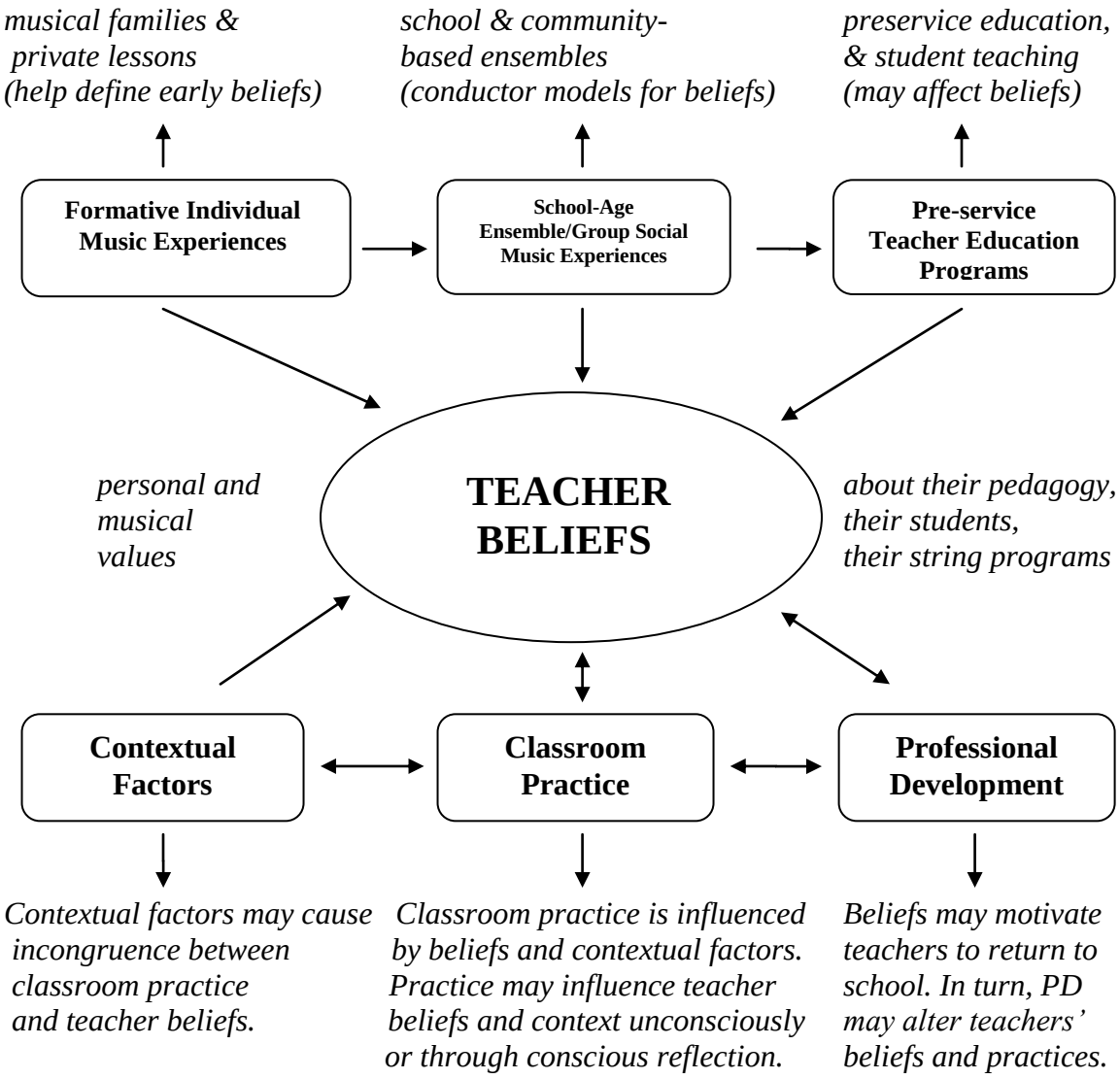

Figure 3. Sources of Teacher Beliefs Model

Like Borg's teacher cognitions schematic (2003), my teacher beliefs source model shows that formative experiences may be the source of teacher beliefs. Orchestra teacher beliefs in this study may be shaped additionally by early music experiences in the home and/or in private lessons. School- and community-based ensembles, like youth orchestras and school sponsored orchestras and honor groups may also help shape teacher beliefs, especially the impact of exemplary orchestra instructors and conductors. Following Borg,

my model shows that teacher education (preservice teacher education programs and student teaching) may influence or alter teacher beliefs, and that beliefs formed in earlier years (childhood and adolescence) are often tenacious. Teacher beliefs may also influence a teacher to go back to graduate school or to seek out additional professional development (two-way arrow), which in turn may formulate new teacher beliefs.

Teacher beliefs in this model stem from personal and musical values. Beliefs may be unrecognized or intentionally held. Like the Borg teacher cognition schematic, beliefs in my model are affected by both contextual factors and practice, and practices are influenced by beliefs. Unlike the Borg model, I am limiting my research of middle school orchestra teacher beliefs to the following core areas: student self perception, student musical independence, student musicianship, teacher/student relationships, teachers' ideas about how students learn, and the importance of student music making.

Incongruence occurs when teachers' beliefs do not align with teachers' practices. Incongruence may transpire when external contextual factors beyond teachers' control limit or prevent teachers from enacting their deeply held teacher beliefs. Prohibitive contextual factors may also induce teachers to seek out a change in employment toward a different position or away from the profession altogether. Incongruence in teacher beliefs and practices may also take place when teachers are not aware, or do not recognize that their practice is not aligned with their stated beliefs, or prioritize one belief over another.

This model of the relationships between teacher beliefs, classroom practice, formative musical experiences, and classroom contextual factors serves as a guide for the purpose and research questions of this study. Data generated from this research provides

evidence to explore these questions and formulate new inquiries that may inspire additional research in music education in the areas of teacher beliefs and practices.

Need for the Study

This study provides a unique opportunity to investigate the intersection of teacher beliefs and teacher practices. Research on general teacher beliefs has been ongoing over the last 50 years (Fives & Gill, 2015). The chapter authors in the *International Handbook of Research on Teachers' Beliefs,* edited by Fives and Gill (2015), examine the following related topics: the history of the field of teacher beliefs, methods of teacher belief studies, the various qualities and contexts of teacher beliefs, the origins of teacher beliefs, and the relationship of teacher beliefs to teacher practices. They also investigate teacher beliefs related to specific academic domains such as mathematics, reading, science, social studies, and technology. These subject-centered analyses focus on teacher beliefs about the nature of the academic subject as well as teacher beliefs concerning pedagogy specific to that academic subject. Studies in the subject areas of science and mathematics are prolific (Bielenberg, 1993; Bray, 2011; Tuan, 1991; Kleickmann et al., 2016; Rozelle & Wilson, 2012; Thompson, 1992).

Unfortunately, studies on teacher beliefs related to music and music learning are not as common. I was able to locate only two studies specifically about string teachers' beliefs and practices (Hopkins, 2013; Schmidt, 2013). Other string education research utilized studies on teacher practices that infered teacher beliefs, but did not elaborate on them (Alsayegh, 2019; Hopkins, 2015; López-Íñiquez & Pozo, 2014; Pellegrino & Russell, 2015). Inquiry on teacher beliefs in the area of music education, specifically string instrument instruction, could expand teacher belief research in the arts. Therefore,

this study will contribute to the literature on teacher beliefs by investigating the teacher beliefs of music educators, specifically middle school strings teachers' beliefs.

In addition, this study can add to the limited body of scholarly research dedicated to string teaching in general. Insights gained from this inquiry may help inservice string teachers bring to light and more fully understand their own personal teacher beliefs, helping them become more aware of their beliefs so they can respond to and cope with less-than ideal contexts. Information gleaned from this investigation may also help refocus the career path of experienced teachers, encouraging them to analyze and evaluate their current practices, possibly revising their approach to more fully benefit their students. Observations from this study may also help new string teachers form and solidify their own teacher beliefs, helping them set personal priorities in their fledgling practices.

Definition of Terms

"Definitions are basically conventions, general agreements among researchers that a particular term will represent a specific concept" (Pajares, 1992, p. 315). To help clarify terms used in this dissertation, the following concepts are defined for the purposes of this study.

Teacher Beliefs

In this research, drawing on the work of Nespor (1987), teacher beliefs are defined as ideas that are individually held and subjectively true. Beliefs may hold personal and musical values and can be relatively stable and integrated with closely held and committed-to principles. Beliefs that are in the process of development may be more easily challenged. Although they are individualized, teacher beliefs are formulated or

altered through meaningful social experiences. Often influenced by their preservice experiences as students, teachers hold beliefs about *all* elements of teaching and learning. Teaching beliefs influence and are influenced by teaching practice and contextual circumstances. Some teacher beliefs may be individually acknowledged, clear-cut, and purposefully defined while others are only implied or unspoken (Buehl & Beck, 2015). At times, researchers must infer beliefs from "what people say, intend, and do" (Rokeach 1969, cited in Pajares, 1992, p. 314).

Teacher Practice

For the purposes of this study, I will use Fives, Lacatena, and Gerard's (2015) definition of teacher practice: "all activities associated with the practice of teaching, including but not limited to lesson planning, assessment activities, instruction, and interactions with students, parents, and colleagues" (p. 252). Since this study deals with the practice of orchestra teachers, I will also include string pedagogy and performance as integral parts of my definition of teacher practice.

Formative Experiences

In this study, formative experiences included formative individual music experiences (such as musical families and private music lessons), school-age ensembles and social music experiences (like school and youth orchestras), and teacher education programs (including student teaching). In categorizing teacher's formative experiences as sources of their teacher beliefs, I asked participants to, for example, "Tell me about when you started playing your instrument." I considered any situation that the participants raised in discussion to be meaningful to them; therefore, I assumed the episode was influential to their experience. The teachers' memories of their formative experiences and

how those memories influence(d) their beliefs and practices were of primary importance. Whether the narratives were accurate or technically precise was immaterial—what mattered most was the personal impact of those experiences in the formation and enactment of their teacher beliefs and the influence those beliefs had on their classroom choices.

Contextual Factors

Contextual factors in the middle school orchestra classroom are wide ranging, from physical constraints such as time limitations, classroom space, and broken instruments; to social constraints such as lack of administration or parent cooperation, colleague interactions, and personal family support; to interactions between students and teacher in the climate of the classroom. All of these contextual factors contributed to or detracted from the teacher participants' enactment of their teacher beliefs. These contextual factors also influenced the ultimate decisions the participants made concerning their employment (Gray, 2011). Teacher beliefs and practices may have bearing on contextual factors, but not always.

Delimitations

This study examines the teacher beliefs and practices of six inservice middle school orchestra teachers. Participants differ in years of experience (from two to thirty years of experience), size of their program (from a group of 20 middle school students to a multi-class program of over 180 middle school students), socioeconomic level and location of their school (from a rural town with one K-12 school to a large metropolitan area with 11 middle schools), gender (two males, four females), and primary instrument (five violinists, one violist). Findings from this study are based on the experiences and

perceptions of the participants only and are not necessarily the views of other middle school orchestra teachers.

Generated data were limited to the topics of our interview conversations and my observations. Although I provided each participant with suggested questions (see Appendix A), each interview took the path of the interest of each individual teacher. Through the coding process I was able to analyze which topics were exclusive to one teacher, and which topics were addressed by multiple teachers. Topics not addressed by the teacher participants were beyond the scope of this project.

While all of the teacher participants were middle school orchestra teachers (middle schools defined as grades six, seven, and eight), only two participants taught exclusively at the middle school level. Two other teachers taught middle school and some elementary school beginners (grades four and five) while the remaining two teachers taught all levels of orchestra: elementary, middle school, and high school. The simultaneous multiple levels of instruction by some of the teachers may also have been an influence on their teacher beliefs and/or their teacher practices related to their middle school students.

Teachers were purposively selected based on their willingness to participate in the study. Although efforts were made to include a variety of teacher participants and instructional settings, the participants are not representative of all middle school orchestra teachers. Findings from this study cannot be generalized to the entire population; however, information gleaned from this study may be useful to other string teachers, music educators, and administrators.

Dissertation Overview

In Chapter 1, I presented my personal background illustrating my interest in this research topic, the conceptual background of teacher beliefs and practices based on research from the 1970s to the current decade, a brief introduction to the definition of teacher beliefs that I will utilize in this study, and the statement of purpose for the project and accompanying research questions. Next, as a conceptual framework for the study, I presented a proposed schematic conceptualization of the relationships between teacher beliefs, classroom practice, formative musical experiences, and classroom contextual factors, and an explanation of the interactive nature of those concepts. I then concluded this chapter addressing the need for the study, definitions of terms, and delimitations.

Chapter 2 reflects an in-depth review of literature that highlights and clarifies teacher beliefs and teacher practices, including the history and background of teacher beliefs research. In this chapter I present a rationale for studying teacher beliefs, various researchers' definitions of teacher beliefs, and an explanation of how belief systems differ from knowledge systems. Next I examine the sources of teacher beliefs from the literature, then investigate the connections between teacher beliefs and practices by presenting examples of teacher belief/teacher practice studies. I then illustrate various contextual influences on teacher beliefs and practices by giving examples of contextual factors influencing both preservice and inservice teacher beliefs. I finish this chapter by exploring possible reasons behind incongruence between teacher beliefs and practices.

In Chapter 3 I describe and explain the choice of multiple case study as the selected qualitative research method for this dissertation. I clarify the role of the researcher in the study, as the participants and I have similar occupational roles; we are

all middle school orchestra teachers. I then address issues of credibility and trustworthiness in qualitative research. Next, I describe the methodological processes of the study, including participant selection, interviews, the "think aloud protocol" (stimulated recall; teachers reflecting on videos of their own teaching; Ericsson & Simon, 1993), and written teacher reflections about their teacher beliefs and practices.

Chapter 4 features rich and thick descriptions of the participants through portraits of each middle school teacher. This chapter includes discussion of how the middle school orchestra teachers describe their own practice (research question one), and identifies some of the middle school orchestra teachers' stated and/or implied beliefs about their pedagogy, middle school students, and their middle school orchestra programs (research question two).

Chapter 5 presents analysis of the data collected in the study, addressing research questions three, four, and five: "How do the formative educational experiences of middle school orchestra teachers shape their beliefs?", "How do their classroom contextual experiences and influence their beliefs and practices?" and "What is the relationship between teachers' beliefs and their observed classroom practices?", Utilizing the conceptual framework of the schematic of teacher beliefs sources (based on Borg's 2003 model) as well as a teacher core beliefs model, I examined specific incidents from the data in the areas of preservice sources of teacher beliefs, the relationship of inservice contextual experiences to teacher beliefs and practices, and the relationship of core teachers' beliefs to their practices

Chapter 6 concludes the dissertation with a synopsis of the overall study, implications for practice for various stake-holders, delimitations and possible refinements

of this research, and suggestions for future research in the area of music teacher beliefs and practices.

CHAPTER TWO

REVIEW OF LITERATURE

The purpose of this study is to explore the teacher beliefs of middle school orchestra teachers and to examine how teachers' self-reported and observed teaching practices reflect those beliefs. This chapter begins with a brief history of the study of teacher beliefs, and then gives a rationale to pursue an inquiry connecting teacher beliefs and practices. Teacher beliefs are then defined in the view of various researchers, and teacher belief systems are differentiated from knowledge systems, followed by an exploration of the various sources of teacher beliefs. In the next section I consider the relationship of teacher beliefs and teacher practices, various contextual influences on teacher beliefs and practices, and a rationale for possible incongruence between teacher beliefs and practices. The subsequent section examines teacher beliefs as a research area in general education, followed by research study reviews pertaining to several academic subject areas. Next I address teachers' affective beliefs and how emotional influences may shape teachers' practices. The chapter concludes with research on changing teacher beliefs.

History of Research on Teacher Beliefs

During the 20th century, researchers gradually gained interest in studying teachers' beliefs. They also studied the challenge of changing teacher beliefs, and the relationship of teacher beliefs to teacher practice. Due to national preoccupation with behaviorist theory, research on cognitive topics, such as teacher beliefs, was nonexistent in the 1940s and 1950s. Teacher research at this time, sometimes called "process-product" research, assumed a unidirectional linear relationship between teacher behavior

and student achievement, noting observable teacher action in relation to successful student behavior in hopes of reproducing effective instructional techniques (Fang, 1996).

According to Ashton (2015), concern with teacher beliefs initially appeared in the first *Handbook of Research on Teaching* (Gage, 1963, in Ashton) in a chapter on teacher personality characteristics. Ashton reports that, in assessing the development, reliability, and validity of the 1951 Minnesota Teacher Attitude Inventory (MTAI), Getzels and Jackson (1963, in Ashton) recognized that many MTAI test items were based on teacher beliefs and student/teacher rapport. Advocates of the inventory hoped to use results to choose potential teacher candidates, but only overall scores of the quantitative instrument were used for analysis. The assessment was found to be inconsistent and unreliable. Getzels and Jackson called for future research to more thoroughly define personality, improve measures of teacher effectiveness, and refine research methods.

Expanded interest in cognitive psychology in the 1970s and 80s led to research on teacher thinking rather than teacher behavior to better understand how and why student learning takes place. Ashton (2015) noted Peck and Tucker's chapter on preservice teachers' skills and self-monitoring in the second *Handbook of Research on Teaching* (1973). They investigated teacher instructional skills, motivation, and "socio-emotional relationships with students" (Ashton, p. 34). Peck and Tucker inferred that with added teaching experience, preservice teachers' intrinsic beliefs about diverse teaching areas had changed over time.

Skott (2015) noted that before the 1980s, educational research was based primarily on curricular sequence studies. Educational reform at that time did not focus on the complex type of action and decision making required by teachers in executing

curricular goals in the classroom (Elbaz, 1981). Researchers began utilizing observation and interview tools to investigate the educational process through the lenses of the teachers themselves. Thus researchers initiated the study of teacher beliefs to gain insights into teaching and learning in the classroom.

By the time the third *Handbook of Research on Teaching* was published in 1986, teacher educators began to recognize the importance of a teacher's beliefs to a teacher's individual practice. In her historical review, Ashton (2015) noted that Shulman (1986) studied process-product in teaching and emphasized cognitive approaches. He described a new paradigm that he entitled "teacher cognition and decision making" (Ashton, p. 35). Clark and Petersen (1986) wrote a chapter in the third handbook about teacher cognition, including several pages on research about teachers' beliefs and teachers' theories of teaching. Examining the subject area of teaching reading, Clark and Petersen emphasized the importance of "teachers' conceptions of teaching, learning, and reading, their role as teachers, their beliefs about teaching in open education settings, and principles of practice" (p. 35). Erickson (1986, in Ashton) wrote a chapter in the *Third Handbook* on the qualitative and interpretive methods of research that facilitated understanding of both students' and teachers' beliefs. Finally, Ashton points to research from a philosophical perspective that recommended teacher educators utilize educational research to assist preservice teachers in developing clear and rational beliefs about teaching that would help them fulfill their moral responsibility to the field.

In a qualitative study on middle school teachers, Nespor (1987) suggested that socialization in the school context may be a source of teacher beliefs, but it was not clear how beliefs came to be embraced or how they were reinforced or abated. In her paper on

the role of teacher beliefs, Nespor posits, “to understand teaching from teachers’ perspectives we have to understand the beliefs with which they define their work” (p. 323).

Educational focus on constructivism in the 1980s turned the eyes of researchers to individual meaning-making with an emphasis on student learning. However, constructivist research also underscored the importance of the teacher as facilitator of learning in assessing student needs, supporting student learning, introducing concepts and procedures, and discerning the relationship between processes and outcomes. Researchers acknowledged the need for teachers to embrace educational change in order for new teaching-learning processes in schools to take place, and recognized that the study of teacher beliefs could facilitate educational reform implementation (Skott, 2015).

Ashton (2015) stated that, although starting slowly, research on teacher beliefs has expanded as “more researchers recognize that beliefs are a powerful influence on teachers’ thinking and behavior” (p. 43). Educational research in the area of teachers’ beliefs seeks to “understand classroom processes from the teachers’ perspective, solve the problems of implementation, or strike some balance between the two” (Skott, 2015, p. 15).

Why Study Teacher Beliefs?

The study of teacher beliefs can help educators understand the qualities of various beliefs, how beliefs develop, the reinforcement of and objections to various beliefs, and how to encourage certain beliefs (Nespor, 1987). Levin (2015) states that by reflecting on their own beliefs, teachers can “develop metacognitive thinking about teaching and learning and a sense of agency” (p. 59); connecting teacher beliefs and practices can

empower teachers to endure through challenging political and policy cycles. Levin explains (p. 61):

> When teachers and teacher educators know what they believe, value, and are working to accomplish, then they are better positioned to lead in their classrooms and schools; justify the reasons behind their practices with peers, administrators, and parents; and question mandates or policies that run counter to what they believe is best for children in significant and socially just ways. (p. 61)

Various researchers recommend personal reflection on teacher beliefs to support preservice teachers (Feiman-Nemser, 2012; Fives et al., 2015; Levin, 2015; Nespor, 1987; Schmidt, 1998). According to Nespor (1987), teacher educators should help preservice teachers "become reflexive and self-conscious of their beliefs . . . presenting objective data on the adequacy or validity of these beliefs" (p. 326). Schmidt (1998) suggested that music education professionals should assist preservice teachers in formulating their own definitions of "good teaching" by providing opportunities for guided reflection and biographical introspection, and creating case studies and videotaped classroom experiences that students can observe and discuss with other preservice teachers concerning "their beliefs about teaching, learning, and learning to teach" (p. 39). Feiman-Nemser (2012) suggested that teacher education programs should express the goals and means of their particular orientation to teaching so that prospective teachers can make informed choices concerning their own beliefs and values in choosing their teacher preparation program.

Inservice teachers can benefit from the study of teacher beliefs as well (Butler, 2007; Fives et al., 2015; Levin, 2015; Russell, 2008). Examining existing teacher beliefs can help teachers understand the foundations of their practice, can help elucidate the relationship between teacher beliefs and teacher practices, and can help inservice teachers

become aware of their own beliefs about teaching and learning and identify areas for potential growth over the course of their teaching careers (Levin, 2015). Inservice teachers can benefit from opportunities for self-reflection on their own beliefs about teaching and learning. By acknowledging their existing beliefs, teachers can recognize how their ideas can "support or inhibit effective classroom practices" (Fives, Lacatena, & Gerard, 2015, p. 262). Russell (2008) states that the study of string teachers' beliefs and contextual factor concerns about their teaching positions may influence their decisions about keeping their positions, changing positions, or leaving the music education field. He emphasized the importance of study in the area of educational environments and how they influence string teachers' beliefs, practices, and vocational decisions.

Teacher mentors, administrators, and those charged with presenting professional development can benefit from the study of teacher beliefs (Fives et al., 2015; Levin, 2015). Teacher educators can be informed by learning about the prior beliefs of preservice teacher candidates. The study of teacher beliefs can provide a baseline for ongoing teacher education because "teachers' beliefs guide decisions they make and influence their subsequent judgments and actions in classrooms" (Levin, 2015, p. 50). Fives, Lacatena, and Gill (2015) point out the ambiguity of the notion of "traditional" learning and teaching because educational practice and theory has progressed over time. They call for more research in the area of how teachers' beliefs can change, stating that:

> Belief change, in some cases, may not be based on evidence of potential best practices or effective teaching, but instead based on teachers' evaluation that the new beliefs will serve them pragmatically in their school contexts. (p. 262)

Finally, educational researchers should become aware of the importance of studying teacher beliefs (Buehl & Beck, 2015; Gill & Hardin, 2015). Buehl and Beck

(2015) suggest that researchers should carefully examine the nature of the beliefs under study. Some beliefs are a subset of larger belief systems. Other beliefs play different roles in teachers' thought processes and practices, such as: "a) filtering information, b) framing problems, and c) guiding teachers to specific action" (p. 79). Gill and Hardin (2015) point out the importance of studying affective aspects of teacher beliefs. They suggest that, "research on teaching should involve examining teachers' emotions in conjunction with their beliefs, rather than keeping these two fields of research separate, as is currently done in educational research. . . . [and] affect must be an integral part of research on conceptual change (p. 241).

Defining Teacher Beliefs

Teachers' beliefs, as a research area, can be problematic for a number of reasons. First is the lack of consensus on a definition for teacher beliefs. For researchers, unraveling the interrelated concepts of beliefs, attitudes, values, goals, and conceptions has proven to be difficult. Skott (2015) proposed a general definition of beliefs for purposes of research: "beliefs are generally used to describe individual mental constructs, which are subjectively true for the person in question" (p. 18). A subset of a body of knowledge, Skott said that beliefs are not held to a standard where they must be consensually justified. He stated, "beliefs are charactierized by a considerable degree of conviction, but also that the individual may accept a different position as reasonable and intelligent" (p. 18), infering that beliefs are distinguishable from empirical knowledge.

Nespor (1987) reviewed Abelson's 1979 work on cognition to set up a construct of belief systems based on cognitive principles. The seven fundamental features of Abelson's belief systems are as follows:

1. The elements (concepts, propositions, rules, etc.) of a belief system are not consensual. [They are idiosyncratic and personally derived from experience.]
2. Belief systems are in part concerned with the existence or nonexistence of certain conceptual entities (e.g., God, Extra Sensory Perception).
3. Belief systems often include representations of "alternative worlds," typically the world as it is and the world as it should be.
4. Belief systems rely heavily on evaluative and affective components.
5. Belief systems are likely to include a substantial amount of episodic material from either personal experience, or (for cultural belief systems) from folk lore, or (for political doctrines) from propaganda.
6. The content set to be included in a belief system is usually highly "open."
7. Beliefs can be held with varying degrees of certitude. (Abelson, 1979, cited in Ashton, 2015, p. 36).

Pajares (1992) suggested that defining the word *belief* is key to designing and executing thoughtful and meaningful educational research studies. In educational psychology, beliefs are often investigated under various synonyms such as:

> attitudes, values, judgments, axioms, opinions, ideology, perceptions, conceptions, conceptual systems, preconceptions, dispositions, implicit theories, explicit theories, personal theories, internal thought processes, action strategies, rules of practice, practical principles, perspectives, repertoires of understanding, and social strategy, to name but a few that can be found in the literature. (p. 309)

Pajares (1992) listed various researchers who provided other definitions of beliefs:

- Abelson (1979) – people manipulating knowledge for a particular purpose or under a necessary circumstance
- Brown and Cooney (1982) – dispositions to action and major determinants of behavior, specific to time and context
- Sigel (1985) – mental constructions of experience – often condensed and integrated into schemata or concepts that are held to be true and that guide behavior
- Harvey (1986) – an individual's representation of reality that has enough validity, truth, or credibility to guide thought and behavior
- Nisbett and Ross (1980) – reasonably explicit propositions about the characteristics of objects and object classes

- Dewey (1933) – the third meaning of thought, something beyond itself by which its value is tested; it makes an assertion about some matter of fact or some principle or law

- Rokeach (1968) – any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase, 'I believe that . . .' (pp. 313-314)

According to Pajares, Rokeach (1968) categorized beliefs into three main types: cognitive (knowledge), affective (emotion), and behavioral (action). Rokeach suggested that when beliefs are focused on a specific object or context, and motivate action, they become *attitudes*. When beliefs induce judgment, comparison, or evaluation that compels an individual to action, they become *values*. Rokeach posited that the combination of an individual's beliefs, attitudes, and values becomes their belief system. However, Nespor (1987) claimed that beliefs are more than sets of statements or proposals, they are "conceptual systems which are functional or useful for explaining some domain of activity" and they "play a major role in defining tasks" (p. 326).

Pajares (1992) summarized the different terminology used by various researchers to study teacher beliefs about teaching roles and responsibilities, specific educational subject matter, and students in general. Pajares mentioned Clark (1988) who referred to teacher beliefs as *preconceptions and implicit theories* and pointed out that these influences are far different than what is taught in teacher education courses. Feiman-Nemser (2012) referred to teacher beliefs as *orientations to teaching* and noted that these predispositions concerned many topics including teaching, learning, students' abilities, teachers' responsibilities, and the purpose of education. Pajaras listed Tabachnick and Zeichner (1984) who referred to teacher beliefs as *teacher perspectives* and explained that these perspectives are unique to specific contexts and result in direct teacher action.

Pajaras noticed that Goodman (1988) also used the term *teacher perspectives* to describe guiding images that novice teachers use to choose teaching strategies and guide their behaviors. Pajares (1992) suggested that all of these researchers' interpretations are undeviating from prior definitions of teachers' beliefs. He states, "Ironically, these views of belief constructs as inference of what individuals say, intend, and do are perfectly consistent with Rokeach's (1969) earlier definitions of beliefs, attitudes and values: new jargon, old meaning" (p. 315).

More recently, in their 2015 *Handbook of Teacher Beliefs*, Buehl and Beck explained that beliefs are employed by teachers to "filter and interpret information, frame a specific problem or task, and guide immediate action" (Buehl & Beck, 2015, p.67). They posit that beliefs are held with varying levels of conviction: central or peripheral, primary or derivative, in clusters or isolated. Teachers' beliefs are sometimes shifting, sometimes stable, often depending on an individual's experience. Teachers' beliefs are "subjective claims the individual accepts as being true" (Buehl & Beck, 2015, p. 67).

Belief Systems Differ from Knowledge Systems

Pajares (1992) suggests that the meanings of knowledge and beliefs are not clearly defined, leading to ambiguity in educational research dealing with these concepts. Many researchers concur, however, that knowledge systems are created from ideas that can be externally verified (Fang, 1996; Kagan, 1992; Levin, 2015; Murphy & Mason, 2006; Nespor, 1987; Pajaras, 1992). Murphy and Mason (2006), in a chapter entitled "Changing Knowledge and Beliefs" in Alexander and Winne's (eds.) second *Handbook of Educational Psychology* (2006), suggested that knowledge and beliefs share many common elements, but that knowledge must be independently validated. Pajares (1992)

claimed that most studies assume the following differences between the two constructs: "Belief is based on evaluation and judgment; knowledge is based on objective fact" (p. 313). Fang (1996) described three aspects of teachers' general knowledge: "subject matter content knowledge, pedagogical content knowledge, and curricular knowledge" (p. 49). A fourth aspect was added by Beattie (1995, cited in Fang), that described "personal practical knowledge" as the ability to understand student needs, strengths, and learning styles. Pajaras (1992) referenced the 1989 work of Ernest, who suggested that "knowledge is the cognitive outcome of thought and belief the affective outcome, but . . . that beliefs also possess a slender but significant cognitive component" (Pajares, p. 310).

Some researchers submit that, rather than beliefs, knowledge is more influential in teacher thinking and judgment. Roehler, Duffy Herrmann, Conley, and Johnson (1988, in Pajaras 1992) suggest that although beliefs and affect have some impact on teacher thinking, they tend to be static and unchanging; knowledge, in contrast, is fluctuating and adaptable to new situations. They claim "knowledge . . . represents efforts to make sense of experience, and thus knowledge, not belief, ultimately influences teacher thought and decision making" (cited in Pajaras, p. 312). Pajaras cited other researchers from 1949-1985 who analyzed knowledge systems and categorize them as declarative (knowledge what), procedural (knowledge how), or conditional (knowledge when, why, and in what context). Pajaras (1992) pointed out, however, that beliefs are at the root of these knowledge categories. Lewis (1990, in Pajaras) suggested that knowledge is originally based on belief and that the path to knowledge is built on choosing individual values. He states that knowledge and beliefs are inextricably knit together, but gaining knowledge utilizes different cognitive processes than establishing personal beliefs.

Kagan (1992) described teacher knowledge as teacher beliefs that have been verified by objective evidence or universal consensus. But even knowledge that has been confirmed by others has subjective qualities when taught to students in a classroom. Kagen explains, "for each aspect of classroom teaching . . . 'knowledge' actually consists of a cluster of alternative explanations and models. Even knowledge of one's subject matter often entails equally correct alternative perspectives, for there are different ways to understand history, literature, mathematics, and science" (p. 74). Levin (2015) also suggested that teacher beliefs and teacher knowledge are closely related; "beliefs tend to be subjective and personal, and reflect individual judgement and interpretation of a community's agreed upon knowledge" (p. 49).

Nespor (1987) teased out differences and similarities between knowledge and belief systems. She claimed that knowledge systems are more rational and evidence based than belief systems, but because of their personal and sometimes inflexible nature, belief systems can have far more influence on how individuals define problems and responsibilities and how they act on those definitions. Nespor stated that, unlike knowledge systems, belief systems are often influenced by personal preferences, feelings, and moods towards students, class activities, and course content (p. 22). Whereas knowledge systems are created and altered by consensus and ongoing lines of argument, belief systems are comparatively stable because belief systems are very personal and subjective, and not easily influenced by external commentary or questioning. Unlike knowledge systems, which are often well characterized and alterable only through socially acceptable guidelines, belief systems are "loosely-bounded systems with highly variable and uncertain linkages to events, situations, and knowledge systems" (Nespor,

1987, p. 321). Nespor called this structural feature of belief systems *unboundedness*; belief holders can apply their beliefs to new situations in capricious and unconventional ways, sometimes where others may not see any congruity or relevance.

Sources of Teacher Beliefs

Where do teacher beliefs originate? According to Skott (2015), to formulate teacher beliefs, teachers rely on personal influences and foundational experiences. These belief systems are often unexamined or tacit, yet are highly influential in determining teachers' priorities in the classroom. Researchers point to both individual and social experiences, some early in life, that create foundational beliefs to which teachers refer (whether intentionally or unintentionally) while making decisions in the classroom (Buehl & Fives, 2009; Levin, 2015; Lortie, 1975; Nespor, 1987; Pajares, 1992; Rokeach, 1968; Skott, 2015). Rokeach (1968) claimed that general beliefs differ in intensity and power. He stated that the more central a belief (connected to self or identity), the less likely it is to change. Derived beliefs (learned from others) and underived beliefs (learned from direct contact with the belief object) have sticking power because of their connections with others and their existential nature. Peripheral beliefs (such as individual preferences) are more changeable because they have fewer connections. Pajares (1992) posited that "theorists generally agree that beliefs are created through a process of enculturation and social construction" (p. 316). Enculturation is a circumstantial process of assimilating cultural elements in the world by observing, participating, and imitating. Social construction involves education (purposeful learning to bring society in line with cultural expectations) and schooling (teaching and learning outside the home). Beliefs are formed as individuals assimilate and adopt the ideas, attitudes and principles of others.

Once embraced, beliefs are highly resilient and unlikely to change except through deliberate effort.

Pajares (1992) referred to the 1980 work of Nisbett and Ross in describing the root sources of beliefs. They asserted that individuals form early theories or beliefs about their social and natural world. These initial beliefs become the bedrock of that individual's understanding of themselves, their sphere of influence, and their environment. These researchers suggested that the earlier a belief is formulated, the more tenacious it will become, even when the individual is presented with more complete knowledge or contrary evidence. Both emotional and cognitive functions work to maintain deep-seated beliefs. These beliefs then direct perceptions that influence behaviors that fortify the original belief, in a circular pattern. Beliefs play important roles in people's lives, according to Nisbett and Ross (in Pajaras, 1992); beliefs provide personal meaning, allow individuals to identify with others and form social groups, solidify personal opinions, and help individuals form their own individual identity.

Pajares (1992) presented Lewis's 1990 work in describing six ways individuals form beliefs: 1) by believing an authority on the subject, 2) by using deductive logic, 3) by relying on sensory experience, 4) by developing an emotional sense of right or wrong, 5) by utilizing rational intuition, and 6) by applying systematic experimentation.

Teachers' beliefs may be influenced by past experiences and memories and then accessed later from *episodic storage* (Nespor, 1987). Unlike knowledge systems that are stored in symbolic and categorical networks, belief systems may "derive their subjective power, authority, and legitimacy from particular episodes or events" (p. 320). Beliefs based on prior experiences may act to frame or obfuscate future events. Some of these

prior experiences with teaching and learning may originate in a teacher's own childhood education. These memories form what Lortie (1975, p. 61) referred to as "apprenticeships of observation," and they may serve as a pattern for future teaching practice.

Similarly, Pajares (1992) pointed out that preservice teachers enter the field with complete preconceptions about what constitutes good teaching from their formative years in the classroom as students. He calls preservice teachers "insiders" because they do not feel a need to define their role or the teaching context when they enter the classroom as a new teacher. Pajares suggested that beliefs formed early in preservice teachers' lives may supersede new research, contrary evidences, or university training. Prior beliefs may lead preservice teachers to continue conventional teaching traditions and instructional methods rather than incline them to be willing to participate in reformed educational practices. Pajares noted that preservice teachers often rely on visual guiding images from their educational past as students; these may "act as filters and intuitive screens through which new information and perceptions are sifted" (p. 324). These guiding images can distort new teachers' professional perception and misdirect their fledgling efforts to develop professional judgment.

Levin (2015) pointed out possible sources for preservice teacher beliefs. She stated that common teacher beliefs may be categorized as internal, such as past personal experiences, or external, such as formal education. Levin recalled some studies in more detail, such as Buehl and Fives' (2009) six sources for epistemological beliefs about knowledge. Buehl and Fives claim that teacher beliefs may originate from the following sources:

1- Formal education

2- Formal bodies of knowledge

3- Observational learning

4- Collaboration with others

5- Personal teaching experiences

6- Self-reflection (cited in Levin, 2015, p. 51)

Preservice teachers may also form foundational beliefs in their university teacher education course of study. Feiman-Nemser (1990) wrote a paper to assist teacher educators in classifying structural and conceptual alternatives in teacher preparation programs. By identifying five orientations to teaching, she categorized the goals and strategies of various educational viewpoints that inform teacher preparation programs at both the undergraduate and graduate levels. These orientations described various perspectives and attitudes toward teaching and learning, content knowledge, teachers' roles, and the process of learning to teach. Although each orientation had distinguishable characteristics, Feiman-Nemser stated that seldom did one teacher education curriculum espouse a single orientation; educational preparation programs might include two or more viewpoints simultaneously. Each conceptual orientation expressed the priorities of its proponents and offered value and direction to their teacher education practice. Feiman-Nemser's paper outlined each orientation and described specific teacher education programs that employed that conceptual orientation.

Each of Feiman-Nemser's orientations to teaching placed primary emphasis on a particular aspect of teaching and learning and minimized other aspects as secondary. The *academic orientation* to teaching centered on the charge of teachers to help students gain

knowledge and understanding about "the facts, concepts and procedures that define a given field" (p. 7). It centered on preparing teachers how to effectively teach these subjects. The *personal orientation* to teaching highlighted the teacher as a person and a learner. Its main focus was on the personal development of the teacher and individual learner. The *critical orientation* to teaching emphasized the context of the democratic classroom and the responsibility of teachers to serve as political leaders and catalysts for social change. It encouraged teachers to create an environment that questioned the status quo in areas of teaching, learning, and knowledge. The *technological orientation* to teaching accentuated scientific learning and the importance of utilizing research-based principles and practices in the classroom. This orientation was primarily centered on a prescriptive and a skill-based perspective in teacher education. And finally, the *practical orientation* to teaching also focused on the character of teaching and sources of teaching knowledge, but gave priority to learning from experience and gaining wisdom from exemplar teachers. In this orientation, the flexibility, judgment, and invention required in teaching came primarily from personal experience and learning from the community of practitioners.

Feiman-Nemser (1990) suggested that, in education, distinctive orientations to teaching occur because unique individuals hold differing values and beliefs, and certain communities hold various expectations for schools and teachers. Rather than debate the primacy of one orientation over another, she suggested that teacher education programs should express the goals and means of their particular orientation to teaching so prospective teachers can make informed choices concerning their own beliefs and values in choosing their teacher preparation program.

In their book, *Constructing a Personal Orientation to Music Teaching*, Campbell, Thompson, and Barrett (2010) noted that music teacher education programs from different universities may contain elements of one or more of Feinman-Nemser's teacher orientations "when the goals and structures of the program are carefully examined" (p. 86). They note that preservice teachers may adopt one or more of these orientations and utilize them in their practice. Campbell et al. wrote in their textbook, "You, as a teacher will carry your specific beliefs and perspectives into your classrooms. In essence, everybody has a personal orientation" (p. 86).

In their 2008 qualitative study, Haston and Leon-Guerrero found that preservice music education teachers derive much of their pedagogical content knowledge (PCK) from observing their own music teachers, from college music methods courses, and from their student teaching cooperating teacher, as well as from personal intuition. In their research, they adopt the definition of pedagogical content knowledge given by Shulman (1986) as, "the ways of representing and formulating the subject that make it comprehensible to others" (p. 9). They also cite Conway's (1999) definition of PCK in an instrumental music education context: "Pedagogical content knowledge include[s] an understanding of the problems associated with learning on musical instruments and the strategies connected to successful instrumental music teaching" (p. 344).

Inservice teachers, also, may rely on beliefs formed from the influences of their teacher education programs, their peers, professional development, or their own teaching experiences. Researchers Cheng and Durrant (2007) stated that in their qualitative study working with a string teacher in England, the teacher/participant's teaching style and beliefs in her studies were influenced by professional development and her own

experience with role model teachers, as was expressed in her personal reflections on her teaching practice and efforts to improve her effectiveness.

Connections Between Teacher Beliefs and Practices

In describing the complex relationship of teacher beliefs to instructional practices, some researchers suggest a subtle connection, where "beliefs significantly shape classroom processes" (Skott, 2015). Skott cited several researchers who studied this connection: Rokeach, (1969) noted that beliefs establish a "disposition to act" (cited in Skott, p. 16). Educational researchers Clark and Peterson (1986) stated that teacher practices are "guided by and make sense in relation to a personally held system of beliefs, values, and principles" (cited in Skott, p. 16), Borko and Putnam (1996) stated that "teacher knowledge and beliefs—about teaching, about subject matter, about learners—are major determinants of what they do in classrooms" (cited in Skott, p. 16). Overall, Skott (2015) stated that teachers' beliefs can be considered as "explanatory principle[s] for practice" (p. 16). Skott also noted that beliefs shape the way that teachers "interpret and engage with the problems of practice" (Skott, 2015, p. 19). Some researchers suggest that the relationship between teacher beliefs and practice is dynamic and reflexive; Skott maintained that "beliefs are generally expected to be influential" (p. 19).

In their literature review chapter, *The Relationship between Teachers ' Beliefs and Teacher's Practices,* Buehl and Beck (2015) pointed out studies that suggested that teacher beliefs influenced their practice, and other studies that indicated that teacher practices influenced teacher beliefs—especially in cases of teacher development for inservice teachers and field experiences for preservice teachers (p. 69). Buehl and Beck, however, favor a combination of the two, "a reciprocal, but complex, relationship

between teachers' beliefs and practices" (p. 70). Although the relationship between beliefs and practices in their cited studies did not show an absolute correspondence, neither did they show a complete absence of a relationship. Fives and Buehl (2012) noted, "it is not a matter of whether beliefs and practices are or are not congruent but rather the degree of congruence or incongruence between beliefs and practices" (p. 481).

Fang (1996) claimed that teacher beliefs can form teacher philosophy, teacher theories about specific pedagogy, and teacher expectations of students. Teacher beliefs are the underpinnings upon which teacher judgments and decisions are based. Fang quoted Brophy and Good (1974), stating that "a better understanding of teacher belief system or conceptual base will significantly contribute to enhancing educational effectiveness" (cited in Fang, 1996, p. 50).

Examples of Teacher Belief/Teacher Practice Studies

Nespor (1987, p. 317) conducted an in-depth ethnography of eight junior high teachers in Texas. In analysis of the interviews and teachers' comments on videotaped teaching sessions, she observed that teachers' practice is often based on underlying beliefs. Nespor outlined "structural features of beliefs that serve to distinguish them from other forms of knowledge," and noted "the functions and uses of beliefs" (p. 318).

In the study, Nespor (1987) observed that teachers' practice is often based on underlying beliefs. The first structural feature that she identified about these beliefs was *existential presumption,* which she defined as "propositions or assumptions about the existence or nonexistence of entities" (p. 318). In the study she singled out strong beliefs that teachers held about students (e.g., maturity level, student ability, and student

motivation). Nespor observed that the teachers designed their goals, objectives and activities based on these existential presumptions about their students.

Another structural feature of teachers' beliefs that Nespor (1987) discovered was an example of idealism that she labeled as *alternativity.* Using this aspect of beliefs, teachers base their curricular decisions on a utopian ideal rather than on educational models, their own teaching experiences, or other realistic sources. For example, one teacher endeavored to make her class "fair and fun"—the way she would have liked her own childhood education to be. This belief was so strong that the teacher would sacrifice other, more pressing concerns rather than deviate from her "fair and fun" ideal. Nespor defined teacher belief alternativity as "conceptualizations of ideal situations differing significantly from present realities" (p. 319).

Next, Nespor (1987) identified structural features of teacher beliefs as *affective and evaluative aspects* and recognized that teacher beliefs can influence the following classroom practices: teachers' expectations of students, the value teachers give to subject matter, and teachers' curricular choices and goals. For example, some of the middle school history teachers in the study believed that teaching names, dates, and places to the students was futile because students would not remember details and that specific factual content would be re-taught in high school history classes. Therefore, they designed alternative teaching goals pertaining to general learning skills such as how to outline a chapter or how to behave in a classroom. Nespor noted that affective and evaluative aspects of teachers' beliefs may influence teachers to put more or less effort into enacting class activities or addressing learning problems.

Based on her data, Nespor (1987) suggested that teachers use beliefs and belief systems in several ways. One way teachers utilize beliefs in their work is to help *define teaching tasks and problems* by framing or putting into perspective the task or problem in question. She outlined several cognitive levels that influence task definition: 1) internal processing of knowledge, 2) utilization of resources defined as acquired and accessible knowledge, 3) problem-solving strategies, and finally 4) application of personal belief systems. Nespor noted that differences in teacher beliefs change the priorities and emphases teachers put into their practice, how they think about knowledge, how they approach classroom problems, and how they personally define their teaching tasks.

Nespor (1987) stated that another way teachers utilize their beliefs in their work is to help make sense of "ill-defined and deeply entangled" problems that they often encounter in teaching environments (p. 324). She suggested that complex teaching contexts are related to ambiguous goals, unclear procedures, nebulous solution strategies, and uncertain courses of action. Nespor claims that belief systems, by their nature, give structure and definition to problems and lend themselves to providing solutions to complex and elusive teaching problems.

In determining classroom practices, teachers sometimes act on implicit or undefined beliefs. To help reveal and examine teachers' beliefs Levin and He (2008) developed a qualitative research method they called "teachers' personal practical theories" or PPTs (p. 54). They defined PPTs as "teachers' beliefs that guide classroom practices (theories) based on prior life experiences, including non-teaching activities (personal), and experiences that occur as a result of designing and teaching the curriculum (practical)" (Levin, 2015, p. 54). The PPT process began with researchers

sharing the definition of personal practical theories with the participants. The researchers first defined teachers' personal practical theories and provided examples from other teachers' PPTs. Then the teacher participants reflected upon and recorded their own personal teaching beliefs, including ample detail of how those beliefs look and sound in practice. Next, the teacher participants were asked to try to identify the source(s) of their various personal practical theories and teaching beliefs. Teacher participants were asked to put their PPTs in writing as well as create a drawing of their own PPTs, and describe their personal practical theories in an audio-recorded interview.

Researchers then collected data about how the teacher-participants carried out their beliefs or PPTs in their teaching practice. Teachers described how they acted on their personal practical theories in their planning process (pre-active stage), in their actual, observable teaching activities (active stage), and in written reflection of their lessons (post-active stage). Finally, teacher participants were asked to enact an action research project in one of their PPT areas. In their analysis, four categories of PPTs emerged: beliefs about teachers, beliefs about instruction, beliefs about classrooms, and beliefs about students. Findings from the PPT studies, the researchers posited that teacher beliefs based on prior experiences act as a filter for their teacher education experience.

Levin and He's 2008 PPT research process (in Levin, 2015) helped researchers to discover and more clearly define the teacher beliefs of the participants in their research. Because teacher participants expressed their beliefs in their own words, in the series of studies Levin and his colleagues conducted, research data emerged more closely from the source. They propose that PPT process can help teachers self-reflect and "support them in developing metacognitive thinking about teaching and learning and a sense of agency"

(p. 59). Levin suggests that the PPT protocol can also help elucidate the relationship between teacher beliefs and teacher practices. Although qualitative techniques can be time consuming, "conducting follow-up observations and follow-up interviews with teachers over time may help confirm whether espoused beliefs are actually enacted in teachers' practices" (p. 60).

Teachers influence classroom climate by selecting instructional strategies that reflect their pedagogical beliefs and by interacting with students to form teacher/student and student/student relationships (Rubie-Davies, 2015). Teacher beliefs influence both the instructional element (instructional climate) and the relationship element (socio-emotional climate) of classroom climate because "teachers' beliefs about student learning and about how to teach can lead them to instruct and to interact with students in particular ways" (p. 266). Rubie-Davies' chart below describes these influences:

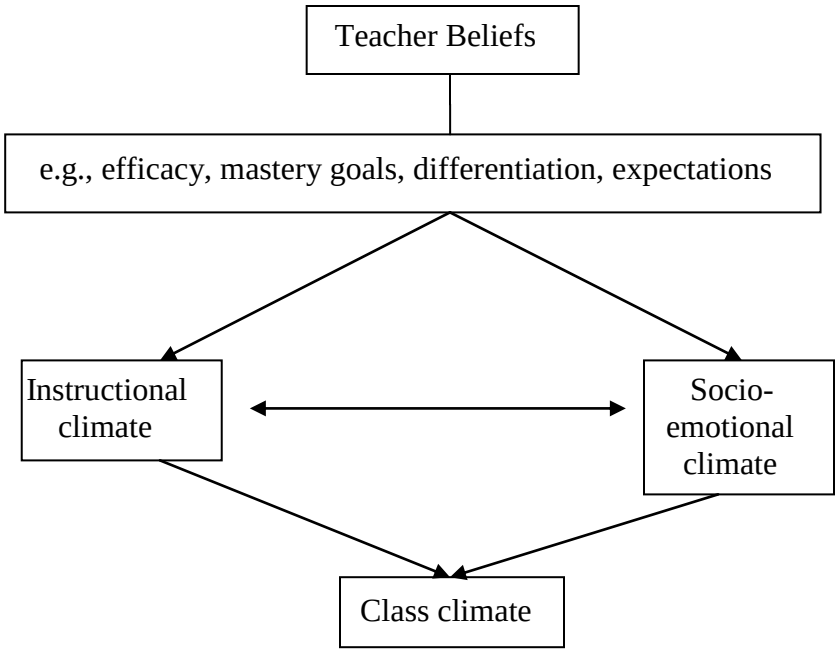

Figure 4 – Contribution of Teacher Beliefs to Class Climate (Rubie-Davies, 2015, p. 167)

Based on this review of research, Rubie-Davies suggested that teacher beliefs work in a synergistic way to create class climate, both in instruction and in socio-emotional environments. High efficiency, high mastery, low differentiation, and high expectation teachers share beliefs that positively influence class climate and student learning. This type of environment enables teachers to set high expectancies for all students, but not embarrass lower achieving students by pointing out differing ability levels.

Buehl and Beck (2015) posited that the relationship between teachers' beliefs and teachers' practices is complex and is often debated. Some feel that beliefs come first and practices follow. Others state the opposite. Buehl and Beck state that qualitative studies based on several data collection sources (such as interviews, observations, and teaching artifacts like lesson plans) over a longer time period show that teacher practices may be influenced by teacher beliefs. Buehl and Beck suggested that both preservice and inservice teachers should engage in self-reflection to examine and become more fully aware of the relationship between their personal beliefs and practices. Discussing the congruity of their beliefs and practices can help teachers become "more metacognitive and systematic in improving their own practice" (p. 81).

Contextual Influences on Teacher Beliefs and Practices

Levin (2015) noted that teachers' beliefs are intrinsically bound to the situation wherein they were developed. Social, cultural, economic, and political environments, as well as immediate classroom contexts, affect both the development of beliefs as well as

the ability of teachers to put their beliefs into practice. These influences help explain in part the contrast of teacher beliefs and classroom management styles.

Skott mentioned that other beliefs researchers (Cobb & Yackel, in Skott, 2015) take a reflexive perspective on teacher beliefs and classroom practices. Skott explains, "Classroom interaction forms the backdrop and exerts considerable influence on teacher's situated sense of the instructional enterprise, while teachers' actions, informed by their emerging beliefs, co-constitute the situation as perceived by both teacher and student" (2015, p. 23). In this view, beliefs and practices change dynamically in the social context where they appear. This interaction is more of an "analytical separation" between beliefs and practices for research purposes, rather than a unique distinction in practice, where beliefs and practices are more connected.

Buehl and Beck (2015) suggested that external factors such as classroom contexts (e.g., student abilities, attitudes, and behavior), school contexts (for example, parental influences, co-worker animosity, administrator authority, and lack of physical classroom resources) and community contexts (unreasonable public expectations) can pose obstacles to teachers' ability to align practices with their beliefs. One study reported by Buehl and Beck found "when teachers lacked the resources they needed to feel successful, (i.e., ready-made activities, professional development, and/or guidance), their practices did not accurately reflect their beliefs. . . . [Ultimately,] what is most important is teachers' perceptions of potential barriers to practice" (Bullock, 2010, cited by Buehl & Beck, p. 77). Buehl and Beck also reported some studies which found that practice-limiting external factors may also include standards and policies at the district, state, and national levels (like standardized testing). In addition, they suggested that various types

of curriculum mandates can have a negative impact on a teacher's practice, depending on each individual teacher's perceptions.

Conversely, Fives and Buehl (2015) also claimed that contextual factors, such as the expectations and reactions of parents and students; the school setting itself; district, state, and federal policies; and internal and external cultural pressures, can *help* to shape teacher beliefs. Fives and Buehl suggested that researchers create a "hierarchy of supports and challenges most needed to enhance teachers' ability to act on their beliefs" (p. 43), noting that some of the above influences are stronger than others. Skott (2015), refering to the work of Fives and Buehl (2015), suggested that context is crucial to understanding the dynamic between teacher beliefs and practices, because "teaching is a multifaceted, interactional endeavor, and as classroom practices emerge, the teacher may base instructional decisions on other beliefs than those related to the contents of instruction" (Skott, 2015, p. 23).

Skott (2015) put forward another framework to explain the belief/practice relationship that he called *patterns of participation*. He identified classroom practices as "dynamic, evolving outcomes of individual and communal acts of meaning-making" (p. 24), independent of former, static, teacher experiences. Skott suggests that by using the Patterns of Participation (PoP) framework, teachers determine classroom practices when they "draw upon and renegotiate the meaning of [multiple] prior social practices during classroom interaction" (p. 24). Skott, therefore, suggests that the role of the researcher is not to identify reified teacher beliefs, but to "disentangle patterns in the teacher's reengagement in other past and present practices in view of the ones that unfold at the instant" (p. 24).

Skott (2015) commented that teacher practices *may not* align with their professed beliefs when a) inexperienced teachers are just developing their belief system and are still in an unstable mode of establishing their own practice, and b) considerations beyond their control constrain teachers to teach in a different way than they would like, such as "dominant school culture, time constraints, [lack of] curricular materials, [and required] assessment practices" (Skott, 2015, p. 22).

In his literature review, Fang (1996) examined studies that showed inconsistencies in teacher's beliefs and practices; his focus was to find research that indicated that input from theoretical sources (such as university teacher educators) conflicted with input from practical sources (such as cooperating teachers). He found that new teachers may experience frustration and bewilderment in having to choose which theory to adopt in their own teaching, ultimately coming to their own beliefs using what works for them in personal practice. Fang explained, "Teachers' theoretical beliefs are situational and are transferred into instructional practices only in relation to the complexities of the classroom" (p. 55).

Examples of Contextual Factors Influences

In her multiple case study, Schmidt (1998) examined four music education student teachers' self-defined perceptions of "good teaching" through observation in the classroom, individual discussions, and interviews. Conversations with related individuals (cooperating teachers, music education faculty, and university supervisors) and reflective journals (by the subjects and the author) offered more perspectives.

Various factors that contributed to the student teachers' definitions of "good teaching" included years of prior experience with "good" and "poor" teachers in pre-

college and university classes, as well as theoretical information offered in methods and practicum university courses and in the student teaching setting. The student teachers each formed their own "good teacher" concept in personal areas (such as teacher's earned respect and music teacher community), in instructional strategies, and in classroom management.

In her analysis, Schmidt highlighted the similarities in process by which the student teachers each formed their own "good teacher" definition. She identified three dimensions of beliefs and experiences that influenced these definitions: explicit/tacit beliefs about teaching, contemporary/internalized memory or ideal models, and positive/negative images or behaviors. Examples and non-examples of these "good teacher" definitions were both verbalized by the student teachers as well as observed by the researcher as the student teachers acted on "tacitly held definitions" (p. 35).

One central goal was held by each student teacher: "being myself" as a teacher. This construct acted as a "personalized filtering process" when the student teachers chose what "good teacher" characteristics to accept or reject from university instructors and supervisors and/or their cooperating teachers. The student teachers experienced various levels of success in negotiating their sense of teacher identity with the high expectation of being a "good teacher." Ultimately, two of the student teachers in the study chose alternative career paths rather that "summon the emotional energy" necessary to grow beyond their current feelings of inadequacy, compared to their ideal "good teacher" (p. 37).

The student teachers in this study were constantly changing their definition of the "good teacher." Because of the wide variety of "contextual and personal variables" (p.

38) that influence music education students, Schmidt suggested that no one definition of "good teaching" can be derived and disseminated.

In his 2008 quantitative survey, Russell examined beliefs and concerns that influenced inservice string teachers' decisions to remain in their positions, move to a different position, or leave the profession. He noted that, according to the Teacher Follow-up Survey administered by the National Center for Educational Statistics, more teachers (in general) left teaching in 2005 (8.4%) than in 1988 (5.6%). Specific job demands compound pressures on music teachers that may include extra responsibilities (such as concerts and trips), large class sizes, a sense of isolation, the constant recruiting that secondary music classes require, public exposure and visibility, and apprehension of budget cuts and lack of administrator support. These contextual influences may make it difficult for inservice teachers to enact their beliefs. Rather than be frustrated in their attempts to reconcile their perception of "good teaching" to their current, personally unsatisfactory positions, these teachers may choose to leave the profession altogether.

Incongruence between Teacher Beliefs and Practices

Some researchers found that teachers' beliefs sometimes conflict with their actual practices (Buehl & Beck, 2015; Fang, 1996; Fives, Lacatena, & Gerard, 2015; Skott, 2015). In these studies, teachers professed to hold certain beliefs, but their practices reflected either ineffective implementation or no evidence of implementation of those beliefs. One explanation of this incongruence is that teachers with more experience have had more time to align and develop their beliefs and practices. Less experienced teachers may still be formulating their personal beliefs and evolving their pedagogy to incorporate those beliefs into their practice. Buehl and Beck suggest that this inconsistent relationship

between practices and beliefs "may represent a natural part of teacher development" (p. 72), and that novice teachers still establishing their practices and beliefs may be considered "in transition" (p. 71).

In his 1996 review of research about teacher beliefs and practices, Fang examined themes of consistency and inconsistency in general education teachers' "thinking, beliefs, planning, and decision-making processes" (p. 47). Most of the studies he described focused on elementary reading teachers' thinking and pedagogical application. Fang attributed incongruities between teacher beliefs and teacher practices in his research to the multifaceted dimensions of the classroom climate. "Complexities of classroom life can constrain teachers' abilities to attend to their beliefs and provide instruction which aligns with their theoretical beliefs" (Fang, 1996, p. 53). Other instances of incongruence between teacher practices and beliefs in educational research studies could be ascribed to "varying psychological, social, and environmental realities of the participants' respective schools that either created an opportunity for, or constrained teachers from implementing their beliefs in their instructional decision making" (p. 54). Skott similarly pointed out that external expectations within a school can modify teacher belief enactment, i.e., "dominant school culture, time constraints, curricular materials, and assessment practices" (p. 22).

Utilizing a different explanation of teacher belief and practice incongruence, Fives et al. (2015) suggested that "teachers do not always adhere to one single pedagogical belief; but instead, they blend extreme perspectives or shift beliefs based on the salience of the task" (p. 256). For example, teachers can be either undecided or inconsistent in their beliefs about teaching and learning, agreeing with "statements

consistent with constructivism, while at the same time espousing support for explicit instruction" (Fives et al., 2015, p. 256). Depending on the classroom context, teachers may choose to employ student-centered or teacher-centered approaches. Additionally, some belief/practice relationships are more obvious than others. Beliefs that are closer to teachers' actions (such as classroom management) are easier to recognize and identify in practice than are beliefs that are implicit (such as those that guide lesson planning).

Buehl and Beck (2015) submitted that many factors influence the teacher belief/teacher practice relationship. Internal factors such as teacher self-efficacy beliefs, teacher responsibility beliefs, content and pedagogical knowledge, teaching experience level, and teachers' levels of self-reflection and awareness can either facilitate or hinder belief/practice congruence. Buehl and Beck suggested that belief/practice incongruity may be a reflection of job dissatisfaction and may lead veteran teachers to abandon the profession altogether. On the other hand, belief/practice incongruity may also lead to productive change in teacher development. Buehl and Beck claim that mitigating external factors can lead some teachers to be more resilient in defending their beliefs and acting upon them. "From a practice perspective, it is important to explore the factors or approaches that may better prepare teachers to enact their beliefs, even in the face of obstacles" (p. 80).

Teacher Values as Part of Teaching Belief Systems

Rokeach (1968) suggests that when beliefs are focused on a specific object or context, and motivate action, they become *attitudes*. When beliefs induce judgment, comparison, or evaluation that compels an individual to action, they become *values*. Rokeach posits that the combination of an individual's values shapes their belief system.

Other researchers have addressed the topic of values as being part of belief systems (Clark & Peterson, 1986; Pajaras, 1992; Skott, 2015). Lewis (in Pajaras, 1992) stated that knowledge is originally based on belief and that the path to knowledge is built on choosing individual values. What someone values, they will pursue, forming opinions and beliefs, and discovering new knowledge.

Skott (2015) mentioned that in educational research, unraveling the interrelated concepts of beliefs, attitudes, values, goals, and conceptions has proved to be difficult. For example, Pajares (1992) stated that in teacher education, researchers have studied "attitudes" and "values," including self-efficacy beliefs, self-concept or self-esteem beliefs, student attribution beliefs, and subject-specific pedagogical beliefs. Beliefs, and their underlying values, play important roles in people's lives, according to Nisbett and Ross (1980, in Pajares, 1992); values and beliefs provide personal meaning, help individuals identify with others to form social groups, they solidify personal values, and they help individuals form their own individual identity. Addressing teacher educators, Nespor (1987) suggested that determining which teacher beliefs should be introduced or encouraged is a question of values and priorities that cannot be dictated, but that the topic of identifying values to isolate beliefs is worthy of further investigation.

Examples of Teacher Beliefs Based on Value Judgments

In their qualitative case study, Cheng and Durrant (2007) discuss the idea of "effective" teaching in the instrumental music classroom and explore the factors that "promote 'effective' instrumental teaching and learning" (p. 192). Their study analyzed the various teaching settings of one exemplary, experienced string teacher in London,

England by way of observations and interview, and analyzed her choices in her practice that point out her personal values and teacher beliefs.

To "discover essential constituents of instrumental teaching and underlying themes" (p. 195), Cheng and Durrant (2007) observed their single case study participant in several teaching settings: a large beginning string class (30 third-graders playing violin and cello), four smaller class groups (six third-graders playing violin in each class), two small ensembles (a string quintet made up of elementary pupils and a string quintet made up of high school students), and one private lesson (a teenage violin student).

In the extensive interview, the teacher participant discussed her teaching process and her underlying values and beliefs. In the interview portion of the study the teacher-participant explained her teaching process and the underlying values. Her chosen priorities were based on her perceived "quality and process of pupil learning" (p. 202) rather than on precise performance evaluation. Cheng and Durrant stated that the teacher/participant's teaching style and beliefs were influenced by professional development and her own experience with role model teachers. They identified her values and beliefs in their observations as she would "develop problem-solving skills, enhance pupils' independence, stimulate their motivation, and provide positive learning experiences" (p. 203) for her students.

Cheng and Durrant (2007) acknowledged that there is no consensus on the definition of "effective" teaching in the literature—if there can even be one—but they recognized several contributing factors to effectiveness, including excellent teacher interpersonal communication and delivery skills, exemplary teacher social skills like emotional expressivity and sensitivity, positive pupil perception of the learning

experience, and exceptional student scores on standardized achievement tests. Cheng and Durrant summarized that effective teachers value teaching aims that nurture pupils' learning by facilitating a positive learning environment and promoting independent learning (p. 194).

Cheng and Durrant noted evidence of the study participant's values as she reflected on her teaching practice to constantly improve her teaching effectiveness in the following areas: student retention, student engagement and satisfaction in her class, student technical improvement, student independence and confidence, peer learning, and student frustration coping skills. As a result of the study, the researchers hoped to "understand more deeply her beliefs and assessment criteria . . . since there are interdependent relationships between beliefs, intentions, and actions in teaching" (p. 200).

Just as Cheng and Durrant (2007) examined one exemplary teacher's value of "effective teaching," in music education, R. Butler (2007) investigated teachers' value of "successful teaching" in general education. She proposed that teacher goal orientations are based on their teacher beliefs and values, and that these beliefs and values influence which personal goals teachers strive to attain. Butler suggested that teacher goal orientations and beliefs also shape how teachers define personal success and "good teaching." Referring to student motivation work done by Ames and Ames (1984) and Elliot and Dweck (1988), Butler stated the following about student motivation: "goals matter because they create distinct motivational systems that are associated with qualitative difference in the way students define and evaluate success, process information, and regulate behavior" (p. 242). She explained that school is an achievement

environment not only for students, but also for teachers who wish to succeed while maintaining personal evaluative goals and self-set criteria for motivation. Utilizing student motivational categories, Butler defined *mastery goals* for teachers as objectives that reflect competence based on professional skills and individual effort, and *performance goals* for teachers as objectives that define competence based on comparison with others. Butler also examined *performance avoidance goals* (teachers' attempts to avoid comparison to others in order to conceal perceived inferior teaching ability) and *work avoidance goals* (teachers' intent to get through the school day with little or no effort).

To identify and find evidence of achievement orientation goals and likelihood of help seeking, R. Butler (2007) designed a quantitative survey "self-report measure of goal orientations for teaching" (p. 242) that she administered to teachers from 17 schools in Israel, across elementary, junior high, and high school levels (n = 320). Most teachers who took the survey did not seek help often; on average teachers sought help only once or twice per year in each problem area. Teachers were more likely to view help as constructive rather than threatening. According to the data, correlations existed between achievement goal orientations and teacher help-seeking behaviors. Teachers who valued mastery goals and recognized improvement in their own teaching were most likely to view outside help as beneficial to their personal professional development.

R. Butler's achievement goal theory of teacher motivation (2007) may help clarify individual characteristics of teacher values, beliefs, and practices. Teachers who value mastery goals in their own practice may influence their students to also value individual effort and gauge their success on individual progress. Conversely, teachers who value

performance goals may emphasize to their students the value of becoming better than other students, measuring their progress in comparison to their peers. Lastly, teachers who set work-avoidance goals may create a classroom environment of low expectations for their students, where teachers emphasize accomplishing the bare minimum in their practice, rather than striving for excellence.

Types of Teacher Beliefs Studied in General Education

Because the topic of general teacher beliefs is so broad, most teacher belief studies refer to beliefs *about* specific educational topics, i.e., beliefs about teachers' self-confidence, beliefs about the nature of knowledge, beliefs about the sources of teacher or student performance, and beliefs about specific educational subjects and pedagogy (Pajares, 1992). Educational researchers have examined different types of teacher beliefs that help to shape their practices (Ashton, 2015; Buehl & Beck, 2015; Fang, 1996; Kagan, 1992; Levin, 2015; Pajaras, 1992). Pajaras (1992) stated that teacher belief research should include teachers' beliefs about their students, beliefs about their instructional responsibilities, beliefs about their schools, or beliefs about their instructional content. In her 1992 literature review, Kagan categorized twenty-five studies on teacher beliefs into two general topics, "teachers' sense of efficacy [and] content-specific beliefs" (p. 38). She stated that teacher beliefs were deep-rooted, mostly unspoken, and hard to assess through typical qualitative and quantitative means (i.e., interviews, questionnaires, observations). Fang (1996) stated that educational researchers recognize that *all* teachers (preservice, beginning, and inservice) hold beliefs about "students, the subjects they teach, and their teaching responsibilities, and that these

implicit theories influence teachers' reactions to teacher education and to their teaching practice" (p. 51).

The second *Handbook of Educational Psychology*, edited by Alexander and Winne (2006), addressed teachers' beliefs in two chapters. Ashton (2015) suggested that those chapters reflected a growing interest in the topic of teacher beliefs and practices. In the 2006 *Handbook*, Woolfolk Hoy, Davis, and Pape (2006) reviewed research from 1995 to 2006 and examined factors influencing teachers' beliefs in the areas of personal teacher characteristics and experiences, distinct needs and attributes of students, expectations of parents, educational requirements of school sites, districts, states, and countries, and the viewpoint of cultural value systems. Later, in their chapter of Fives and Gill's *International Handbook of Research on Teachers' Beliefs* (2015), Buehl and Beck (2015) recognized that teachers hold many beliefs in many different areas (such as instructional beliefs, beliefs about students, and beliefs about knowledge); some of these beliefs are individually explicit (clear-cut and defined) while others are implicit (implied or unspoken).

In his qualitative studies on teachers' personal practice theories (PPTs), Levin (2015) posited that preservice teacher beliefs based on prior experiences act as a filter for their teacher education experience. Some of the preservice teacher beliefs brought to light in the PPT process included, "pedagogical beliefs about teachers (qualities of good teachers, roles and responsibilities); teaching and learning (goals, instructional practices, assessment); the classroom (environment, management); and students (relationships, how learning happens)" (p. 57).

Rubie-Davies (2015) examined four teacher belief constructs that influence class climate. First she reviewed teachers' self-efficacy beliefs, or the "belief in one's ability to teach students effectively and to positively influence their learning" (p. 270). The second belief that she analyzed was teacher goal orientation beliefs toward mastery or performance goals. She next analyzed research about teacher beliefs based on differentiation or the teacher's approach to instruction with students of varying ability levels. Finally, she examined studies about teacher expectations – teacher beliefs concerning their students' most likely academic future. In general, these studies found that teachers with high expectations and teachers with low expectations demonstrated different approaches to instruction and class grouping.

Rubie-Davies (2015) then organized the following list of nine teacher beliefs that have common roots in creating a close-knit and warm classroom climate:

1-Beliefs that high-level student thinking should be fostered and developed

2-Beliefs that students learn better in mixed groups

3-Beliefs that all students can learn

4-Beliefs that students need teacher support and feedback centered on learning

5-Beliefs that student autonomy and support for peers should be encouraged

6-Beliefs that students should engage cognitively in the learning process

7-Belief in mastery goals over performance goals

8-Beliefs that teachers are socializers and facilitators in learning

9-Beliefs in the importance of class organization and positive management to learning (pp. 279-281)

According to Rubie-Davies, these beliefs have many things in common. Together they form a framework that promotes a positive and productive learning environment.

These beliefs also foster benevolent teacher/student and student/student relationships. Overall, Rubie-Davies (2015) suggested that general teacher beliefs about instruction and relationships in the classroom can steer teacher planning and practices that ultimately influence classroom climate and student learning.

Teacher Beliefs about Learning and Instruction

Teacher beliefs about student learning and instruction vary according to academic subject area. Mathematics-based teacher belief studies tend to focus either on the actual nature of mathematics (problem solving or instrumental), or on mathematics pedagogy (constructivist or transmissionist) (Francis et al., 2015). Research on teachers beliefs about teaching reading highlights the meaning of reading, reading development, and best pedagogical practices (Maggioni et al., 2015). Science teacher beliefs research tends to concentrate in the areas of teacher self-efficacy beliefs ("beliefs about their capability to teach science") and teachers' epistemic beliefs ("beliefs about the nature of scientific knowledge and knowing") (Chen et al., 2015, p. 370). Studies about teachers' beliefs about social studies address the purpose of social studies, pedagogy, and content. Research about social studies teachers' content area beliefs predominately addresses history, citizenship, geography, and controversial social issues (Peck & Herriot, 2015). Teacher belief studies in elective content areas (foreign language, physical education, and the arts) are not as prolific but also focus on the nature of the discipline and pedagogical issues unique to that subject area. The following section offers brief descriptions of subject area research on teacher beliefs and practices, especially the purpose and the main findings of these studies.

In her qualitative study of math teachers' beliefs about the nature of mathematics as a discipline, Beswick (2012) observed two secondary math teachers, examining the origins of their beliefs and the future development of the structure of their belief systems. Beswick inferred the implications of their belief structures for their practices by creating a matrix of teacher beliefs that accommodated the differing views of school mathematics that they observed. She found that experienced and inexperienced secondary math teachers may hold very different beliefs about math as a discipline and math as a school subject, despite similar collegiate academic preparation. Disparities between these beliefs can negatively impact students' mathematic concept acquisition. Beswick suggested that novice teachers address reconciliation of math discipline beliefs and math pedagogy beliefs by "coming to see the discipline from a problem solving perspective" via professional development (Beswick, 2012, p. 144).

Meidl (2013) studied the compromises and confrontations faced by a group of reading teachers at a small urban elementary school as they negotiated their beliefs and practices concerning teaching reading. Because of external contextual influences included in the national "No Child Left Behind" initiative, administrators expected the teachers to "raise test scores, plan curriculum, motivate students, and provide a welcoming learning environment for all students" (p. 2). In this case study, using interviews, observations, and document analysis, the researchers perceived that the reading teachers chose to meet student's needs as a first priority, and "opt out" of the recommendations of the mandated district reading curriculum and pacing guide (Meidl, 2013).

In 2014 Enderle et al. conducted a five-year longitudinal study with over one hundred inservice teachers from elementary, junior high, and high school levels about the

influence of a professional development program for science teachers, *Research Experiences for Teachers* (RETs). Utilizing four quantitative survey instruments measuring teacher efficacy, pedagogical dissatisfaction, teacher beliefs about teaching and learning, and contextual beliefs about science teaching, this study found that RETs professional development programs were successful in shaping teachers' beliefs and affect about teaching science through inquiry. The RETs that focused on teacher practice were most efficacious in influencing teachers' beliefs and application in the classroom, showing that introducing belief change in science teaching is achievable (Enderle et al., 2014).

In his analytical work on social studies beliefs, S. J. Thornton (1991) suggested that teachers serve as the "gatekeepers" of social studies curriculum and instruction. Teachers' decisions about content, sequence, and teaching techniques, based on their own teacher beliefs, shape the social studies experience of students. These teacher beliefs are often grounded in "unexamined assumptions and conventions . . . not conscious decisions" (p. 238). Social studies teachers manifest their teacher beliefs in their perceptions of the purpose of social studies, planning for lessons, and actual instruction. Often teachers insert their own critical thinking methods instead of adopting those put forth by formal curriculum developers, addressing material in a textbook, but with their own sequence and their own emphases (Thornton, 1991).

In his literature review of research in the area of foreign and second language teaching, Borg (2003) examined studies that address foreign language teachers' prior second language learning experiences, preservice educational programs, and classroom practices. He explored how second language teachers reconcile their teacher cognitions

(including teacher beliefs) with grammar and literacy instruction in the classroom. Borg suggests that teachers can most effectively examine their teacher cognitions and practices through creating autobiographical accounts of their personal/professional career, engage in retrospective writing about their beliefs and teaching experiences, and by concept mapping (Borg, 2003).

Kulinna et al. (2010) investigated the teacher beliefs of preservice physical education (P.E.) teachers toward curricular outcomes of P.E. programs. In this quantitative study (n= 486; 62% male, 38% female), physical education teacher candidates in varying years of their teacher education program rated the importance of four outcome goals: physical activity/fitness, self-actualization, skills training, and social development. Although first-year preservice teachers rated skills training higher, all other teacher candidates rated physical activity/fitness as the highest priority for the outcome of school physical education programs. Researchers suggested that studying preservice teacher beliefs about physical education program goals can be beneficial to determining curricular needs in teacher education programs (Kulinna et al., 2010).

Studies of Music Teacher Beliefs

Legette (2012) studied inservice music teachers' beliefs about the causes of student success and failure. Using a music attribution orientation quantitative instrument, he surveyed 309 music teachers from various school systems in the southeastern United States. Results of the analysis revealed that overall, music teachers ascribe the factors of *student effort* and *ability levels* as the predominant causes of student success and failure in music classes. Legette found that these attributes of teacher expectancy, or teacher beliefs, can help build self-efficacy in students, "reinforcing effort and persistence" (p.

78). Most teachers in the study rejected the attributes of the external factors *task* difficulty or *luck* as primary causes of student success and failure.

Hopkins (2013) investigated string teachers' beliefs and practices concerning teaching tuning skills to elementary and middle school orchestra students. Utilizing a researcher-developed questionnaire, he queried 600 randomly selected elementary and middle school orchestra teachers from across the United States. Hopkins' data suggested that teachers of first-year string students (regardless of when instruction begins) believe it is most important to develop their students' aural skills and teach them playing technique, rather than teach them to tune their instruments. Middle school string teachers formally taught tuning more often than elementary school string teachers. Many teachers believed that students should achieve tuning independence sooner than they reported that their own students actually achieved that independence. Therefore, teachers' expectations exceeded their student's actual skills. According to the survey, students were able to tune their string instruments independently with an average of 4.5 years of string instruction experience.

Bergonzi (1997) investigated string teacher practices of using fingerboard placement markers for beginning string instruction in his quantitative study. He found that a tactile/visual reference combined with accompanied harmonic background along with accurate recorded listening examples yielded the best overall intonation performance skills in a sixth grade beginning string class. Although they demonstrated similar left hand technique skills, students with fingerboard markers played significantly more in tune than the control group of students with no fingerboard markers. Decisions of

whether or not to use fingerboard markers are often based on teacher beliefs about the pedagogy of teaching accurate intonation (Bergonzi, 1997).

Performance evaluation is another area of string music education wherein teachers have strong beliefs. Depending upon their beliefs about the value of adjudicated festivals, teachers choose to have their students participate, or not. Part of that decision is based on the nature of adjudicator evaluations, the perceived value of the adjudication process, and the actual adjudication instrument used to evaluate their groups. In their 2002 action research quantitative study, Zdzinski and Barnes (2002) examined adjudicator evaluations for musical performances. Because assessment is a vital part of music education, the researchers developed a valid and reliable rating scale in efforts to promote adjudicator consistency in judged events. Zdzinski and Barnes determined that a specific, criterion-rated adjudication assessment tool, such as their String Performance Rating Scale (SPRS), could help judges attend to the most important descriptors of musical performance and could lend more validity and reliability to string performance adjudication. Utilizing such an instrument could give valuable specific feedback to string educators and string researchers concerning student performance (Zdzinski & Barnes, 2002).

In her article based on her doctoral dissertation, Dwyer (2015) explored the influences that shape music teacher values and beliefs. Her research focused on how music teacher educators can encourage and foster positive teacher dispositions, expanding teachers' beliefs about their practice. Using Bourdieu's models of *habitus* (social system), *doxa* (accepted values and beliefs in that system), and *field* (social

space), Dwyer examined how four secondary general music teachers negotiated their teaching beliefs and values within their Australian school music program (Dwyer, 2015).

Teachers' Affective Beliefs

Affective beliefs are an important part of teachers' belief systems (Ashton, 2015; Frijda, Manstead, & Bem, 2000; Gill & Hardin, 2015; Nespor, 1987; Skott, 2015; Snow, Corno, & Jackson, 1996). Beliefs hold both cognitive and affective aspects; beliefs can be more stable than emotions, but emotions can be more intense than beliefs. Skott (2015) explained, "affective beliefs are seen as value-laden and they are characterized by a certain degree of commitment, either positive or negative" (p. 18). Snow, Corno, and Jackson (1996) addressed the inclusive nature of beliefs ranging from cognition and declarative knowledge to emotions, motivations, and attitudes. Snow et al. suggested that "Beliefs are not strictly cognitive. All concepts carry connotative, evaluative meaning" and should not be discounted (p. 291). Ashton (2015) referred to the work of Pintrich who recommended that researchers focus on teachers' beliefs and emotions to establish a more thorough model of teaching and learning. He took a viewpoint of teachers as "active thinkers, decision makers, reflective practitioners, information processors, problem solvers, and rational human beings," and also a social viewpoint of teachers as being "embedded in a social context that may advance or inhibit their cognitive processing" (Pintrich, 1990, in Ashton, 2015, p. 37). Pintrich emphasized the importance of researchers examining teacher self-beliefs and motivation along with teacher knowledge and cognitive competence. Finally, Nespor (1987) emphasized Abelson's (1979) fourth feature of teacher beliefs, "Belief systems rely heavily on evaluative and affective components" (cited in Nespor, p. 321), because many teachers utilize strongly

held emotional and affective beliefs to help them make sense of the sometimes chaotic and unpredictable setting in the classroom.

Gill and Hardin (2015) discussed teachers' beliefs *about* emotion—especially as they occur in classroom management and teacher/student rapport. Referring to work by Williams et al. (2008), Gill and Hardin suggested that teachers feel the need to maintain a positive emotional climate in their classroom, keeping their own frustrations in check to demonstrate effective classroom management. Gill and Hardin also reference researchers Sutton and Wheatley (2003), who suggested that "Teachers are more likely to experience and subsequently regulate negative emotions when they believe their goal of promoting student learning is disrupted . . . and they are more likely to experience anxiety when they are uncertain about whether or not they are doing a good job" (cited by Gill & Hardin, 2015, p. 240).

Gill and Hardin (2015) suggested that emotions are an important factor in teaching. They stated, "Teachers' beliefs are affected by their own emotional experiences in the classroom, which in turn affects their decision-making, which influences student learning" (p. 240). They noted that research on teacher beliefs and emotions lends the following implications to classroom practice:

1) Teachers should promote positive emotional experiences in the classroom to enable "cognitive processing and self-regulated learning."

2) Teacher education programs should promote "adaptive self-beliefs" to create positive affect and constructive self-regulation.

3) Teachers should strive for positive learning environments by strengthening self-efficacy beliefs and student emotional management.

4) Teachers should promote student emotional buy-in by selecting high interest topics and curricular material. (Gill & Hardin, 2015, p. 240)

Changing Teacher Beliefs and Practices

Changes in teacher beliefs are also affected by emotions. Gill and Hardin (2015) suggested that "research on teaching should involve examining teachers' emotions in conjunction with their beliefs, rather than keeping these two fields of research separate, as is currently done in educational research. . . . [and] affect must be an integral part of research on conceptual change" (p. 241). Using conceptual change theory, Gill and Hardin examined how affect interacts with teacher beliefs and appraisals when those beliefs are undergoing transition. They noted that some theorists suggest that belief change may initiate with a significant affective event that raises doubt or dissatisfaction in teachers' appraisals of their beliefs. However, doubt and dissatisfaction, alone, are not enough to alter foundational teacher beliefs, but these catalyst moments may help researchers begin to elucidate the relationship between emotions and changing beliefs:

> Teachers' initial responses to a reform message result in either positive, negative, or neutral affect based on their underlying self-beliefs, which in turn leads to challenge, stress, or benign/positive appraisals. Appraisals interact with motivation to influence cognitive processing of the reform message and subsequent belief change. (Gill & Hardin, 2015, p. 236)

Gill and Hardin also suggested that self-beliefs are more likely to change when the individual teacher has a personal connection to the reform. In one study they reviewed, suggestions for overall school reform did not elicit an emotion response from the teachers. But when the suggested reforms personally affected the teachers and their individual practices, the teachers were much more likely to react emotionally to the proposed changes (Schmidt & Datnow, 2005, cited in Gill & Hardin, 2015). Gill and Hardin noted two other studies that showed that affect and changing teacher beliefs interact in a recursive way. In one study, Schutz, Cross, Hong, and Osbon proposed a

2007 paradigm they called the "transactional model," which claimed that teacher identities guide teacher beliefs about certain classroom practices, which are shaped by their aims and appraisals. These appraisals could lead to affective experiences that substantiate or question personally held teacher beliefs. When those beliefs change, teacher identity may also transform, suggesting that beliefs can impact practice prior to and following emotional episodes (cited by Gill & Hardin, 2015, p. 238).

Another study discussed by Gill and Hardin (2015) utilized the *Integrated Model of Belief Change,* (IMBC) which suggested a reflexive link between affect and teacher belief change:

> Emotions, such as dissatisfaction, are hypothesized to interact with prior beliefs and motivational factors to produce a subsequent emotion, which in turn, affects cognitive processing and whether a new belief is formed, which, in turn, affects subsequent emotional reactions and behavior. Thus, beliefs and affect interact iteratively to produce or thwart conceptual change. (p. 238)

Gill and Hardin pointed out in their IMBC that emotions impart evidence to the teacher about successful goal attainment and progress, and can initiate and compel belief change. They submit that the IMBC has the "potential of providing a more realistic understanding of how beliefs and emotions interact to influence teachers' decision-making and practice because they posit multiple ways that affective reactions are central to the belief change process" (Gill & Hardin, 2015, p. 239).

Gill and Hardin summarized the role of affective factors in conceptual change:

1) Emotional reactions from teachers can hinder reform efforts because pre-existing beliefs are resistant to change, especially when reform affects teachers' personal practice.

2) Both teacher and student emotions can provide valuable information in the classroom and in school-wide reform efforts.

3) Emotions can serve to strengthen or undermine pre-existing teacher beliefs, especially when policies affect teachers' competence in their own classroom. School reforms that put perceived restrictions on resources can create negative beliefs about school/state policy. (Gill & Hardin, 2015, p. 241)

Belief change through professional development for inservice teachers is an important study area (Ashton, 2015; Buehl & Beck, 2015; Fives, Lacatena, & Gerard, 2015; Gill & Hardin, 2015; Levin, 2015; Richardson, 2003). According to Fives, Lacatena, and Gerard (2015), beliefs about teaching and learning are deeply seated in both preservice and inservice teachers. To change these embedded beliefs, teacher educators and professional development programmers must change teachers' concept of "what constitutes good teaching" (p. 257). These initial beliefs must be examined and evaluated in order for teacher beliefs to transform. Various methods of examination may include university coursework utilizing various teaching methods and experiences, self-reflection and journaling activities, and observation of colleagues using divergent teaching strategies. Other external factors, such as high-stakes testing expectations and rigid, top-down curriculum expectations may immobilize teacher beliefs and make them resistant to change.

Some researchers noted that belief change occurs as teachers gain teaching proficiency. Fives, Lacatena, and Gerard (2015) submitted that teacher beliefs can change over time due to teachers' accumulated experience in the classroom. This context-based approach to understanding teacher beliefs underscores the changeability of beliefs. One study that they reviewed demonstrated that preservice teachers changed their teaching beliefs after their student teaching experience, suggesting that interactions with students and experimentation in methods may reshape teachers' beliefs about student learning and

their own teaching. Fives et al. suggested, "Changing—or at the very least, challenging—beliefs is . . . important because static, implicit beliefs may limit the range of ideas or actions that . . . teachers are willing to consider" (p. 257). Fives, Lacatena, and Gerard (2015) looked across specific educational content areas for common teacher beliefs that influence teacher practice in various subject areas. Some studies showed that belief specialization increases with experience, therefore, more experienced teachers hold strong beliefs in areas such as teaching strategies, classroom management, and student interaction. Fives et al. also examined studies that included beliefs of preservice teachers that showcased the development of teacher thinking at increasing experience levels.

Levin (2015) suggested that experienced teachers' beliefs may change over time, reflecting the teachers' experience, content knowledge, and their particular context. Some experienced teachers' beliefs that changed over time included "beliefs about their classrooms (structures and management), instructional strategies (student-centered and differentiated), their students' (expectations), and themselves as teachers (professionalism)" (Levin, 2015, p. 58). In her research, Levin's "Personal Practical Theories" reflections showed a transition from the preservice teachers' beliefs being mostly about themselves, to the experienced teachers' beliefs being mostly about their students. For example, experienced teachers were more concerned with setting specific high standards for their students, where inexperienced teachers were more concerned with creating interpersonal relationships with their students. Levin's continued longitudinal research with Personal Practical Theories indicated that the longer a teacher had been in practice, the fewer overall philosophical theories they espoused. More experienced teachers explained in their written reflections that "many of their early

beliefs had become ingrained in who they are and how they teach," and "they did not feel the need to express some of their initial beliefs because that was just who they were as teachers" (cited in Levin, 2015, p. 56). These findings suggested that teacher beliefs can and do change over the course of time with accumulated teaching experience.

Changing teacher beliefs is not an easy process, however. Skott (2015) noted, beliefs are relatively stable and only likely to change if the individual is engaged in substantial social re-education that is personally significant. For practicing teachers, the sources of stable beliefs may include educational experiences as a child, teacher education programs, and colleague collaboration in the workplace. Pajaras (1992) noted that other researchers utilize Piaget's (1977) concept of assimilation and accommodation to explain how beliefs are formed and how they may change. Pajares reiterates that "beliefs are unlikely to be replaced unless they prove unsatisfactory, and they are unlikely to prove unsatisfactory unless they are challenged and one is unable to assimilate them into existing conceptions;" therefore, belief change is often the last resort (Pajares, 1992, p. 321). Pajares (1992) suggested, that sometimes, belief change is desired, despite the tenacious characteristics of individual beliefs. He refers to the 1986 work of Guskey when noting, in the case of staff development programs, teachers are unlikely to change their beliefs or attitudes unless they gain experience using the new procedure or technique and find out for themselves that it is an effective teaching tool for use with their students. Therefore, in teacher inservice training, changes in behaviors precede changes in beliefs.

Similarly, Buehl and Beck (2015) suggested that "teachers' beliefs are shaped by engaging in specific actions and practices" (p. 69). Studies on professional development

for inservice teachers show that when teachers implement new, specific classroom practices, their beliefs concerning those practices *can* change, especially when they encounter success utilizing those practices. Buehl and Beck report studies that show that practice can influence beliefs, including beliefs of self-efficacy, beliefs about questioning techniques, beliefs about special education inclusion, and beliefs about classroom management.

According to Ashton (2015), Richardson and Placier (2001) also questioned the idea of fixed teacher beliefs and suggested that, although many preservice teachers hold rigid beliefs, inservice teachers' beliefs are adaptable. They explained that "long-term, collaborative, and inquiry-oriented programs appear quite successful in changing beliefs, conceptions, and practices" (Richardson & Placier, 2001, cited in Ashton, 2015, p. 41).

Literature Review Summary

Sources of teacher beliefs are wide and varied. Unlike other professions, new teachers have prior experiences with their own teachers during their years as a student. Lortie (1975) pointed out that students spend an average of "13,000 hours in direct contact with classroom teachers by the time they graduate from high school" and, through an "apprenticeship of observation," feel that they "know" about teaching from observing their own teachers (Lortie, p. 61). Novice music teachers spend years under the tutelage of both "good" and "poor" teachers (Schmidt, 1998). Research suggests that early formed teacher beliefs are deeply rooted and difficult to alter, even when others seek to change those beliefs through teacher education (Nespor, 1987; Pajares, 1992; Rokeach, 1968).

As teachers progress in their careers, they collect personal experiences that serve to form new teacher beliefs, or alter existing teacher beliefs to adapt to present classroom

contexts (Ashton, 2015; Buehl & Beck, 2015; Gill & Hardin, 2015; Levin, 2015; Richardson, 2003). Less experienced teachers may experiment with many teaching strategies in their quest to establish their own teacher beliefs and priorities in the classroom. During this stage in their career, inexperienced teachers' practices may not align with their professed teacher beliefs (Skott, 2015). Teachers may be motivated to change their own beliefs through professional development, but in practice may fall back on familiar teacher beliefs because of the tenacity of those beliefs. Changing an early formed teacher belief is not easy, partly because many beliefs are so engrained that teachers do not even recognize them. Only after intentional reflection and successful experience with new beliefs will inservice teachers be willing and able to alter their teaching beliefs (Ashton, 2015; Buehl & Beck, 2015; Fives, Lacatena, & Gerard, 2015).

Teacher practices are often related to teacher beliefs (Nespor, 1987; Pajares, 1992; Fang, 1996; Buehl & Beck 2015; Levin, 2015). Examining the link between teacher beliefs and practices, researchers have pointed to the complexity of interactions of the two, due to the many influences on both constructs, both internal and external. For example, teachers with limited rehearsal time (external contextual restraint) may feel that they do not have enough time to work on technique; they may feel they are forced to select less advanced concert repertoire and not accomplish the curricular goals they set for themselves and their students (internal contextual restraint). In this scenario, teachers cannot enact their beliefs because they are forced to choose between building technique and learning less advanced concert repertoire, therefore, incongruity occurs. Because of the complexity in the relationships between the sources of teacher beliefs, teacher beliefs

themselves, teacher practices, and contextual factors in the classroom, it is challenging to pinpoint exactly why teachers do what they do

The following chapter presents the qualitative research design I selected to address the purpose and research questions of this study.

CHAPTER THREE

DISSERTATION RESEARCH METHODS

This chapter begins with a restatement of the purpose and research questions of this study. Then I describe and justify the choice of multiple case study as the selected research method for this study. Next I discuss my personal interest in the topic and the role of the researcher in this study, including standards of credibility and trustworthiness. Finally I clarify the procedures for the research, including data collection and analysis.

Purpose and Research Questions

The purpose of this study was to explore the teacher beliefs of middle school orchestra teachers and to examine how their self-reported and observed teaching practices reflect these beliefs. The following research questions guided this investigation:

1. How do middle school orchestra teachers describe their classroom practices?
2. What are middle school orchestra teachers' stated and/or implied beliefs about their pedagogy, middle school students, and their middle school orchestra programs?
3. How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?
4. How do inservice classroom contextual experiences and professional development influence teacher beliefs and practices?
5. What is the relationship between teachers' beliefs and their observed classroom practices?

Qualitative Approach to Research

Van Manen (1990) suggested that social science research (such as educational research) examines people and their interactions with meaningful objects to better

understand how humans live in the world. Human study involves descriptive narrative, explanation, and analysis. He described the qualitative paradigm as follows: "The fundamental model of this approach is textual reflection on the lived experiences and practical actions of everyday life with the intent to increase one's thoughtfulness and practical resourcefulness or tact" (p. 4). Qualitative study does not attempt to predict or generalize behavior about a population. It seeks to study the unique aspects of each participant's experience by asking, "What is this or that kind of experience like" for that person? (Van Manen, 1990, p. 9). Qualitative study uses questions to reveal meaning rather than to find solutions to problems, therefore inspiring readers to more thoughtful action or more nuanced dialogue.

Elliott (2002) emphasizes the benefits of interpretive research, specifically in music education: "In terms of aims and 'methods,' interpretive researchers seek to build our knowledge of complex social phenomena (e.g., teaching, learning, music making) by grasping the meanings and values that educational experiences have for various groups of people" (p. 92).

Olafson, Grandy, and Owens (2015) note that qualitative methodology is well suited to research on teacher beliefs because reaching out to teachers in the field, immersing researchers into the classroom milieu, and listening to teachers' personal narratives all help develop a more clear understanding of the complex and intricate workings of teacher beliefs.

Olafson et al. identified three strengths of qualitative methods in the research area of teacher beliefs:

1) Qualitative methods enable the researcher to collect data over a prolonged period of time, giving time to observe how beliefs develop and change.
2) Qualitative methods enable the researcher to complete data collection in naturalistic environments, moving beyond teacher self-reported data. Classroom observations and videotaped lessons allow researchers to analyze classroom practices.
3) Qualitative methods enable the researcher to gain rich, in-depth descriptions of the patterns found in individual teacher beliefs and teacher practices.

In studying both new and experienced teachers' beliefs, Pajares (1992) recommends that researchers should 1) carefully and methodically define the concept and meaning of the term "belief," 2) recognize the importance of the gestalt of belief systems because individual beliefs cannot be understood in isolation, 3) examine teachers' verbal intentions and thoughts in addition to observing their teaching behaviors in assessing their teaching beliefs (survey-based belief inventories can only offer limited data), and 4) consider the value of qualitative research methods (narrative, biography, metaphor, and case studies) to create more rich and detailed inferences between beliefs, teacher practices, and student learning.

In his research about how teacher beliefs and practices are consistently related, Fang (1996) described methodologies used to effectively investigate teachers' cognitive processes. One technique, that he called *process tracing,* involved several procedures that aided in collecting qualitative data: think-alouds, retrospective interviews, stimulated recall, and journal keeping. All of these techniques ask teachers to self-reflect on their own recent or long-term authentic teaching experiences.

To research the relationship between middle school orchestra teachers' teacher beliefs and their teaching practices, I chose to utilize qualitative research methods. A qualitative approach is best suited to the purpose of this study because the teacher beliefs and classroom practices of middle school orchestra teachers lend themselves to questions of individual constructions of reality, human interaction, and meaning. Individual teachers construct their understandings of important beliefs and practices in the context of their experiences with specific students in specific classroom settings. Glesne states that qualitative research describes settings wherein "reality is socially constructed, complex, and ever changing. What is 'real' becomes relative to the specific location and people involved" (2006, p. 6). To help understand what is "real" to these study participants, I observed each middle school orchestra teacher interacting with his/her students, and watched videotaped class episodes of each teacher as that teacher talked about his/her practice. I conducted interviews face to face with each participant, asking each teacher to identify or describe their practice, their instructional priorities, and their teacher beliefs.

Qualitative techniques seem to be well suited to studies both about music education and about teacher beliefs. Therefore, utilizing qualitative approaches, I can gain understanding into "the ways in which teachers develop, change, and act upon their beliefs over time and in a variety of contexts" (Olafson et al., 2015, p. 128).

Multiple Case Study

I selected multiple case study as the research method of this qualitative project. Creswell (2013) stated that case study "develop[s] an in-depth understanding of a single case or explore[s] an issue or problem using the case as a specific illustration" (p. 97). He characterized the focus of case study research: "Case study research is a qualitative

approach in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information" (p. 97). By examining multiple cases, I aimed to compare the experiences of several middle school orchestra teachers to "illustrate the issue" and "show different perspectives" (Creswell, 2013, p. 99) of teachers with differing teacher beliefs, personal experiences, and practices.

Glesne (2006) describes a case study as research about a person or group of people that is a "bounded integrated system with working parts" (p. 13). An instrumental collective (multiple) case study "investigate[s] a phenomenon, population, or general condition" and examines several cases "to provide insight into an issue" (Stake, 2000, cited by Glesne, 2006, p. 13). Barrett (2014) suggests that case study is often used in music education qualitative research. She quotes Yin (2009),

> Case studies lend themselves to central issues of teaching and learning, schools and subject matters. Their highly contextual nature lends itself well to educational settings, in which there is likely to be considerable entanglement of phenomenon and context. (p. 114)

Barrett (2014) explains why case study is particularly well suited to qualitative studies in music education:

> Of special interest . . . is the capacity of case studies to convey the particularity and complexity that attends a phenomenon of interest. Aspects of the lived experience of music teaching and learning are often too nuanced, contextualized, and interdependent to be reduced to discrete variables. The dynamic intersections of subject matter, learners, teacher, and educational milieu are vital to our professional understanding; case study reports can aptly convey the multifaceted ecologies of life in music classrooms. (p. 114)

Twenty nine of the qualitative studies referenced in the Olafson et al. (2015) chapter on qualitative teacher belief research fell under the category of "case study." Olafson et al.'s selected case studies most often included from two to ten inservice

teachers as participants. Studies that involved multiple cases were usually bounded by a specific pre-existing group, like science or social studies teachers.

For inquiry about teacher beliefs, Olafson et al. categorized the multiple case studies into three groups: content areas, pedagogical issues, and learner characteristics. Teacher beliefs about various content areas (e.g., math, technology) were the subject of the most studies, where pedagogy (e.g., group work, assessment) was the second largest group of studies, and student characteristics (e.g., at risk or deaf students) had the fewest studies. Overall, Olafson et al. (2015) found multiple case study research effective in examining teacher belief.

Following the recommendations for case study by Glesne (2006), for case study in music education qualitative studies by Barrett (2014), and for multiple case study in research on teacher beliefs offered by Olafson et al. (2015), I chose to utilize the techniques of multiple case study to tease out some of the complex motivations and influences that link teacher beliefs with teacher practices. By using qualitative case study research methods of observations, interviews, and videotaped observations, I explored the nuances of the multifaceted ecology of the middle school orchestra classroom, as described by the teachers themselves, in their own voices, and though their own words and actions.

Teacher Belief Studies Research

Researchers who focus on beliefs as a topic of study make similar proposals for the effective study of teacher beliefs and practices. One suggestion is that quantitative methods may be too limiting or may not give enough specific details to learn about the complexity of teacher beliefs (Pajares, 1992; Skott, 2015). Skott suggested that

standardized or short answer instruments may allow the researcher to mistakenly assume that research participants share the same understanding and connotation of survey items in question, placing the participants in a forced choice circumstance that may not reflect the their true beliefs in a transparent manner. Standardized instruments may "impose a set of possible alternatives on the teacher rather than interpret the sense (s)he makes of educational issues" (Skott, 2015, p. 20). For studying teacher beliefs, Pajares (1992) instead advocated research consisting of "open-ended interviews, observations, and related think-alouds to determine consistencies and inconsistencies between what teachers say, intend, and what they do" (p. 39).

It is difficult to identify beliefs, Rokeach (1968) claimed, because individuals often do not recognize their own beliefs (tacit beliefs) or are reluctant or unable to acknowledge their beliefs. Therefore, researchers must infer beliefs from "what people say, intend, and do" (cited in Pajares, 1992, p. 314). Qualitative methods may allow researchers to more precisely represent study participants' ideas and viewpoints (Kagan, 1992; Nespor, 1987; Pajaras, 1992; Rokeach 1968; Skott, 2015), helping them "infer or attribute beliefs to research participants, based on different types of data" (Skott, 2015, p. 20). Skott suggested that researchers utilize participant verbal reflections, classroom observations, stimulated recall, and research interviews to garner the most logical inferences from practice to belief. Kagan (1992) suggested that teachers' beliefs concerning students, subject areas, and teaching experience could be more effectively evaluated through concept mapping (teachers outlining their own pedagogical experiences) and engaging in think-alouds (teachers verbally reflecting on their thoughts as they observe a videotape of their own or others' teaching episodes).

In the following section, I explain how I applied these researchers' suggestions in selecting the methods for data generation in this study.

Data Generation

To gain rich and thick descriptions of a case, Creswell (2013) suggests obtaining data from multiple sources including, but not limited to, interviews, observations, artifact and document collection, written participant reflections and drawings. Olafson et al. (2015) found that researchers studying teacher beliefs often "combined interviews and observations in order to examine the relationship between beliefs and practices" (p.132). Some teacher belief studies utilized videotaped classroom interactions which were later used in interviews where participants analyzed their classroom practices with the researcher.

In this section, I describe the methods I used for selecting participants and the data generation techniques I utilized from which to learn from those participants. For this study I chose to include data from 1) field notes from an initial in-person observations of each of the participants' classes, including artifact collection (such as rubrics, photos of the participants' classrooms, parent letters, and informal conversations with the teachers between the observations), 2) an initial interview, 3) field notes from observations of four classes video recorded by each of the participants, 4) two interviews where the participants reflected upon the video-recordings of their classes (think-aloud protocol), 5) a final interview, and 6) a post-interview written participant reflection.

Participant Selection

After the dissertation proposal was approved by the dissertation committee and the Institutional Review Board (Appendix B), I determined an initial list of participants

from the Arizona Music Educators Association (AMEA) membership list, available to me as an AMEA member. From that list I identified potential participants who teach orchestra in grades six through eight in an elementary, middle school, or junior high school. I selected these six teachers purposively to represent a variety of teaching situations (Creswell, 2013, p. 100), for example, participants with varied years of experience (more/fewer), program size (large/small), school demographics (ethnicity/socioeconomic status), and geographic setting (urban, suburban, rural). I obtained this information from school websites, interaction with the strings community, and personal communication with prospective participants. To make the study implementation practical, I geographically limited the participants to those with whom I could meet in person. I chose to limit the number of participants to six because they represented the variety of teaching situations that I sought. After identifying potential participants, I contacted the six teachers personally or by phone to ascertain their interest in participating in the study. All six potential candidates agreed to participate. To inform these candidates about what the study entailed and to confirm their willingness to participate, I emailed a consent form to them, asking them to return it at the first interview (Appendix C). We held all interviews off campus at a location of the participants' choosing (public library conference rooms, orchestra classrooms, their own home, or restaurants). Because the study focuses on normal classroom teaching as recorded by the regular teacher, approval from the districts was not necessary. However, I did have participants inform their principals of their participation in the study via an informational letter (Appendix D).

Participant	Primary instrument(s)	No. of years teaching	Current assignment
Cassie	Violin	3	4^{th} – 12^{th} at three sites
Wendi	Violin	8	6^{th} – 8^{th} grade at two sites
Susan	Violin	10	7^{th} – 8^{th} at one site
Mark	Viola and Trombone	12	7^{th} – 8^{th} at one site
Orrin	Violin	17	5^{th} – 12^{th} at one site
Marlene	Violin	30	5^{th} – 12^{th} at three sites

Table 1. Participants

Observations

An initial classroom observation of the middle school orchestra teacher participants served as an introduction to each teacher's practice. I arranged to do an observation in the orchestra classes where the participants teach middle school level students (gr. 6 – 8). I observed from the back of the classroom, taking notes about the classroom environment, activities, and student interactions. I collected artifacts at the observations, such as photographs of the teachers' classrooms (e.g., posters of procedures, motivational posters), assessment rubrics, parent communication letters, and upcoming concert programs. During class breaks I was able to ask the participants a few questions about their teaching choices that I had observed during the previous class period. I recorded this information in my observation notes and it became part of the artifact collection. Data accumulated during the initial observation served to inform subsequent interview discussion questions.

Interviews

To collect and gather information relating to the teacher beliefs and teaching practices of middle school orchestra teachers, I relied primarily on open-ended interviews with the six orchestra teachers. I was interested in exploring what is most important to the teachers in their practice and what makes teaching worthwhile for them. Personal stories, descriptions, and anecdotes from the participants helped to clarify the teacher beliefs and practices of the participants in each case. Van Manen (1990) illustrated,

> . . . it is not entirely wrong to say that the methods of conversational interviewing, close observation, etc., involve the collecting or gathering of data. When someone has related a valuable experience to me then I have indeed gained something, even though the "thing" *gained* is not a quantifiable entity. (p. 53)

The recorded and transcribed interviews served two purposes: 1) to "gather experiential narrative material that may serve as a resource for developing a richer and deeper understanding" of the participants' teacher beliefs and practices and 2) to act as a "vehicle to develop a conversational relation with a partner (interviewee) about the meaning of an experience" (Van Manen, 1990, p. 66). Although the teacher interviews were open-ended and somewhat unstructured, they had purpose and intent aimed to address the fundamental content of the research questions and designed to be somewhat parallel to interviews of the other participants. The suggested interview questions encouraged participants to relay the narrative needed to explore the deep and sometimes hidden teacher beliefs that may influence their teaching practices. Van Manen (1990) explained,

> Interview material that is skimpy and that lacks sufficient concreteness in the form of stories, anecdotes, examples of experiences, etc., may be quite useless, tempting the researcher to indulge in over-interpretations, speculations, or an over-reliance on personal opinions and personal experiences. (p. 67)

While the long interview is desirable in a qualitative study, I wanted to avoid unfocused, rambling interviews that did not address the purpose of the study. Moustakas (1994) suggested that the interviewer begin with an informal social conversation to create a low-pressure and non-threatening environment and then proceed to ask the participant to "focus on the experience, moments of particular awareness and impact, and then to describe the experience fully" (p. 114). I created interview guides (see Appendix A) that included questions to encourage the participants to elaborate and share more personal meaning and depth, such as "What dimensions, incidents and people intimately connected with the experience stand out for you?" or "How did the experience affect you? What changes do you associate with the experience?" (Moustakas, 1994, p. 116). Creswell (2013) suggests that qualitative researchers ask participants two general questions that encourage them to share foundational stories: "What have you experienced" in terms of middle school orchestra teaching? and "What contexts or situations have typically influenced or affected your experiences?" (p. 81). I shared the interview guides with the participants before the interviews, but allowed the conversation to take paths that were dictated by the participants' areas of interest. In the course of each interview I asked the teachers to recall specific lessons, memories, situations, and anecdotes that they had experienced in their teaching careers.

Initial Interview

One of the objectives of this first interview was to establish collegial shared interests and build trust. Glesne (2006) emphasizes the importance of building foundational trust with interview participants: "A common mistake in interviewing is to ask questions about a topic before promoting a level of trust that allows respondents to be

open and expansive" (p. 84). By opening the first interview with easy-to-answer questions about the participants' backgrounds, I gradually asked deeper, more reflective questions about more abstract topics like teacher beliefs and motivations. Laying a foundation of trust enabled participants to share more detailed experiences that contributed to rich and thick descriptions of the participants' beliefs and practices.

In the first interview we discussed the participants' musical background and teacher education, their goals related to their orchestra teaching job, and their interactions with their students in their practice. I asked the participants about their string playing background to learn more about the formative experiences that may have shaped their current teacher beliefs. I explored their decision to teach orchestra at the middle school level and encouraged them to share information about their typical teaching experiences. I also asked them about their relationships with and goals for their students.

Second and Third Interviews: Videotapes and "Think-Alouds"

Embedded in the second and third interviews with each research participant, I included teacher "think-alouds" as a data collection tool. Pajares (1992) referenced Rokeach's (1968) work when he articulated, "beliefs cannot be directly observed or measured but must be inferred from what people say, intend, and do" (Pajares, p. 314). By having the teachers observe video clips of their teaching and verbalize the decisions they made and the motivations behind those choices, I was able to more clearly perceive the participants' teacher beliefs as they are reflected in their videotaped teaching practices. Ericsson and Simon (1993) recommend that through retrospective think-aloud reports, researchers can help participants recall their thought processes: "It is sometimes useful to direct [participants] to start their report, 'I first thought of _____.' This

constraint appears to help them focus on the retrospective report task as one of recalling distinct thought episodes" (p. xvi). Although my "think-alouds" were not a written report, rather a live interview, they served to help the participants verbalize their practice decisions and underlying teacher beliefs.

After the observation and the initial interview, I asked the participants to create videotapes of four of their classes, ranging from 20-45 minutes each, depending on the length of their normal class periods. Participants utilized their own recording equipment (camera and tripod). The videos primarily focused on the teacher, however teacher interactions with students were an important part of the classroom activity; therefore, I had teachers collect parent permission slips from students in advance of the videotaping days. Students whose parents did not want them included on the videos were to be given an alternative assignment in a different class for that day. No parents chose to have their child excluded.

I then watched the recordings and personally selected many small segments from each class video to be representative of each participant's teaching. For each segment, I formulated questions to ask about the teacher's thoughts, motivations, expectations, and priorities (Appendix A). During the second and third interviews, we watched the video segments together (two videos during each interview) and I asked questions about why the teacher chose to do this or that, what was the background story behind the interactions we were viewing, or what are the participant's teacher beliefs that motivated him/her to teach this material in this specific way. These interviews took place within two weeks of the videotaping so the participants were able to easily recall their thought processes during the videotaped lessons. I audio recorded and transcribed these conversations as

part of the second and third interviews. Although verbal recollections of experiences are not the same as the actual experiences themselves, these "think-alouds" based on the videotaped lessons offered access into the understandings and perceptions of the participants with regard to their teacher beliefs about their pedagogy, their middle school students, and their middle school orchestra programs.

Final Interview

In the final interview we discussed external factors in the participants' practice such as expectations from the school, the parents, and the students. We also explored their feelings toward various aspects of their job such as recruiting, adjudicated festivals, honor groups, and assessment. This interview focused on the teachers' perceptions of their own teaching responsibilities, student, parent, and site expectations, interactions with other teachers and organizations, and their individual reflections on their own teaching style. Discussion of these topics allowed the teachers to share with me some insights or experiences that illustrated how their instructional practice is related to their teacher beliefs (Appendix A).

Follow Up Written Reflection Survey

At the final interview all participants agreed to complete a follow up written reflection survey (Appendix E). Since a year had passed since the final interviews, the follow up survey revealed information about the participants' current teaching status and position, the motivation behind any changes in their employment, what they learned in their middle school orchestra-teaching experience during that year, and changes in their ideas about teaching middle school orchestra. This written data served as additional

evidence of their beliefs and the personal choices they made with regard to their teaching position.

Personal Interest and Bracketing

My own experience teaching middle school orchestra for thirty one years is the primary motivation for my interest in the experiences of middle school orchestra teachers. Moustakas (1994) wrote:

> The researcher has a personal interest in whatever she or he seeks to know; the researcher is intimately connected with the phenomenon. The puzzlement is autobiographical, making memory and history essential dimensions of discovery, in the present and extensions into the future. (p. 59)

Although my personal experience is relevant to the study, I maintained strict impartiality when interviewing research participants by using *bracketing* to limit my personal influence on the study, acknowledging and recording my own middle school orchestra experiences, and then setting them aside to target the experiences of the study participants (Creswell, 2013). Husserl utilized the concept of *epoche* (described as "suspension of judgment" in Greek philosophy) to describe bracketing technique in qualitative research (Beyer, 2018). Although completely removing oneself from the research is not possible, bracketing helped me keep an open mind about the data and differentiate between my own teacher beliefs and those of the study participants.

To accomplish bracketing of my own biases and experiences, I examined and considered the same questions that I asked the participants and recorded the answers in a personal journal. I used this journal to describe my own teaching practices, analyze my own experiences, and reflect on my own teacher beliefs. I also wrote answers in my research journal to the same interview questions I asked the participants. Having examined my personal practice, I was more fully able to recognize and isolate my own

opinions when working with the other participants. Although their teaching practice may be similar to my own, each participant's experience has unique factors that characterize their personal experiences and teacher beliefs.

While acknowledging that my own teacher beliefs influence my perspective, I sought out each teacher-participant's individual viewpoints to more fully describe the overall picture of their unique teaching practice. Moustakas (1994) talked about setting aside researcher experiences:

> This way of perceiving life calls for looking, noticing, becoming aware, without imposing our prejudgment on what we see, think, imagine, or feel. It is a way of genuine looking that precedes reflectiveness, the making of judgments, or reaching conclusions. (p. 86)

Moustakas suggested that qualitative researchers employ *reflective-mediation* wherein they cognitively label and write down their own preconceptions. By reviewing and acknowledging my own prejudgments, I attempted to be as objective as possible in my interviews, "to listen and hear whatever is being presented, without coloring the other's communication with my own habits of thinking, feeling, and seeing, removing the usual ways of labeling or judging, or comparing" (Moustakas, 1994, p. 89).

As an example of researcher bracketing, the following is a personal journal entry wherein I answered questions given to all participants in the final interview about adjudicated festivals.

Question: Do you participate in adjudicated festivals?

Which group(s) do you take to festival and why?

In your opinion, what is the value of adjudicated festivals?

Valerie: I regularly take my middle school students to adjudicated festivals. I believe it is an important experience for them to hear feedback from external judges. I also feel it is

important for my students to gain performance experience in front of a critical audience. It is equally important for my students to hear other groups perform— both those better and those worse than their playing ability.

I have helped organize and run a district "cadet clinic" festival for the seventh grade students in my district. We only use one judge, try to keep it up-beat and light, listen to each other play, and couple it with a fun social activity like bowling and pizza. Our district middle school teachers all participate.

I have taken my eighth grade group to rated adjudicated junior high festivals sponsored by the state teacher organization as well as junior high festivals sponsored by a university music department. In a former job in a different state, festivals were mixed levels—you could hear high schools as well as junior high groups in one festival. In this state they separate the levels so you do not have that option. Sometimes the only junior high orchestra festival date is less than ideal (like the last day before spring break!)

I have had mixed results with rated festival participation. Sometimes the judges are super critical and don't have one good thing to say about your group. That is discouraging to the students and defeats one of my primary goals for festival participation—motivating the students to excel and improve. I have had some judges tell me that festival ratings are a "game" that you need to play— select performance repertoire that is really easy so your students sound really good. I'm not sure if I agree with that, but maybe that is what some judges expect. My groups usually get an "excellent" or a "superior" rating. Once they got a "good" and the students were discouraged (so was I!). I try to emphasize that the rating itself is not as important as what we learn from the judges' comments and from hearing other students perform. I will

continue to take my middle school students to adjudicated festivals because I believe that it is an important event in their school orchestra experience.

In contrast to my beliefs and experiences with adjudicated festivals, one study participant states he will not take his students to festival because they do not have time to prepare. Several participants stated that they had good experiences with Music Educator Association festivals so they will continue to participate. One participant centers his entire curriculum on earning a "superior" rating at festival. One participant takes her students (all levels) to her district's "in-house" unrated festival.

By examining my own beliefs about festivals and comparing them with the participants' beliefs, I was less likely to allow my judgment to be clouded by my own experiences. I think it is interesting to note the participants' varied beliefs and practices and their personal motivations and reasons behind those beliefs and practices.

Credibility and Trustworthiness

Creswell (2013) identifies eight strategies that qualitative researchers use to increase the accuracy and credibility of their work: prolonged engagement and persistent observation, triangulation, peer review or debriefing, negative case analysis, clarifying researcher bias, member checking, rich and thick description, and external audits. He recommends that qualitative researchers utilize at least two validation strategies in each study. I have chosen to engage in the following six strategies.

Prolonged engagement and persistent observation: Data collection for this study occurred over a twelve-month period, from the end of one school year to the end of the next school year. In order to build a good relationship with the participants, learn the culture of the research settings, and identify misinformation that might arise in the study,

I shadowed and observed the participants teaching in their schools for a full day, had the participants each videotape their teaching four additional times, and interviewed each participant four times. Multiple interactions with the participants increased the participants' confidence in me as the researcher and help establish rapport and trust. Having the participants' videotape four different teaching sessions assisted in persistent observation and contributed to prolonged engagement. Multiple interviews also allowed me several opportunities to observe and ask questions based on those observations to get to know each participant. To collect follow up data, I also had each participant fill out an open ended, post-study reflection to have them consider their middle school teaching experiences after one school year had passed.

Triangulation: By collecting varied sources of data I corroborated the information presented by the participants. Multiple interviews and multiple observations via videotaped lessons provided "evidence to document a code or theme" (Creswell, 2013, p. 251).

Peer review or debriefing: I consulted an independent expert outsider (a university music education professor) to question and query the methods, procedures, and analysis of the research process. She and I both took notes on our interactions that helped shape the direction of the study.

Clarifying researcher bias: Using bracketing, I acknowledged my "biases and assumptions that impact the inquiry" (Creswell, 2013, p. 251) by answering my own interview questions in my research journal, and reflecting on my own practice and teaching beliefs.

Member checking: To ensure that the data reflected the participants' viewpoints, I returned the interview transcriptions to the participants for their review so they could clarify or correct any inaccurate or missing information about their beliefs and/or their teaching practices. Participants also reviewed the portrait I wrote about them and had the opportunity to make changes to that narrative that more accurately portrayed their teacher beliefs and practices. Two of the participants offered changes to their portraits; the other four participants chose to accept their portraits as I had originally written them.

Rich, thick description: In writing about the participants and settings, I included detailed descriptions to help the reader perceive the interconnectedness as well as the unique aspects of the experiences of the various orchestra teachers. With ample specifics, vivid examples, and direct quotes from the teachers, descriptive writing helped provide details that "allow readers to make decisions regarding transferability" (Creswell, 2013, p. 252).

Credibility and trustworthiness in a qualitative study are important as the researcher seeks to promote understanding about the research topic. By employing six of Creswell's qualitative strategies I hope to instill in the reader a sense of confidence that the findings of this study are an accurate reflection of the teacher beliefs and practices of the participants.

Analysis

In Olafson et al.'s review of studies about teacher beliefs, researchers reported analysis procedures ranging from absence of analytic information to acknowledged practices. Researchers often compared observational data to participants' self-identified teacher beliefs, seeking to identify patterns within and between cases. Some of the studies

used the "constant comparative method," attributed to Glaser and Strauss' 1967 work "consisting of four stages: coding, integrating categories, delimiting the theory, and writing the theory. . . . Basically an analytic process of comparing different pieces of data for similarities and differences" (Corbin & Strass, 2008, cited by Olafson et al., 2015, p. 132). Other studies utilized cross case analysis, described by Olafson et al. as "a detailed description of each case and themes within the case . . . followed by a thematic analysis across the cases" (p. 133). The authors of one study were more thorough, describing their analysis as follows, "Interview transcripts and documentary materials obtained . . . were first coded on belief and practice dimensions, and were further analyzed to create five belief/practice categories" (Olafson et al., 2015, p. 133).

Analysis of the data in my study occurred throughout the observation and interview process. After each of the interview sessions, I transcribed each teacher's interview verbatim (either personally or with the help of a transcription service) and coded the interviews to reveal common themes and ideas. Each anecdote was identified by data source, page number, and sequence number: for example, (I.13.24) referred to Initial interview, page 13, note 24. Data abbreviations included:

- O = observation
- I = initial interview
- V1, V2, V3, V4 = video stimulated recall interviews
- F = final interview
- R = reflection.

As I transcribed and reread the interviews, I analyzed them for themes, concepts, and areas of interest that emerged, and discussed these in more detail in subsequent interviews (Rubin, 1995). Although initial interview guides provided structure and a

common jumping off point for all of the participants, I asked deeper questions about each individual teacher's experience by probing for personal understandings and nuances using early analysis from the first and subsequent interviews.

I created a data base (Appendix F) with each participant interview, noting overlapping and unique themes and topics. Creswell (2013) points out, "Narrative stories tell of individual experiences, and they may shed light on the identities of individuals and how they see themselves" (p. 71). General trends or common experiences as well as uniquely defined categories helped me to more fully interpret these middle school orchestra teachers' beliefs as they relate to their practices.

I also created a summarizing chart for each teacher observation and interview, recording observed practices, stated and implied teacher beliefs, and prior experiences that could shape beliefs (Appendix G). To discover commonalities and contrasts, I then compared the data from each teacher with the data from the others, giving special attention to the anecdotal stories each teacher relayed.

Utilizing the data base and observation/interview chart, I created a portrait of each teacher, sharing quotes and anecdotes to support perceived teacher beliefs and observed practices. I composed each portrait with intent to reflect the priorities and practices of the particular participant in their natural teaching settings. Teacher participants reviewed their own portrait, chose their own pseudonym, and had the opportunity to make narrative changes to ensure that their portrait was an accurate reflection of their teacher beliefs and practices.

Next, using coded beliefs and practices, I compared participant responses to queries of individual topics or beliefs. I noted instances of commonalities and differences

between the teachers, pointing out instances when their observed practices conflicted with their self-stated teacher beliefs. When teacher beliefs and practices were not in alignment, I attempted to comprehend why this occurred.

After analyzing the evidence from the transcripts and coding, I returned to the literature review and revisited the findings of the current study in light of prior research, the model of beliefs sources based on Borg (2003) (Figure 3), and a newly created model of core teacher beliefs (Figure 5)——noting examples of agreement between teacher beliefs and practices and instances of incongruence between the two.

The following chapter presents the portraits of the six middle school orchestra teachers, identifying their teacher beliefs and observed practices.

CHAPTER FOUR

PORTRAITS

This chapter introduces the six middle school/junior high orchestra teacher participants. These portraits are gleaned from their self-described experiences, as transcribed from the four interviews as well as inferences made from classroom observations, both live and video-recorded, and a follow-up participant written reflection. They address research question one: How do middle school orchestra teachers describe their classroom practice?, and two: What are middle school orchestra teachers' stated and/or implied beliefs about their pedagogy, middle school students, and their middle school orchestra programs?

Teacher participants in this study ranged in experience from three years to thirty years. At the time of data collection, all participants were employed full time by school districts in one state in the southwestern United States. These school districts ranged in size from a district with only three schools (an elementary, a junior high, and a high school) to the largest school district in the state with 84 schools: 55 elementary schools, 11 junior high schools, 6 comprehensive high schools, 8 specialty “choice” schools, and 4 alternative schools.

For their portrait, the teacher participants selected a pseudonym and proofread and edited their narrative. Four participants accepted their portrait as originally written by the researcher, while two chose to rework the copy to more accurately reflect their personal description. Via this member checking process, all participants were satisfied with their personal characterization.

Cassie

Cassie is the youngest participant and the least experienced teacher of the study participants; she is in her third year of teaching. Cassie's primary instrument is violin. She teaches elementary, middle school, and high school in a small unified school district. Cassie teaches private lessons after her school assignment.

Cassie started playing violin at age six, taking lessons from private teachers using a Suzuki (ear training based) approach. Her mother had played violin in high school and really wanted another violinist in the family. Cassie recalls,

> My mom wanted me to play violin. She tried with my three previous siblings, and they all failed. So I was her last hope. She said, "Alright. You're it, so you've got to keep going." It seems as if I didn't really have a choice, but I loved it. And she was really pleased with that. (I.1.2)

Cassie's parents enrolled her in local youth orchestra programs very early, in her second year of playing. At that point in her personal training she was not yet reading notation, but her mother would point to the notes and Cassie would play along. She improved in her music reading, progressing through the Suzuki books and taking on little concertos like De Beriot and the Kabelevsky. By the time she was in sixth grade she was playing with college students and adult players in the local community orchestra, which was an average ensemble, but an excellent vehicle to challenge a young violinist. Cassie comments, "We were playing, I remember, [Holst] *The Planets*, [Saint-Saëns] *Carnival of the Animals*, and other things" (I.2.6).

When Cassie started high school, her parents moved to a small town in the intermountain region of the western U.S. Unfortunately the local school orchestra program was just in its initial stages so they were working on music at an elementary level. Cassie challenged herself at school by learning to play a secondary instrument, the

viola. In the meantime she weekly traveled two-and-a-half hours for private violin lessons and 75 miles to a different city to participate in their local community symphony. At age 17, Cassie was invited to attend a residential music high school, so she took advantage of the opportunity and moved away from home to complete her senior year of high school in the upper Midwest.

After high school Cassie attended an intermountain state university where she majored in both violin performance and music education. She never really considered a different major— music was her choice. Cassie was inspired to become an orchestra teacher when she was in high school. She described that decision making process:

> I feel like my high school music teacher was the one that convinced me to do music education. He was a band teacher teaching orchestra. He was great. I really liked him as a person. But he was usually asking me for suggestions of how to do things, or how to tune instruments, or fingerings, bow strokes or whatever. So from then on my goal was to help build up orchestra programs and help make them stronger. (I.4.10)

The state university had an excellent educational system and an exemplary string program. However, Cassie felt their music education classes were not geared toward future orchestra teachers because all of her music education classes were taught by professors with band-teaching backgrounds. So after earning her undergraduate degree, Cassie decided to pursue a master's degree in violin performance pedagogy at a large research university in the southwest. There she felt blessed to study with both outstanding strings performance mentors and an exceptional music education strings professor.

After graduation Cassie applied for and secured employment teaching fourth- through twelfth-grade orchestra students at a public school district in the southwest. She settled right into teaching as she had many pre-employment group teaching opportunities

in high school and college. Speaking about her cooperating teacher during her undergraduate student teaching experience Cassie comments:

> He was very kind to me and he gave me lots of opportunities to teach and do things. But I also kind of learned what *not* to do. From learning and observing him,
>
> I didn't love everything that he did, but still appreciated the many times he would just turn the class over to me and just let me do a lot of teaching. That was good. (I.6.14)

Cassie's student teaching experience influenced her to highly value the teacher/student relationship. "That's what I didn't like about my student teaching experience. I felt like sometimes [my cooperating teacher] put down students too much. Or if he didn't like a student, he would really get after them" (I.18.38). In contrast, Cassie had wonderful relationships with her own orchestra conductors when she was a student. She explained:

> Personally, I had great [orchestra] conductors. I attended several music festivals around the country when I was in college and high school. The conductors were very inspiring. I want my students to *also* have that experience of being inspired by the music that they are playing—to be able to be at such a high level that they *feel* something from the music, and that they are energized, and invigorated by what we are doing. (I.18.40)

Cassie had other teaching experiences before her student teaching experiences. In her college freshman and sophomore years she taught private lessons for the university Suzuki program. In that program she was required to observe experienced teachers in action, teach private students while supervised by a mentor teacher, and observe and assist with Saturday group classes. These teaching experiences seemed much more successful than her private teaching that she attempted as a high school student. Cassie remembers,

> I actually took on two students when I was in high school. I realized that that was a bad idea. I had been playing for so long that I didn't remember [what it was like to begin playing]. I had no concept of progression. I thought, "Just throw some music in front of them and help them learn it." But you have to learn finger patterns and bow strokes and everything. So that was just kind of crazy. (I.20.44)

Cassie recognized that learning to teach students is a process. She commented, "I feel like there's a learning curve, just knowing how to work with students" (I.21.46). Being the teacher in a middle school is a very different environment than being a student for six years at a university. Teaching a variety of orchestra levels is an additional challenge. "I find myself getting frustrated with my [younger students] for not doing certain things. I just didn't realize that you have to teach them. You have to teach them how to go get a chair or a stand, how to problem solve for themselves if something's wrong" (I.21.46).

But teaching middle school students has been rewarding so far. Cassie has been teaching public school orchestras for three years now. She reflects, "But I think—especially my second year [teaching]—just developing relationships with my students [has been most important]. I've really come to love them. It's fun. I look forward to seeing them" (I.21.47). Cassie finds playing, teaching, and building her program highly rewarding. She describes her experience,

> I want to keep building up this program. I had an opportunity to leave a year ago, and go to a bigger program, but I felt good about staying. I think there is great satisfaction in taking a program that isn't as developed and really giving them a fulfilling experience. I've been blessed in my life with lots of different opportunities to play and I feel like I can share that with my kids. (I.19.43)

Cassie enjoys practicing and performing, herself. She plays with a local symphony and has started a quartet group with a few of her friends. Her goal is to prepare and present a recital every year. She also performs several times a year at her church.

Cassie says, “I feel like, when the pressure is on, you practice. It keeps me going” (I.6.15). Ongoing performance and practice also helps Cassie set a good example for her students. When asked if she performs on her violin now, she explains,

> I do. I didn’t want to just leave that behind. And I feel bad when I’m asking my students, “Did you practice yesterday?” and *I* didn’t practice yesterday. I want to be doing what I’m telling them to do. So I try to practice every day. I feel quite pleased with myself when I fit 30 minutes of practicing into my day. (I.6.15)

Ongoing practice and personal growth are some of Cassie’s current musical aspirations. She feels that improving her own violin playing improves her teaching effectiveness. Cassie reflects, “I think one goal [I have] is to keep playing. I feel it makes me a better teacher. When I’m learning hard music and having to problem solve, I have better rehearsal strategies come to mind to use with my students. So I want to keep playing” (I.19.42).

Cassie utilizes her string playing skills to model exemplary technique for her students. She often uses her own violin in her teaching to demonstrate notes, rhythms, or bowing techniques; for example, during an observed warm up, Cassie demonstrated the desired triplet rhythm for a G Major scale, then stopped playing as the students continued, and she watched and listened to their scale execution (O.1.2). While directing, Cassie sometimes has her modeling instrument close at hand, directing the beat with her right hand and holding her violin and bow in her left hand (O.3.7).

Cassie uses her instrument to help students develop their listening skills. In one warm-up exercise she wrote note letter names on the white board – B A G F# E E D. She then played the notes on the board, but she played the second E as an E-flat. Cassie asked the students to listen and select which note she played incorrectly. The students identified the different note—the second E was played as an E-flat. Cassie then wrote a flat sign in

front of the second E. Together Cassie and the students practiced the new sequence on the board, B A G F# E Eb D, first with quarter notes, then eighth notes, then swinging eighth notes (O.2.5).This sequence of notes was selected from an orchestra piece the class was learning.

Cassie doesn't always play for the students. Sometimes she wants them to figure out how to play it on their own, using their own note and rhythm reading skills. When asked if she plays with the students, as seen in one of her videos, Cassie explains her thought process:

> Sometimes [I play it for them]. I try not to make a habit of it, because it feels like I'm just spoon feeding it to them that way. But at this point I was impatient and the concert was the next day. Or, if I'm out of ways of teaching them how to do it, [I say to myself] "Okay, we've done this, we've done that, I don't know what else to do." And then I tell the students, "Just listen to it and do what I do!" (V4.19.28)

Cassie highly values listening skills, however. She has a background in her own learning and in teaching private lessons utilizing a Suzuki approach. Cassie comments about Suzuki-style private teaching, "I like the Suzuki program. I like the ear training. I try to get my students just to do that" (I.7.16).

Cassie also uses careful listening and drone notes to help her students to accurately place and adjust their fingers to play better in tune. In one videotaped observation Cassie had the cellos play their open A strings while the violins were fingering notes on their E strings—matching the A octave pitches. Cassie describes this clip of the rehearsal: "Their third fingers are never high enough on the E string. I wanted them to fix that third finger . . . they know it drives me crazy. I will stop a run through because I'm so bugged if it's out of tune" (V1.4.7). She likes to use the open string drone notes because it gives her students a point of reference. Cassie also uses careful listening

and drone notes when having her students work on scales and arpeggios. She shares her thoughts on drone pitches:

> That's the way I practice myself. I'd stick a drone on and listen, so I'm hoping it will give them some sort of reference to listen to. I'm hoping that it will carry over to their repertoire. To help the students make this correlation, I'll do a similar tuning exercise with the repertoire. I have the cellos hold their note, whether it's whole notes or half notes or repeated eighth notes, as a drone. The upper strings can
>
> then tune their part to the drone. Then as we move on to other aspects of the music, I'm hoping the uppers strings will remember the tuning exercise and listen to the lower voices to match intonation. (V3.2.4)

When asked if the students respond to the drones with accurate intonation, Cassie reflects, "They have been getting better at it, I feel like. I still have to do a lot of thumb work" (V3.2.4). In "thumb work," Cassie nonverbally communicates with the students, telling them whether to raise or lower the pitch to make it in tune by giving them a thumb up (make it sharper) or a thumb down (make it flatter).

Cassie challenges her middle school students by having them play in a variety of keys; requiring them to learn new finger patterns with good intonation. In one video she is working with students on a "Pirates of the Caribbean" arrangement in D minor. When asked about her thoughts about having her students play in challenging keys, Cassie responded:

> Play in tune! I don't care what notes they are, I want it in tune. In an ideal world, I feel like I should [pre-mark their music]. Actually, I've seen some teachers do this where they actually write an up or down arrow in the music on any challenging or unfamiliar notes. They may also circle accidentals or dynamic changes as a reminder. Then they make rehearsal copies for everyone. That would probably be helpful, but I never remember until I have to harp on them over and over! It would also help if they wrote it in as a reminder the first time I asked them, but in the end, we just do it over and over until they get it right. (V3.6.10)

Cassie also challenges her middle school students by teaching them advanced skills such as shifting and position work. In one observation she has students play a warm up C Major Scale but asks them to choose their own octave, whatever they feel that they need to work on most. Some students choose to play in third position, some in first position (O.5.17). On another song Cassie asks the students to shape the phrases in the piece. She explains:

> We've worked on this shaping so much and I feel like they just get careless and just start moving their bow and not focusing on it. We've also talked about the importance of saving their bow and spending it, so they know what to do. I think I often reminded them by saying something like, "Good, you know you have dynamics, so *do* something about it!" (V4.16.20)

She also works with her middle school on advanced tone quality techniques such as vibrato. On one video the students were playing with beautiful sound—some students were using vibrato. Cassie says, "That's why I chose that piece. I really wanted my students to work on lovely tone . . . [we practice] vibrato once a week. Every Thursday they would spend some time doing vibrato exercises in class, but . . . I tell them 'Do it every day'" (V4.16.21).

Cassie is always looking for tips and insights to help her improve her teaching. She enjoys attending Suzuki camps and taking summer university classes,just to learn and observe the teachers. She explains, "I really love those [classes]. I feel like you're never too old or too good to keep learning. You can learn ideas and share with other teachers—and I really like that" (I.19.42). Cassie also learns more teaching techniques and tricks by following and interacting with online teacher blogs. She especially follows the blog of one particular orchestra teacher.

> I have been following her blog . . . She's amazing. She teaches junior high orchestra. I just found her by Googling some teaching ideas online. I really

> appreciate things that she does. It seems like she really tries to make it fun for her students by using a variety of activities. I have tried some of her ideas in my teaching. Her program has grown exponentially since she's been there. She has huge, huge groups now. From what I've read on her blog, she seems fantastic. (I.18.38)

Cassie uses internet research to try new pedagogical approaches in her own middle school classroom. During one of her videotaped lessons her middle school students read and played dotted-quarter/eighth notes with excellent precision. When asked how she taught that skill to her students Cassie replied:

> I've tried several different things. To illustrated dotted notes, I took a cookie and broke it in half and set it next to another cookie to make it one and a half cookies. I like trying things that I've read about online. I was pleased, too— it stuck. It really surprised me. (V3.9.13)

But Cassie doesn't exclusively dwell on the technical aspects of teaching and playing string instruments. She also wants her students to have fun and desires to foster a positive climate in her middle school orchestra classes. In one observation her students put on sunglasses and grooved to a recording of their own playing of "Mambo Igcognito" by Doug Spata. Cassie encouraged them to have fun at their performance also. She prompted them, "At the beginning of the piece, if you have your sunglasses, put them on" (O.6.36). The students seemed to really be having fun.

Cassie has her middle school students participate in various extracurricular performances to build camaraderie, teach the students showmanship, and give them service opportunities. She has had them play for a nursing home and for a farmers market at Christmas time. She said, "We wore our orchestra t-shirts and some of the kids wore Santa hats" (F.9.13). In addition, before a parent evening performance Cassie had her middle school class put on a show for the preschool that is located on their campus. Cassie described her motivations for that event, "It was good for us to practice before a

concert but I also just wanted to introduce the preschoolers to [the idea that], 'This is orchestra; this is a fun thing'" (F.8.12).

Along with the band teacher at her middle school, Cassie had her eighth-grade orchestra students participate in the Disney Studio Sessions educational program where students work with a Disney clinician to record three pieces that synchronize with a Disney, Marvel, or Pixel animation video. Cassie says, "The kids loved it . . . I show the recording to all the kids, and they all think it's so cool, hearing themselves play to the video . . . It's something for [the seventh graders] to look forward to, as well. And it is a unique experience, they have the headphones for the recording studio and it makes them feel really [professional]" (F.19.26).

Creating an enjoyable environment within the classroom is also a priority for Cassie. In a different videotaped lesson, she describes a particular class in her middle school, "It's just a fun group to work with. Right now we're still in, I call it, the wood shedding stage, meaning we're still learning the notes and rhythms of the piece . . . but we try to keep it lighthearted and fun. I do enjoy this class a lot. We do have fun together" (V4.21.32). Cassie reflects on her goals for her middle school students:

> I feel like I do want them to become proficient on their instrument and have fun making music. . . . But I want them to be able to feel comfortable in my class – they should be able to feel like we're a team, that we're unified. I don't like any negativism in my class. If I ever hear anything [negative] I try to put a stop to it right away. I felt like in this past quarter my students were more positive and more caring toward each other.
>
> And so if my students can say that [their orchestra teacher] cared about them, that they had fun at their concerts, and that they looked forward to those experiences, I think that makes it worth it. I try to make my concerts fun and unique. I don't think there's anything wrong with just performing the music as it is, but I try to add something to it—to help [the students] look forward to it and get to show off to their parents and have fun. (I.22.49)

Helping students progress on their instruments and take pride in their performance are also goals in Cassie's middle school orchestra program. Making music is fulfilling in itself. Cassie explains:

> I think the concerts are fun when we do some little extra things to enhance the performance, but the most rewarding experience is when the students can hear the progress they've made. They sound good, and that brings a feeling of satisfaction and motivates them to continue working hard. (F.24.34)

A year following our last interview, Cassie submitted a written reflection on her middle school teaching experiences. She noted that after participating in the study, Cassie became a mom, decided to stay home full time, and moved out of the state. Thinking back on her orchestra director years, Cassie commented that middle school students "enjoy challenges, are often competitive, and love to please you." She pointed out that current cultural trends encourage instant gratification, where students expect immediate results for their efforts. But playing a string instrument takes practice, time, and patience. Cassie observed, "It is good to help students see that there is great satisfaction in working hard for the desired results. It may take a while to see the fruits of their labors, but [I could] help them see their progress." In her reflection on her former practice, Cassie said if she were to change anything, she would push her students more. She explained:

> Since my time away from teaching, I have thought that I would like to demand more of my students. . . . I think I could have been harder on them, not at the expense of demeaning or embarrassing a student, but to really push a student to help them feel the satisfaction of not just doing a hard thing, but doing it well. . . . I think it's good for students to know that that they can really accomplish much when they are given the motivation and proper instruction to be pushed to the next level.

Cassie also remarked that if she were to continue teaching middle school orchestra students, she would incorporate more note reading, listening skills, and music theory into her lessons, rather than as an afterthought or time filler. She mentioned,

"Spending time learning applicable theory and aural skills . . . would help [students] become more independent musicians as they have to rely less on me spoon feeding them information/instruction as we learn it."

Wendi

Wendi is a violinist, and is in her eighth year of teaching orchestra. She teaches at one junior high school and assists in an elementary school for her full time assignment. Wendi's unified school district is the second largest in the state with 64,000 students. Wendi chooses to teach private lessons after school.

Wendi grew up in a small town in the upper Midwest. Her mother's side of the family was very musical: two aunts were private piano teachers, one of whom also taught elementary school general music and choir. Wendi explained, "I have a musical family. My mom's side of the family is the kind that get together and they sing four-part hymns. You know, they're that kind of family. And so everybody plays instruments, everybody sings" (I.3.10). Wendi's mother was a teacher and was looking for enrichment opportunities for her little girl, partly because of the limited opportunities in their small town.

Wendi began violin lessons at age five with a "wonderful, wonderful teacher who was *really* into Suzuki" (I.1.1). This teacher had extensive Suzuki Method training, traveling several times to Japan to work with Dr. Suzuki, himself. After a few years of private lessons, Wendi enrolled in a youth symphony in a larger city, so her parents drove her to weekly rehearsals.

When Wendi was 12 or 13, her Suzuki teacher tragically died from cancer. So Wendi started lessons with another private tutor. This teacher was, "a lot better for older

and more serious students" (I.1.3). Wendi attended summer music camp and was involved with her local school program from fourth grade through high school. In elementary school she played in orchestra and band (percussion) to be with her friends, and sang for a brief time in high school choir. Wendi's elementary/junior high orchestra teacher was an excellent string pedagogue who also mentored for the String Project at the state university. Wendi would later work with her in choosing a career path in college. Although her high school orchestra was small and was led by the band teacher, it was of good quality. Wendi talks about this teacher, "He was a great musician and a great conductor. Obviously he did not have a whole lot of experience with strings, but his other qualities kind of made up for it. It worked out" (I.1.4).

After high school, Wendi was not sure about her college major. She started out going into speech pathology with a double major in music. But when she got involved with the university String Project, teaching group and private violin lessons, she changed her major to music education. Reflecting on the influence of String Project, Wendi recalls, "It was a good experience, and the professor who was in charge of it was just wonderful, and the mentor teacher was good—it was just a good group of people. It set me up to enjoy doing this" (I.2.8).

The state university was a large school compared to Wendi's small home town. But it was small compared to other Midwest state schools. Although Wendi's major was music education, she was able to participate in orchestras and studio classes along with the performance majors. She describes her experience:

> So the nice thing about [my alma mater] is it is small enough that you just kind of have to do everything. . . I was concert master of the orchestra when I was a junior and senior . . . since it is just a smaller pool of people, you get a lot more

> opportunity, which I kind of appreciated. And kind of seeing how things work for undergrad at a much bigger school, and for my undergrad, I'm glad that I was there—just for my major. For music ed, it really worked out. (I.2-3.9)

Remembering her own school and private lesson experience, Wendi recognizes the frustration that students who study privately feel when they are in classes of students who do *not* study privately. She talks about her own experience:

> I was used to my private violin teacher. She was very kind but also very strict and had high expectations—so I was used to that. And I was also a little kid perfectionist and it was just me, so that's what I was used to.
>
> And then in school classes, they were very small group classes in elementary school because there just weren't a lot of kids. But I just wasn't used to kids not practicing; even kids just holding their instrument wrong and not fixing it. Those kinds of things, as a kid, really frustrated me.
>
> I didn't have the maturity to kind of see the bigger picture. So in some ways I just got frustrated with school orchestra because I was so much more advanced than those other kids. But I was not stepping back and saying this was still a really good experience to play with kids. I think my parents were great about it and they saw the positive experience in it and they knew that the teacher was wonderful; it was just a different kind of group experience. So they were good about it, but sometimes as a kid, I got frustrated with it. (I.6.15)

Wendi recognizes this difference in motivation and expectation with her own students, both in private and in school classes. Currently, she teaches full time at one junior high, with some small assignments at the nearby high school and one feeder elementary school. Her junior high classes meet every day. Wendi commented:

> I think that for me, even my own personal style between my private students and my school students, is very different. And I would say that, I think that is because, to me and to most of my school students, the goals are way different than a student who is in private lessons. I think the structure [is different], maybe, because with private students you are expecting that they go and practice on a daily or almost daily basis. They do that with the young ones; the mom or dad is sitting there helping them practice. And it's just a very different kind of weekly division of time. You see them for a half an hour or an hour, then they're on their own. And you have really high expectations of what they're going to be doing on their own.

> Whereas, my school students, they're supposed to practice on the weekend, at least one time, but for the most part, when they're practicing, they're with me and they're in a big group. And so I think that it is very, very different from what I did as a private violin student compared to how I teach my school kids. So there's a lot more in lessons verses orchestra class. There's a lot more repetition, you know, where the private teacher says, "OK, this is how you need to practice this at home and you're in charge." Whereas with my kids at school, we have to do it together or otherwise it's probably not going to happen. And even if it does, it's just not as much time. And because I do have such a good schedule that I see them every single day, that's really their practice. (I.5.14)

Still, Wendi *wants* her school students to practice at home and sets up a requirement for them to do it, but it is not the primary contributor to their school orchestra grade. In Wendi's middle school orchestra class, practice records are five percent of their grade. "So it affects their grade a little bit, but not enough to really make a huge difference" (F.19.25). Wendi recognizes the complexity of the practice record issue: some students practice and turn in their record; some students practice but don't turn them in; some students don't practice but turn in a falsified record; some students don't practice at home and don't turn in a record. "I want it to be there so they understand they're *supposed* to be practicing every week. But I know that doesn't always happen; I know that they're going to lie on them sometimes. It's tricky!" (F.19.25). She created a practice record that discourages dishonesty, but encourages students to reflect on their growth and musical progress. Her practice record has five spaces; one line to write down what they practiced that weekend, one line to describe how they improved during their practice, one line to acknowledge what still needs work, a line for their parents signature, and a final line for their signature. Wendi explains, "No minutes—because that's really when they started lying" (F.20.27).

Wendi requires her middle school students to practice and fill out a practice record, but the results are reflected in her playing assessments. Wendi elaborates: "Yeah,

I require you to practice, and you say that you practice, but [assessment] is our, 'Are you *really* practicing?' [indicator]" (I.16.42). Beyond ongoing informal rehearsal observation, Wendi assesses students, usually two at a time, on scales and literature excerpts. Wendi describes her two-at-a-time playing test procedure:

> I have the kids play in class, in front of their classmates, but I usually have them play with their stand partner, two people at a time. At first it was just a time issue so that we could get things through faster, but I've actually found that it forces them to listen to someone else, too. So a lot of time they'll hear an intonation problem and they'll fix it. Whereas if they were playing by themselves, I don't know for sure that they would have done that. And just having to stay with someone else is a good skill too. So I really like that I've started doing that, two people at a time. (I.16.40)

Wendi uses her own rubric to measure music fundamentals during playing assessments; "left hand position, right hand position, and then all the basics: notes, intonation, and rhythm, tone, and then bowing. . . . There's shifting and vibrato on there but usually I cross those out until we're actually doing that" (I.16.41). Although playing tests take up precious rehearsal time, Wendi finds value in giving live playing assessments. "I'm always happy to do the assessment because I get to see them individually and they have to prepare for it. Then they get feedback, too, which is really important. I try to give them as much individual feedback in class as possible, but there's just never enough time" (I.17.45).

In daily orchestra rehearsal, Wendi writes the agenda on the board, including a warm up, a scale written out alphabetically, and the orchestral literature to rehearse that day. In addition to her emphasis on rhythmic and playing technique ability, Wendi feels that listening, or "ear training," as she calls it, is an important skill students should develop. When asked to recall three or four things that students learn in her class, Wendi

responds, “I would say we work a lot on listening to other people, not what they’re saying, but musically. That’s a big part of what we work on” (I.19.51).

In an observation Wendi had the students develop their listening skills by showing that they could aurally discriminate between a minor second (G to A-flat) and a major second (G to A-natural.) With their eyes closed, she had the students point downward when they heard the low A-flat and point upward when they heard the higher A-natural. First Wendi played a violin for the model, and then she had a student play his/her own instrument as the model. She had the class do the exercise in different registers and utilizing different notes.

Another example of Wendi having students listen carefully is her warm up activity of asking students to play long-bow scales in rounds with their stand partner. She explains, “We [play scales] in unison first so they are listening for intonation, [then in rounds] just so they can start paying attention to harmonies. I think it’s a big part sometimes. It depends on the kid, but sometimes you hear if you are in tune *better* if there is something to compare it to” (V2.26.37).

Listening to learn a song by ear, without music notation is another skill that extends students’ listening skills. Every year Wendi teaches her students two fiddle tunes by ear to play for their March concert. Most of the time she uses songs from the *Fiddler’s Philharmonic* books by Andrew H. Dabczynski and Bob Phillips, published by Alfred Publishing. For each tune there is a basic melody part that everyone can play, including the basses. There are also optional parts to make the song sound more like an arrangement: the more elaborate break part, the back-up part, and the bass line. Wendi

teaches them the melody part in unison by ear, one chunk at a time. She discussed her process:

> [On this song, we learned] one line at a time, then review it the next day, and then added another one. So [this song] is in four lines with four measures per line, so there's not very much—and it is pretty repetitive. The second one, *Lanigan's Ball*, there's a lot of notes in there so we did much smaller sections and longer to review them before we added anything new. . . . Most people were pretty comfortable before we added anything. (V1.8.15)

The students learn the songs without notation—even the articulations. Wendi picks one rote song in 6/8 time so the students can learn to *play* in 6/8 and feel the lilt of that meter before they learn how to *read* in 6/8 time. "I try to look at reading 6/8 like it's a whole other layer of information they don't need yet. That's a different goal, learning how to read music and playing it" (V1.3.5).

After everyone learns the melody by ear, Wendi gives them the option of learning the break part (more elaborate and challenging) by reading the notation in the *Fiddler's Philharmonic* book and learning it by heart. Bass players are also given the option to play the regular bass line in the book (an easier part) after they have learned the melody. For the performance, Wendi gives them a roadmap and lets the kids play together after a kickoff introduction. She does not conduct the ensemble; she lets them play together in a more folk-like, jamming style.

Both her younger and older students learn to play the fiddle tunes by ear. To transition the seventh graders into a more note-reading approach, Wendi incorporates some of the same aural teaching techniques while having the students watch the written music. She clarifies:

> They have the music in front of them but a lot of this is what it sounds like, "I'll play it now you play it, I'll play it now you play it," so they can kind of make the connection of what [they're] seeing and what it supposed to sound like. A lot of

> times when we're learning, now that they're . . . getting better, they're a little more comfortable with reading music [directly]. Whereas at the beginning of seventh grade, most of them have no [note reading] skills, which is fine. We get there. (V1.11.18)

Teaching reading is a fundamental skill that Wendi feels is an important goal in her curriculum. When asked about her teaching goals for her middle school orchestra students, she explains her priorities, "the fundamentals; make sure they can read music, even if it's not great. I have so many kids who come to me and they are writing in all their note names and don't know how to [count rhythms] (V1.11.24).

Another major goal Wendi sets for herself is to motivate her students to continue playing their instruments in high school, "My first goal is that I actually *get* to send them off to high school, so they continue in orchestra" (V1.11.21). Part of that goal is to make orchestra fun yet encourage students to work hard and experience musical growth, "finding that balance of working hard and finding the enjoyment in the results" (V1.10.21).

Wendi finds that the key to that balance is strategically selecting literature that students like and want to learn to play. Wendi reflected, "I think one of the things I've gotten much better at as a teacher is picking really good repertoire for each group, and just making sure that we have a great concert each time, because that gets them pumped up to work harder and do better on the next one" (V1.10.21). Wendi selects literature with several criteria in mind. She first listens to recordings of string orchestra arrangements put out by a sheet music distributer, "If I enjoy it, then my kids will probably enjoy it. If it's something that doesn't quite catch you, then I don't even consider it" (F.14.16). She then looks for a range of difficulty levels for each group. "I look at the skills involved and what other pieces I've already chosen." She chooses one

piece at the top of the students' playing ability level (a "stretcher piece"), one at the "middle ground" of their skills, and one easier piece "so we can work on musicality or adding a [new] skill like vibrato" (F.14.16). She likes to choose two fiddle tunes to teach by ear. Finally, Wendi strives to choose music that students will love to play.

In addition to engaging students with quality literature, Wendi feels it is important for students to enjoy their experience in orchestra rehearsal. As part of her classroom management philosophy, she uses good natured humor to ameliorate student behavior issues. Wendi talked about her classroom management challenges:

> Usually my one issue I'll run into in classes is just that socialization-type thing. They just want to talk. So with that, I use a lot of humor. It's easy to kind of poke fun of them when they are doing something they know they shouldn't be doing. In that, I would kind of say, a proactive approach to how I structure things, and then using humor resolves 98% of my problems. (F.17.21)

Another example of Wendi's use of humor in the classroom is her strategy of utilizing light-hearted bribery and hyperbole to engage students. In one video, Wendi says to her students, "I'll pay you a million dollars if you play louder!" The students have fun in Wendi's orchestra rehearsals; they know she is joking with them.

Wendi's teaching style is very expressive. She likes to engage the students when she is explaining or modeling a playing technique, so she chooses to be very dramatic. Wendi celebrates student accomplishments. "When they do something awesome, I'm a little bit ridiculous. . . . Then they remember that, even if they roll their eyes because it's so dorky. They want that to happen again" (F.16.18). Her teaching style is also very positive. She tries to focus on the good things that the students do, rather than pointing out all the negatives and shortcomings. Even when she needs to address a repeating problem, she tries to put a positive spin on it. Finally, her teaching is quick paced. She

keeps the rehearsal moving so she does not lose the students' interest and attention. When there is a difficult passage that demands a lot of time, Wendi splits it up into several sub-skills that she introduces over a series of days. She explains, "If something is hard, I do it for five or ten minutes one day and then just put it away. Then come back to it the next day" (F.16.20). Her fast pace keeps students engaged so they don't get frustrated or have time to get in trouble.

Both students and parents of students appreciate Wendi's expertise and excellent teaching skills. At her final concert this year Wendi was touched by her students' gratitude:

> They expressed how much they enjoyed orchestra and how much they enjoyed me as a teacher. I got a lot of really nice feedback from kids and parents too. That's nice, but you always want it from the kids more because those are the ones who are sitting in your class . . . and that's when you really kind of sit back and realize you are doing something good in the world. (F.21.28)

Teaching students to play in orchestra has become a fulfilling career for Wendi. She seems to truly enjoy teaching her middle school students. Wendi reflected on her teaching:

> I think it's also kind of nice getting to be the teacher of the class that they love, not the class they just get through; it's not quite the same. I mean, some kids love math—I love math! But most kids don't love *going* to math class. So it's really fun to get to be part of their life in that area where they really enjoy being there. (F.21.29)

A year after the conclusion of the data collection for this study, Wendi moved to the Midwest to follow her husband who was offered a new job. In her new state she accepted a position of director of performing arts at a small state college. Wendi said in her follow up written reflection, "During the couple of years leading up to this move, I knew I was ready for a change. . . . I taught junior high orchestra for a total of nine years, and I was ready for a different type of challenge." She now teaches violin and viola

lessons and string pedagogy to college students. She works with the local high school orchestra once a week and has a small private violin studio, in addition to playing violin with several small professional orchestras—all music activities that she enjoys.

Wendi warmly reflects on her middle school orchestra teaching position. She recalls, "Learning how to teach and lead junior high students is the greatest lesson in communication, problem solving, critical thinking, patience, and humor that anyone could ask for. I use the skills I developed as a junior high orchestra teacher every day." She acknowledges that she is continually growing as a teacher. Wendi is becoming more and more dedicated to her profession. In her written reflection, she observed, "It's become even more apparent to me how valuable music education is for students of any age, and I'm trying to be a louder advocate for music in the schools."

Susan

Susan, a violinist, is in her tenth year of teaching orchestra classes in a mid-sized K-8 school district. She teaches at one middle school (grades 6 – 8) with four levels of orchestra plus one student council class. Susan currently does not teach private lessons.

Susan started playing the violin when she was five years old. Her family was very musical; her siblings all played instruments and her mom was a cellist for the local professional symphony. Susan began her string studies using the Suzuki method with a private teacher who eventually became her elementary school orchestra teacher, a highly respected music educator in the area. Her next two school teachers were also strings specialists with excellent reputations, one who favored Rolland pedagogy. She was fortunate to have her own mother as one of her high school orchestra teachers. Susan says,

> I was very lucky with my teachers, so I kind of laugh when you say, "Have they influenced the way that you teach?" Definitely! I just always had great orchestra teachers my whole entire career. I think that a lot of the way I teach just comes from all of them, all mixed together. (I.2.5)

Susan participated in all of the music-related activities that the local area and the active state music educators association offered: two different youth symphonies, Junior High All-State Orchestra, Regional High School Orchestra, and All-State High School Orchestra. She was awarded a full ride scholarship to the large nearby Research University and majored in music education. However, by this point she felt she was getting burned out on music. In her sophomore year Susan switched her major to English, looking for something different, but she returned to music education to finish up her degree because she recognized that she had more experience and background in music. However, although she graduated, Susan did not complete her student teaching or complete her teaching credential. During that time she got married, started a family, and worked at the city prosecutor's office, but she kept her violin-teaching private studio on the side.

When she got a call from her former junior high orchestra teacher, asking her to assist part time with strings classes, Susan decided to get back into the classroom. She worked with two exemplary junior high teachers on a part time basis under an emergency credential. The district then hired her full time as an elementary orchestra teacher with the stipulation that she take classes at the local college to finish up her teaching credential requirements. Susan enjoyed teaching elementary when she had that assignment. She commented, "I love elementary. The kids are just so fun. And, yeah, they are very cute. They are so excited" (I.3.10). She had very large elementary school orchestra classes and travelled to five sites. It was a big job and Susan was somewhat overwhelmed, but her

organizational skills gradually improved as she taught, each experience bringing new insights. Susan recalls, “That first concert was just, organizationally, a mess. I showed up fifteen minutes before the concert—my chairs weren’t set up! [I thought,]‘What is going on here?’ Just that kind of stuff” (I.3.11).

When one of the junior high teachers retired, Susan was hired to take her position, teaching full time at the middle school where she taught during the study. All of Susan’s string teachers, both school orchestra teachers and private violin teachers, influenced her teaching style and priorities. When asked what she admired about her teachers, Susan remarked,

> I think they just all made it fun. I can remember with my elementary teacher, he would bring little stuffed animals and tell us not to shoot the frogs [referring to the frog of the bow]. There are some of those things that I learned way back when, that I will still say to my orchestra kids [today]. . . Little things like that really stuck with me. I just think [my orchestra teachers] were all amazing. They were all dedicated. . . They made [playing in orchestra] enjoyable. . . Whether it was the music they chose, or the little games they would play, I’m not sure. (I.5.17)

Back when Susan was in middle school and high school, her orchestra teachers had more autonomy over their programs. They could take multiple field trips and do projects with other teachers in the district. Susan reflects that her fiddling group would “travel all over the place, or we would play for old folk’s homes. We just got out in the community” (I.5.18).

When Susan started her position at the middle school, she found that teaching groups of students came very easily to her. “I never was worried about teaching a group of kids. That never worried me or scared me. I never felt like I had to overly plan things. It just all kind of came naturally, I think. The teaching portion was an easy fit. . . . I think I had just been around music for so long, that it was pretty comfortable, right from the

start" (I.10.32). She had had many years of experience teaching private violin lessons; she did a little tutoring in high school and college, and ran a full scale home studio (25 students) when her own children were young, before she started teaching school full time.

Although teaching came easily to Susan, conducting an ensemble was more of a challenge for her. Susan observed:

> Conducting was rough for me. I just hadn't been in front of [groups of] kids. I could teach them to play, no problem. But being in front of kids, waving my arms, was very uncomfortable. It was something I kind of had to work on. Even now I still have to work on certain things, although [now] I'm much more comfortable with it. (I.10.32)

Susan also had to work on planning for the ensemble. She poured over books and exercises, aiming to coordinate literature demands with specific student needs and a sequence of playing skills. She describes her thought process, "I'm always a person that [says] I need my plans to take me [somewhere]. 'What is the goal here? This month, what am I doing? What are they learning here? What are they learning this month?' So it took me a while to [figure out] exactly what I wanted them to do" (I.10.33).

Now, Susan has all of her ensemble students work through a series of scales and exercises that she has collected over the years. Each teacher-created page is based on a specific key signature. She described her teacher-made warm up materials:

> When we do the scale page, the scale is at the top and I have ten lines of exercises in the same key signature as the scale. I do introduce a new scale every month and then I want them to play in that key signature. I want them to know it's a low fourth finger (E flat) or whatever it is. The exercises are all unison. (I.14.44)

For her beginning strings classes at the middle school, Susan starts her students in the method book *Strictly Strings*, by Jacquelyn Dillon, published by Alfred Publishing. She says, "I love their open strings stuff. I have the CD and I usually have really big sixth grade classes so it gives me time to kind of move all around [to help the students]"

(I.14.44). Susan commented that her district supports the instrumental program by supplying all the method books and most of the student instruments. Susan comments on this policy:

> That's a good thing and a bad thing in our district. The district buys *everything*. The kids pay *absolutely* nothing. It is so nice to be able to offer the kids that, but it gives them no sense of ownership. So, they lose the book. "Well, you're just going to get me a new one, right?" If their parents had bought the book, I'm sure there would be a little bit more ownership. (I.11.33)

Susan feels that most published method books introduce playing skills in a sequential manner, but often give the students only a few lines to practice those skills. Susan wants her students to have more drill on each skill, so she writes out extra exercises and songs that coincide with that particular skill, for them to get more practice.

Susan feels that that teaching foundational skills in her sixth-grade class is vital to establishing good playing position. She delays note reading until second quarter to focus on left hand posture. Susan explains why she believes this is so important:

> I feel like if their wrist is collapsed, you just can't do very much. You can't play in tune, you're never going to shift, you're never going to play vibrato. There are so many things that I feel like, if we can just get this [good hand] position, it's going to be pretty easy from here on out to learn all of the other things. (I.15.47)

For her second-year and more advanced ensembles, Susan uses the book, *Essential Techniques for Strings*, by Michael Allen, Robert Gillespie, and Pamela Tellejohn Hayes, published by Hal Leonard. It introduces shifting, playing in positions, and key signatures up to three sharps and three flats. Susan has the students work in the method book for the warm-up part of each rehearsal. She explained,

> I don't like to spend too much time on it, so we do just a couple of exercises. Probably some of the best advice I got from another teacher when I first started teaching middle school, because I would stay on one thing for the entire class. He was like, "You'll see them tomorrow, and you'll be able to work on it again tomorrow." So I started to realize, oh, it doesn't have to be perfect today. I

> introduced it. Tomorrow I'll reinforce this part. You know what I mean? I always just like to get them playing and focused. (I.13.40)

After scales, method book, and/or exercises, Susan has her students work on literature. Since she sees her students daily, she works on an arrangement in chunks. She comments on her sequence: "The last part of the class time, we'll do literature. Usually we'll do the last part of the song we did the day before to review—not the whole song, but the section we did the day before. Then I'll bring up a new piece or section of a new piece" (I.14.42). She usually does three or four pieces each quarter.

Susan says that she sets goals for the current culture of her students, which has changed over the years. She still has musical goals like "playing in tune, teaching them how to shift and vibrato, or at least the basics of it, before they get to high school" (I.7.24), but as the demographics of her area have evolved to a more Title I community, her emphasis in orchestra has become more life-skills-centered. Susan explains:

> Sometimes I feel, instead of music goals, that I'm teaching life-skill goals through music— the never giving up, the never quitting. Those are all things that you teach through music. When we're playing, you don't just put down your instrument because you're tired, you just keep going. You just do it. (I.6.22)

Another ideal that Susan pursues is encouraging her middle school students to represent the orchestra program well by exhibiting excellent behavior in their other classes as well as in public. Susan also desires to foster in her students an appreciation for music education. She says, "Someday, when their kids are in elementary school, and orchestra is on the chopping block, that they go and they fight for it, because they remember what it was like to be in an orchestra—the importance of it" (I.7.23).

Over the years, the ability level of the groups at Susan's middle school has changed. She commented that ten years ago her groups could play grade four literature

and many of her students took private lessons. Now things are different at her school; very few students take private lessons. Susan commented, “Technical goals have changed . . . musically, I have to go to the level where they are at” (I.7.25). Susan assumes the responsibility of being her orchestra students’ *private* teacher. She teaches the way she would teach a studio lesson: scales, technique book, and then literature. Susan observed:

> I’m the only one teaching them vibrato. I’m the only one teaching them how to shift. I’m the only one teaching them how to read notes. It’s just me. So I just feel like I have to make sure that I cover so many things to make them well rounded players, so they *can* move on. (I.7.25)

Students in Susan’s district have the option to start strings classes in the fifth grade, but many of the students start in middle school in her sixth grade class. Susan even has a class of 7th and 8th grade beginners. In her middle school, students can progress from rudimentary classes to intermediate classes to advanced classes, with the option of enrolling in a beginning class in the upper grades if they used to play, quit, and then decide to start playing their instrument again.

Susan’s middle school orchestras are loosely ability grouped. Although she doesn’t hold auditions to place them in each ensemble, she bases her recommendations to counselors on student playing skills and hand position. She explained, “I always tell them that I’m watching from the first day. . . I’m really a stickler for position. If they can’t get [good hand] position [in sixth grade], they’re probably going in my concert [lowest group]” (I.9.29). Students in Susan’s top group (chamber orchestra) possess advanced playing skills and exhibit excellent hand position. She clarified, “In chamber we don’t talk about [hand] position; we don’t have time to talk about position. So I have to make sure that everything looks good to the point where I can just start teaching them immediately: flexibility, playing fast notes, and all of those things” (I.9.29).

In addition to stressing the importance of good hand position, like many strings teachers, Susan emphasizes the importance of good intonation. One activity she led with her ensemble classes was listening to a recording of themselves playing, and then evaluating their performance in written form. Susan passed out pencils and paper. She described her process, "I always have them list the things that sound really good first, so they don't feel like, 'Okay, this whole thing is terrible'" (V1.12.21). Listening to a recording of the entire group helps students recognize where the intonation errors occur. Susan observed, "The first four chairs, of course, [are playing in tune]. They have a high two [second finger]. They don't believe that no one else does, because when they hear it, it's fine. Just getting them aware of what's around them, I think, helps" (V1.12.22). But hearing the note and adjusting their fingers to match pitch is a sometimes tricky on the fly. Susan discussed another one of her intonation-improvement strategies:

> The thing I'm trying to get them to listen for, at least in this group, is the intonation, because some people have the F-sharp and some people don't. I just want them to be aware of it more than anything. Sometimes when they're playing you have them hold the note and say, "Listen! It's not quite in tune." That kind of thing doesn't come across as much as when you're listening to something else and then all of a sudden [they realize,] "Oh! I do hear that." I think I'm always working on intonations skills, with them listening and hearing the things that aren't going as well. (V1.12.21)

Susan often demonstrates on her violin or viola so students have an aural example of accurate intonation. She explained, "I always have my instrument with me during rehearsal, even for upper groups. I'll play it for them first so they can hear it" (F.14.29).

Good ensemble skills are an important part of Susan's orchestra program. Often she uses a metronome beat over the loud speaker to help students play together. She gradually increases the tempo on the metronome to ease students into playing faster speeds. The following occurred during a class observation as I took field notes.

> Students are rehearsing *Two Christmas Favorites* by Robert Frost. Susan adjusts the metronome up a few beats per minute. They take it a little faster. She says, "Don't get too excited, you'll go *too* fast." They play measure 53 again, not too excited this time. Susan says, "Okay, let's go faster. Start at measure 33." The students groan and ask, "How fast does this song go?" When the first violins start to rush, Susan does not stop them. They don't crash, however. They adapt to the metronome tempo and get back with the group. (O.4.18)

Susan consistently uses an amplified metronome to help students keep tempos under control and stay together with the group. She commented, "Metronome? Definitely we'll play with the metronome. . . . It gets tricky with tempo. . . . I still feel that's something I could work on every single day with them: hearing it, listening, just staying together" (V1.10.16). Susan also uses the metronome to help put together multiple groups for a concert. She records one group playing with the amplified metronome beat. Then she has the other groups play along with that recording, being sure to stay with the steady metronome tempo. Susan explains:

> Especially for this concert, I use a lot of metronome because I have to put all three groups together. . . .The only time we practice as that big a group is at the concert. That's the first time and the only time that we're all together so I really try [to have them play the same tempos]. That's when I really use my [digital] recorder a lot. So, I'll record chamber [orchestra] playing [a certain tempo] and then have symphony [orchestra] and concert [orchestra] practice playing along with them. . . . For this concert I really use [the metronome] a lot to make sure they stay together. So, by the time the concert comes, it's nothing new. They've been playing together with the recordings. (V3.7.17)

Susan's groups perform concerts four times a year, once at the end of each quarter. They play at the local high school auditorium in the fall, outside in the courtyard at the middle school for the more informal pops concert in March and in the middle school cafeteria in December and May. Susan laments, "We don't have an ideal performing area—no auditorium. I wish we did! [Our concerts are] always in the cafeteria" (I.14. 43).

Susan enjoys preparing her middle school students for concerts. She seems to understand and comprehend the needs of students at this age. While other teachers may avoid students at the middle school level for a variety of reasons, for Susan, teaching middle school has been a rewarding experience. She reflected:

> I like the age group; I'm weird that way. I like that they are still young enough to not know everything. They're still fun. They'll still listen to you and believe what you say. So I never have people challenge me on [things like,] "Well *my* teacher says" or "I like it better this way" or I say to do this and they do that. They try and act tough, sometimes. But they're still young, so young. They can be a lot of fun. Some of them think teachers are still cool. (I.12.37)

Although Susan is realistic in her aspirations for her students, she expects them to work hard and to excel on their instrument. She wants her students to recognize their own accomplishments and appreciate the wonderful opportunities that they have been afforded in their middle school education. Susan reflected:

> I just feel like I'm just trying to teach [my students] to be good people, and the music is a bonus with that. But so much of it is just trying to get these kids around good influences and giving them good experiences so they can see what hard work can do for you. So many of them don't want to put in that hard work anymore. But I like to show them. That's always a big thing when I come back from a [performing] field trip, "Look what you got to do! Look what you got to do! How cool is that? . . . I like to show them that extracurricular activities open up doors for you whether its music or whatever you're doing. Really, there is so much out there in the world to see and experience. If they learn music along with that, then that's really good! (F.17.39)

In her follow-up written reflection, Susan expressed that since the conclusion of this study's data collection period, she changed positions, taking a high school orchestra position in a neighboring district where she teaches a full load of orchestra classes. She explains that she utilizes many of the same organizational techniques that she did when teaching middle school, (scales, playing techniques and skills) but at a more advanced level. However, teaching is different every day. Susan commented about her middle

school teaching experience, “I learned to be organized, to plan ahead, that some days I was the students’ entertainment, and other days I was the only good example of an adult in their lives.” Since changing over to the high school, Susan comments, “I try to find relevance for my students in what I’m teaching,” whether that is exposing her students to timeless classical repertoire, or relating to their age group using YouTube videos, memes, and social media. She finds that she must continually adjust her teaching methods “for a fast paced, easily bored, generation.”

Mark

Mark has two primary instruments: violin and trombone. He is in his twelfth year of teaching; his assignment is at one mid-sized middle school in a K-8 district of 17,297 students. Mark does not teach private lessons.

Mark played musical instruments from an early age. Instrumental music expression was an expectation in his home: his grandfather played violin, his father played French horn, and his older sister played oboe and tenor saxophone. His grandfather asked him, “Well Mark, don’t you want to play violin?” (I.1.2) So Mark began private violin instruction when he was six years old and started participating in school string ensembles in first or second grade with special permission (because the official program was only open to fourth graders). In sixth grade Mark branched out and began to play trombone in addition to violin. He craved more musical challenge and wanted to participate in those ensembles not typically offered to string players—marching band and jazz band. Mark continued with violin and trombone, “all through middle school, high school and college . . . picking up different instruments as I went

along" (I.1.6). He graduated in music education from a Midwestern university and continued his master's degree at a major university in the southwestern United States.

Having both a wind and string background, Mark taught both band and orchestra in his student teaching, at levels from elementary through high school. He worked under at least four different mentor teachers, helping to conduct and observe a wide gamut of ensembles, from the high school spring musical to hand bell choirs—and of course concert band and string orchestra. Mark commented on his student teaching, "I saw a *lot* of stuff. I worked with some really, really good teachers who taught me a lot" (I.3.11).

Although he had much musical experience from taking private lessons and participating in high school and college ensembles, Mark's recent music-teaching employment has been primarily at the elementary and middle school level. Currently he teaches only middle school orchestras—by choice. Mark shared his thoughts about the grade levels he teaches:

> I like the middle school level a lot. They're old enough to be competent, and to know what they are supposed to do. And you don't end up working on "Mary Had a Little Lamb" over and over again, and "Hot Cross Buns" over and over again. . . . I like middle schoolers, I like their goofy personalities, I like to see them develop from in 6th grade when they come in—they're really still elementary schoolers when they come in at the beginning of sixth grade—to when they leave at eighth grade, knowing that they're high schoolers now. You get to have that really special time with them when they're making that transition from little kid to young adult. They just have lots of energy, and lack of energy, and you never know what they're going to do or say. But it's always going to be okay. So I really like middle school. (I.4.15)

Part of Mark's decision to teach at the middle school level stems from his need for musical challenge. For Mark, elementary teaching was a very easy job, "You go in, you teach out of the method book, you pick a couple of string orchestra arrangements that they can handle. You just go in and teach them. You just go through the book, page by

page if you want to" (I.4.15). But elementary school string teaching is boring to Mark; he would rather teach students at a higher level of technical proficiency and challenge. "I like to conduct and I like to do different pieces of music. I like to teach about the more intricate aspects of music" (I.4.15). He likes the middle stage; middle school students are inquisitive and musically interested. Mark observed:

> I like how creative they are, and how a lot of times they'll ask really, really interesting questions. There are times that I'll be teaching a unit or lesson and a kid will ask a question and it wasn't something that I anticipated. [I'll say,] "That's a great question, let me talk to you about that.". . . So I like having that middle of the road, that creativity and their input. And also that they have so much that I can teach them—so much that they're ready to learn. And they're at a level where they are ready to learn so many different skills, and so many techniques, and so much content. (I.5.16)

So teaching middle school is just right for Mark's need for musical challenge.

Each middle school class period that Mark teaches follows a similar format. He explained his typical class itinerary: "[We're] getting ready, getting prepped, tuning, some kind of warm up, and working on rehearsal. A lot of times we mix into that different skills or concepts that we teach: learning new notes, or studying classical period music, or learning about aspects of fiddle music or jazz or music theory" (I.6.20). Class begins with students getting seated, preparing their instruments, tuning, practicing, and other individual activities while Mark marks attendance and helps with individual student needs. Then they begin the tuning procedure.

For in-class tuning, Mark likes to use a student generated pitch rather than an electronic pitch. "It's more accurate tuning to have them tune to an actual instrument" (V1.4.6). He lets different students have the tuning note-generating responsibility—eventually moving to the concert master playing the tuning A. Mark has the person

playing the tuning pitch give the A several times with stops in between. He explained the reasons why he uses this tuning practice:

> I call it getting a fresh ear—that we tune, especially a class that size and that ability level, because that is end of year sixth grade. [Students have] only been playing a year and tuning is still pretty new to them. We get all playing and we've lost whatever—we don't know what that pitch was—so we usually do three A's to get a sense of, "Oh yeah. There it is again." Remembering what that pitch is; I hope that helps them tune right. (V1.5.4)

In the beginning of the year Mark tunes many individual instruments himself. "I haven't even given that class a lot of peg training yet. A lot of them barely have physical strength to move the pegs. It turns into almost a waste of time if we start using the pegs that early, I think" (V1.6.6). If students are having trouble tuning their own instrument, they set their bow vertically on the music stand as a signal and Mark eventually comes over to help them. "I know they're still not very good at tuning yet, so usually while they're attempting to tune I'm going through and tuning their instruments one by one. Hopefully I get to all of them by the time we're done" (V1.6.6).

When the tuning process is complete, Mark starts the warm up. "Sometimes [the warm up] will be an exercise out of the book. . . . Then depending on the level [of the class] the lower levels will keep working out of the book for more techniques and skill building" (I.6.19). Mark also uses SmartMusic for individual assignments, and in class as a warm up (O.5.18).

SmartMusic is a web-based music education platform that connects teachers and students. Teachers have access to an unrivaled library of music from which to create individualized assignments for every student. Students receive immediate feedback as they practice each assignment. (https://www.smartmusic.com)

After the warm up, Mark spends the bulk of the rehearsal time working on literature. He follows a sequence of instructional skills that his chosen music demands—what is currently in front of the students. Mark uses intentional programming, selecting pieces to teach certain skills. He likes to expose his students to many different musical styles, choosing engaging arrangements that the students enjoy playing (O.7.31). Mark explained his current diversity of literature selections:

> I try to do a variety with each class—pretty much each concert—to try to mix it up a little bit. It's hard to do pop stuff with sixth grade because it's hard to find something easy that sounds good. I hear some of these arrangements at grade one or point five, and it's so watered down. . . . I end up cramming a lot of stuff into seventh grade. I do fiddle music; we do kind of a fiddle unit at the beginning of the year. I do baroque music and classical music. One of my goals is to have them understand different styles of classical music and the idea of classical music being an umbrella term. I took it upon myself as my mission in life to teach these seventh graders different genres of classical music. Usually in seventh grade we front load a lot of different styles of music. Eighth grade ends up being healthy combination, usually of pop and non-pop. (V3.6.9)

Occasionally Mark allows students to request songs. He is sometimes surprised at their choices. His students like many styles of music, from Mozart to Green Day. Mark describes a project that he usually offers to his seventh graders: "I have a spreadsheet of all the music that the district owns. I'll say, 'Let's look these up and see if you can find recordings of them. Which one sounds interesting?'. . . Or, I'll put [the students] on JW pepper [web site] and say, 'Browse JW Pepper. What looks good?'" (V3.5.8).

Mark uses graded assignments (worksheets, notes, and written quizzes), rehearsal contribution (classroom participation), practice records, and performances (concerts and playing tests) to determine student grades in his orchestra classes (F.11.23). Playing tests, or skill assessments as he calls them, are accomplished in several different ways. Mark gave details:

> [I do playing tests] a lot of different ways and I try to mix it up for all my classes on how I do them. I do individuals, sometimes—which are the best way to do it for the most part in my opinion, except it is so time consuming to listen to each and every kid play. Sometimes right there in class we're going down the line. A lot of times I'll break it up by section. Today we're doing first violins . . . Sometimes I'll ask for volunteers, sometimes alphabetically. (F.11.24)

Mark also does group assessments. He clarified, "Sometimes I'll do group things where I'll say, 'OK, you four play at the same time,' if it is something they could do together. I'll watch and listen and maybe say, 'I need to see you later—I need you to replay it for me'" (I.7.22). In a later interview, Mark also talked about his group assessments: "[It's] less accurate but it's a good skills check to make sure, if one of them makes a bunch of mistakes it's going to kind of stand out" (F.13.27).

In addition to live playing tests, Mark has done some recorded assessments. "I'll set up a laptop in the hallway and have them use Audacity (a free, open source, cross-platform audio software found at www.audacityteam.org.). We have [written] instructions. I used to have a digital recorder I would use, too, which was easier than Audacity" (F.12.25). Mark would still have to go back and grade the tests after school, but the music check, itself, would not take up valuable rehearsal time like live playing tests. In the future Mark would like to utilize the district-provided SmartMusic for more performance evaluations:

> I'm trying to work more into doing more SmartMusic assessments. But it's just taking time to train students to use and get used to the software, versus the ability of having it come up on the screen and things like that. . . . I like the idea of using SmartMusic and giving them a chance to practice it and do it in a lower pressure environment. They could do it in the hallway or before or after school, things like that—not in front of their peers. (I.7.22)

Although many students get nervous doing live playing assessments, playing in front of peers is not necessarily a bad thing, according to Mark:

> That's just how it goes sometimes. You have to play if front of people. I told my sixth graders, "If it scares you to play in front of other people, newsflash, that's why we're here!" You're going to need to do it every now and then. You're going to have to play in front of the class. The good news is we're all doing the same thing. If you make a mistake, everyone else has made the same mistake—they should understand. (I.7.22)

Mark feels that student skills progress depends upon good at-home practice skills. He has mixed emotions about using graded practice records, but he thinks there is merit in using them. Mark explained, "I value trying to encourage [students] to keep track of their practicing." Mark has tried various ways to evaluate student progress, including more playing tests instead of practice records, but has come to the conclusion, "the kids who practice for the most part are going to practice and the kids who don't, you almost can't do anything [about]." He did a small, informal survey with parents about the effectiveness of practice charts. Mark recalls,

> There was at least one parent who said, "If you didn't have practice records, if it wasn't part of my kids' grade, they would not practice. There would be no way they would." Knowing that's out there is enough for me to say I want to keep doing it. (V1.2.2)

Mark weights practice records as 15% of a student's grade, so if a student wants an "A" in the class they have to turn in their practicing charts. If a student does not turn in any charts, but otherwise did his/her best in class and performances, he/she could still earn a "B" in the class. Mark expressed, "It's really not that hard and I feel like getting an "A" kind of deserves that kind of organization, at the middle school level at least" (V1.3.2). Mark inherited his current practice chart document from a string predecessor and a band colleague. The practice record format is a combination of quantity and quality of practice:

> I do want them to describe what they practiced. "Tell me what you're working on, don't just list the minutes. What did you work on that day? D Major Scale,

> exercise 54." I get so mad at them when they write [minimally]. There's a box that asks, "What did you practice?" and they write, "Cello." I know you practiced cello! So no, I want them to tell me *what* they practiced.
>
> Sometimes I'll do minutes, "I want you to get this many minutes." Or I'll do a frequency, "I want you to practice at least three times each week." Or I'll let them choose minutes or frequency. Usually it's kind of like they coincide. Four times per week equals 80 to 100 minutes. I'm like, "You can pick which works best for you, whichever way you want to think of it but it's going to come out to be the same rough amount of practicing in my book. So just turn them in." (V1.4.2)

Mark uses the practice record as a communication tool with parents as he requires a parent signature on student practice records turned in. He also uses practice records as a formative assessment to help analyze how to help students progress on their instruments. Mark reflected on utilizing practice records for this purpose:

> [I tell students] "Whether or not you practice, turn it in. You're showing me information to help me teach you." If I look at you and I'm like, "It doesn't seem like they're getting it," and I look at the practice record and I'm like, "Well, there's your problem; you're not practicing at all." That may be part of the reason. But if I'm seeing that you're practicing a lot and it still doesn't look like you're getting it, then I'm going to reach out and be like, "Hey, let's go over this. Maybe I didn't teach it right." So I try to really encourage them to get them in. It's tricky. There's not a great way to do it. (V1.4.2)

Mark encourages his students to work on advanced skills like shifting and vibrato. That is one of the things he really enjoys about teaching middle school, the opportunity to advance students' technical ability. Mark talks briefly about helping students achieve new heights on their instruments, "[In middle school] you set up the foundation but you also start them into more advanced skills and get a lot of fun things you can expose the kids to and get them started on" (F.14.31). Some students in Mark's orchestras take private lessons, but not many. Mark noted,

> I would say we have a pretty low percentage of kids who take private lessons, actually. I could be wrong about that. I sometimes don't realize kids have taken private lessons and they do. Sometimes I think they're taking private lessons and

> they don't. Kids are just funny like that with their progression. I would say it's a relatively low percentage. (F.5.12)

Nevertheless, Mark supports his students who work hard and excel on their instruments. Mark encourages his advanced students to audition for the district honor orchestra. Mark advises students, "It's just a good experience to practice those excerpts and really work hard on it. You grow as a musician" (I.9.27). Sometimes honor orchestras are the enrichment opportunity that Mark's advanced students need. Mark talks about the district honor orchestra:

> It's a nice thing to have because we do have some kids who work really hard to take private lessons. And a lot of times when they work really hard and take private lessons, the school music is too easy for them, and it's boring for them. So this is something to give them recognition for their hard work, and for their abilities—which I think that they really treasure. They need to have that recognition. And also to give them something a little bit more challenging to work on, to support them, and to help them grow as musicians too, rather than having everything be too easy. And it's just a good experience for them to go and work with another conductor, work at a different site, work with different stand partners, learn a different style of music, perhaps. So I encouraged all of my students to think about auditioning for honor orchestra. (I.8.27)

Mark encourages honor orchestra participation and holds quarterly parent concerts at his school, but he does not usually take his students to an adjudicated festival, partially because he feels he doesn't have enough class time to prepare his students for judged performance. Mark explained why he chooses not to take his students to festival:

> I never really felt that I had time to prepare kids to go and do an adjudicated festival, at least not in my regular class. We had a kind of before-school chamber orchestra, advanced club-type thing. I would take them to festival. Otherwise I don't really take them to outside festivals because there's not a lot to offer. There's pretty much just the [state music teachers' association] festival. And that's it. So, you can do that, and it's kind of a hassle, and a lot of time and preparation for it. You don't know what kind of marks you might get. How much of this is going to be a rewarding experience? Verses something that they're going to feel like they didn't do well, etc. So I don't really do orchestra festivals. (I.9.29)

Pressure of time restraints for Mark may be due to the district middle school schedule that limited elective classes to every other day. This schedule was implemented several years during tight education economic budgets. This year Mark's district has returned to daily classes for middle school electives. Mark commented, "In the old system we would meet two or three times a week. I was dependent on [students] practicing in between which a lot of times didn't happen . . . I think it's made a huge difference seeing them every day" (V2.13.16).

Over the years Mark has seen varying support for the orchestra program in his district, but recently has experienced more time and financial support at his site (V.1.11). He is able to progress from teaching orchestra and a media class to teaching orchestra full time for all of his classes. Mark commented on the value of the orchestra program at his middle school:

> The community has a desire to have this program. If they want to have something then the administration, I think, is going to be more likely to want to further that. They want to keep their community happy. I also think I have been lucky to have administrators who are willing to work with me on things. At this school I've been lucky to have administrators willing to help me support my program and being flexible knowing that I can be flexible in return. (F.2.4)

Mark's dedication to his students allows his program to grow and flourish. His overall goal for his students is holistic. Music is an influential part of Mark's life and he wishes to share that with his students. He talks about his life-long musical goals for his students:

> I want them to appreciate music. I want them to like to interact with music. I want them to listen to music for enjoyment and also hear music around them. I want them to have an appreciation for how it is created, an appreciation for the time and dedication of the performers, and the effort that goes into it—knowing that they probably won't go on to be professional musicians or music teachers, and they probably won't continue even playing their instrument after high school for a lot of them.

> But they can see an orchestra and they can say, "I know how to do that." Or, "I did that." Or, "Wow! That looks really hard." Or, "I think that person made a mistake." Or even watching a movie, "That person's not really playing the violin, I can tell." I tell them to watch for things like that. I think that that's really something that they can have for the rest of their life. They can go on and have that experience. (I.13.37)

Mark is the only participant in this study who is currently teaching at the same school and in the same assignment that he did at the conclusion of data collection. In his follow up written reflection, he shared that he has grown in his teaching since that time. Mark talked about what he has recently learned and how he has changed some of his teacher beliefs:

> I learned to start working on a piece of music by teaching the principal material first rather than always starting at the beginning. I learned that people need to review. Just because to teach a skill or concept once, doesn't mean that the learners will know it forever. It needs to be reviewed at regular intervals and interacted with a deeper level.

Mark also discussed how he has changed his practice because of changes in his teaching beliefs about student commitment. He used to feel that students who chose not to practice their instruments should not continue in instrumental ensembles. Now he acknowledges that some students who practice minimally (or not at all) may still benefit from orchestra participation and can still make musical progress, as long as they are not pushed too hard with music that is too difficult. Mark now believes that providing easier parts or offering lower levels of orchestra can make it possible for these students to continue in orchestra and not quit.

Mark has also changed his beliefs about what is important to teach in orchestra class. He used to focus on units of music genres and musicology, giving listening examples, student projects, and assessments—all of which took up a lot of rehearsal time. Now he believes that class time is better spent working on performance skills, and he

only gives written tests on fundamental playing techniques such as dynamics, tempos, and articulations.

Mark's beliefs about literature selection have also evolved. While he still values teaching a balance of different musical styles and difficulty levels, Mark now embraces the suggestion of some of his students to program pop music from "actual pop groups; songs they can download and listen to, or that they might hear on the radio or TV, or in movies." He now believes that his students who love music derive much satisfaction from playing authentic pop tunes with which they are familiar, both current and classic.

Mark continues to value ongoing professional growth. He has focused his efforts on learning various fiddle styles from experts in the field, like Taylor Morris (director of Gilbert Town Fiddlers) and Farley the Fiddler (featured fiddle player in Disneyland's Frontier land.) Mark has also expanded his use of technology in his classes by more effective use of SmartMusic, Google Drive (for accepting student work) and Google Forms (for giving assessments). For his own professional growth Mark also reaches out to other string professionals by participating in an orchestra teacher Facebook group, where he gleans literature suggestions and pedagogical ideas that he can employ in his classes.

Orrin

Orrin is in his seventeenth year of public school teaching in several states in different regions of the country. Violin is his primary instrument. Orrin teaches at a small rural unified school district of one elementary school, one middle school, and one high school; all on one conjoined campus of 1,145 students. All of his students come to Orrin's orchestra room in the middle school music building. This district is on a four-day

weekly schedule so Orrin also teaches elementary strings on Fridays at an elementary school in another town. Orrin teaches private lessons after school and on weekends.

Orrin grew up in a musical home. Both of his parents were teachers; his mother taught third grade and his father led school choirs. His father also taught private piano lessons and produced musical plays. "We always had a piano in our household," Orrin recalls, "Dad started us all playing the piano, and he also gave me a trumpet" (I.1.3). Plans changed, however, when Orrin slipped and chipped his front tooth. Fearing problems with embouchure, Orrin's parents had him switch instruments to violin when the elementary school music teacher wanted to start a string program. He was in the sixth grade.

But the interaction with this teacher proved to be an internal motivating factor that drove him to personal determination and perseverance. Orrin, the only African American student in his class, remembered:

> But, of course, he told me I would never make it—because of the color of my skin. This was back in the 1960s. And he said, "People like you don't play the violin. You would never make it." And I said, "Well, that's why I became obsessed with it," if I could be so blunt. I told him, "You're going to apologize to me because I'm going to practice and practice and prove to you—prove to everybody—that I'm going to play the violin." So that's why I'm obsessed with it. (I.1.4)

And Orrin did learn to play the violin. He played violin all the way through elementary, junior high, high school, and college. Orrin always sat first chair because he practiced. His mother paid seven dollars a week for a violin tutor to come to the house and give him private lessons. This teacher took him to various concerts, prepared him for recitals, and helped him audition for All-City, Regional, and All-State honor orchestras. In high school Orrin was able to attend the Aspen Music Festival upon the

recommendation of his private teacher. “It was beautiful. I got a chance to see a lot of people there” (I.3.10). He remembers being in the eleventh grade and seeing the elementary teacher again as he came into Orrin’s class as a substitute teacher. “[The man] said, ‘I know what I said to you, and I’m so sorry I said that to you.’ But by that time the damage had already been done, because of my obsession for this instrument” (I.2.6).

In college Orrin chose music performance because he was inspired by the excellent playing of a black jazz violinist. His father had reservations about his decision, however.

> My father said, “Son, (he wasn’t thrilled) you can always perform, but you have to eat also. And you have to be phenomenal in order to tour and play in the symphonies. You have to be a genius, a prodigy.” That’s what he said to me. He said, “You can always still play and gig, but you have to eat. Major in music education.” And I listened to him. I changed my major from performance to music education and I’m so glad I did. If I would have stuck with performance, no telling what would have happened to me. I’m good, but I’m not exceptional. (I.3.9)

Orrin went to a private university for three years, earning less than stellar grades. He explained that at that time he wasn’t serious about college; he didn’t apply himself and academically, he just coasted. When he was about to flunk out during his junior year, he changed course and enlisted in the Navy for four years. “I was an aircraft mechanic,” Orrin explained, “but I still took my violin. I gave violin lessons. I even traveled from [twenty eight miles to the nearby town] after I did my duties. I would drive there and play in the symphony there” (I.5.21). Orrin said that he utilized his military service to develop his discipline. After being discharged, he went back to school at a different university and earned his teaching credential.

Orrin’s first public school assignment was teaching elementary and middle school in a large state. He had just graduated from college. Here he had an excellent program,

with his elementary schools feeding his own middle school. After teaching there for two years, Orrin taught five years in the northern midwest. He recalls:

> [That] was a change. But everything that I've gotten myself involved with—everything happens for a particular reason. I've learned that during my years, as long as you are kind to people, and you have a purpose. And what is our purpose? Our purpose is to provide music for people, to enhance children's abilities. That's it. So that's what I live for each and every day. (I.5.22)

Next, Orrin taught in two different states over a time period of several years. In a southern state, Orrin taught middle school and high school in the inner city. He was disappointed when the administration cut the strings program in his area.

> They cut the program there because they said those kids would never learn the violin. So why should we waste our money? Seriously. [They said] we're cutting this program because those children will never learn to play the instrument. It's a waste. That's just the way they view things. That's the reality. Certain kids have privileges, you know, in certain areas. (I.9.41)

While teaching in this state, Orrin played violin in a local band. He enjoyed performing—especially jazz and gospel music. "I love it. To improvise is like a different language because you have to create on the spot, on the chords. And not only do you have to create, you have to impress the other people, the other musicians, too, because if your solos suck, you can tell" (I.3.11). Performing is one of the joys of Orrin's life, whether by himself on a YouTube video or with his students on a stage.

Orrin sets high musical expectations for his students. He tells his students that he has confidence in their potential and encourages them to work hard to achieve their musical goals. His students know that he believes in them and that he expects them to try their best.

> If you tell a child it is difficult, they'll believe it is. If you let them know how easy it is, "You can do this! You can play this [fast] scale. I want it to sound like that tomorrow." "Yes, [sir]." You've already imprinted them. They'll go home and really try to play it as fast as they can. We, as professionals, know that it is

> impossible because of their little bodies. But in their subconscious, they know, "Oh. I'm going to play fast because my teacher said I can." It's just that simple. (I.8.36)

In all of his classes Orrin starts his rehearsal with a warm up activity that he calls their "bell work." Bell work includes a written out scale, arpeggio, and broken thirds for a specific key. After students enter the classroom they are expected to independently work on their bell work until Orrin calls the class to order and they begin their tuning sequence that he calls "Around the House."

For "Around the House," each individual student plays a half note on each open string—starting with the highest string, working down to the lowest string, then going back up to the highest string again. Students are expected to play *forte*, utilizing the whole bow, and then they pass the turn to the next person in the row. For example the second violinist plays EADGGDAE, then the viola plays ADGCCGDA, then the cellist plays ADGCCGDA, then the bassist plays GDAEEADG. Orrin says, "While we're doing that I'm monitoring and I'm going around, in case the instrument is out of tune" (F.2.1). In middle school Orrin encourages students to tune their own instruments, but he is there to help struggling students. If an instrument is still out of tune, Orrin will go fix it: "As the exercise is going around, I go to that student and tune the instrument" (F.2.3). "Around the House" has multiple purposes; to help students tune their instruments, to encourage them to play with a full bow and full sound using a "pull and push" bowing style, and to bring order to the classroom. Orrin explains:

> You're still maintaining discipline. There's no break—especially if they're playing by themselves. No child wants to make a mistake in front of their peers. So, if that sound is not full everyone will give that look of that wasn't good enough, but we try not to demean anyone's musical personality but to encourage. We always state, "pull, push, pull, push." That's what we want. I don't want, "down bow, up bow." That sounds too weak. (F.2.2)

Next Orrin leads the students in a warm up exercise that utilizes rhythms on each degree of a two-octave ascending scale. He calls it "6, 4, 3, 2, 1"—referring to the number of notes in each rhythmic pattern. Sometimes he does a slow bow scale at the end of the sequence. Key signatures change each couple of weeks.

> 6 = Mississippi Steamboat rhythm – six notes (tempo is quite quick)
> 4 = Eighth notes – four notes for each scale tone
> 3 = Triplets – three notes for each scale tone
> 2 = Two eighth notes – two notes for each scale tone
> 1 = One eighth note – one note for each scale tone (O.2.9)

For this exercise Orrin sits at the wooden podium using an electronic keyboard and plays a distinctive cadence that the students recognize as a tempo-setting cue to start playing. Orrin explains, "When they hear the intro, that means get ready, I'm ready to start. When I ascend and descend [on the keyboard], I'm ready for you to start. So even if they mess around in the room, when they hear [that sound], they know it's time to start" (V1.2.4).

Orrin demands a full, rich sound from his students, executed by using a lot of bow. He marks the students' bows with colorful tape to help them recognize when they are using their entire bow. Orrin explained, "Yes, I do use tapes . . . on the bow; at the tip, half way, and at the frog. And I want you to pull from tape to tape. Pull and push, tape to tape. Pull, press index finger; push, release index finger—for a beautiful sound" (I.8.37). Orrin talked about his belief and expectation that his students play with a full sound:

> To play the violin or cello or bass, they have to work—especially for [good] tone. You want that sound to be beautiful because, I tell them, "If it doesn't sound beautiful to you, how do you expect it to sound beautiful for me to enjoy?" No. So, you will not play [only] at the frog, you will utilize the entire bow. (I.5.20)

In all aspects of playing, Orrin has high expectations for his students. He demands that same diligent work ethic and determination of his students that he devoted to the

instrument as he endeavored to become a violinist. He requires a weekly practice record, "I give them practice sheets. . . . Everybody. And every Thursday you're going to turn your practice sheet into me and I'm going to grade it. Do you have the required signatures? I'm going to be a stickler, as far as grades are concerned" (F.16-17.30). Orrin explained why he has lofty goals for his students, "I make them feel like I'm hard on them . . . Momma told me, when I made it, make sure I pass it down. So I'm just keeping my promise" (I.4.16).

Orrin sees practice as a vital way to excel on one's instrument. From his past experiences with the disparaging teacher, Orrin told himself, "I'm going to practice and practice and prove to you—prove to everybody—that I'm going to play the violin" (I.1.4). He expounds the value of practicing to his students:

> I encourage them. I tell them stories about my experiences because I'm here to save you. I want you to be able to go to college just like I did. I had a full ride. All you have to do is *practice*. And see it, believe it, and achieve it. If you do that, I guarantee you [will be able excel]. (I.3.14)

Although he acknowledges that today's generation of kids practice less, Orrin maintains several competition-based systems in his program to encourage personal practice. He sets up sectionals so students can get help on their parts. He has his students play individually in front of their peers for playing assessments. Orrin says, "I might have you do my playing test. You will demonstrate for me measure 36 to maybe 40, and everybody has to listen. And they don't want to be embarrassed in front of their peers, so I always start with the strongest ones" (I.4.16). He has an ability-based seating chart as incentive to improve. Orrin explains, "So if you want to be a red chair, you've got to practice—and you have to be the strongest one. So everybody has to play at least something" (I.4.17).

Orrin has a good rapport with most of his students. He demands good discipline in the classroom but understands that, because of their age and their immaturity, they need to have fun in rehearsals. He described some of his methods to engage middle school students,

> So someone has to get in there with them and be a disciplinarian—but nice and kind. And they respect me because I make them laugh. I'm tough but I'm fair. . . . I have my little stuffed animals. I have a little cat called "Bobcat." "I'll make Bobcat look at you if you don't know your scales." They respond. I make them laugh. Because if I go into a classroom and be demanding, "I am the teacher! So respect me! Do what I say!"—Wrong answer. It doesn't work that way. (I.6.25)

Orrin described his teaching style as "eccentric and unusual" (F.19.36). He believes that an orchestra director needs to have an outgoing, attractive personality to gain the trust and respect of the students (I.6.25). Orrin feels that the musical progress of the students is closely correlated with the expectations of the teacher.

> You know, if I'm being honest with you, I truly believe it's up to the teacher. The children respond to the personality of the teacher because children want to please their teacher. Especially if you encourage them and compliment them. "Great job! All of you brought tears to my eyes." So, they want to come every day and please you. Especially if they hear you perform [on your] instrument and you come in and you're no-nonsense. You can make them laugh but you're here to train them. [I tell them,] "You're here to learn, that's my job." (V2.17-18.35)

Orrin is always looking for ways to improve his own teaching skills [I.7.30] He feels that he learns how to be a better teacher from his students and that he learns something new in every assignment he takes (F.11.20). Orrin talked about his professional growth:

> It's an ongoing process. Every year you learn something about yourself because you want to have a great [orchestra group]. Everybody wants to have a successful music program, but what does it take? It takes really knowing who you really are. Are you worthy enough to share the information that you've developed within yourself and give it to that child? And then actually get them to believe what you're telling them? (F.20.38)

Teaching middle school orchestra students is a demanding yet rewarding job. Orrin finds fulfillment in sharing his love for music with his students. He recognizes how music can and will enrich the lives of his students as well as his own life. Orrin clarifies his purpose:

> My job is just to enhance [the lives of] as many children as possible. And I'm selfish. I'm doing it for a selfish reason. The selfish reason is because I love music *so* much, and I train children—we train children—to read and to interpret the music as we foresee it.
>
> So, my selfishness comes back—you're on stage, and I can stand in front of you and enjoy it. That's my selfishness. Hearing you perform Beethoven, or whatever we've chosen, and I can actually conduct and change those rhythms in an interpretive manner, it just soothes my mentality. That's being selfish—but in a positive way. They benefit.
>
> But just to close my eyes and to listen to music makes me feel proud. And seeing the little children's faces after All-State. "Now I can see why [you] acted the way that [you] did. Now I see why [you] held up posters, or made me play alone by myself. I see it now." When they're on stage they see it, they hear it, and they achieve it. And when they hear the applause, that's the payoff. (I.9.42)

The summer following the data collection for this study, Orrin's orchestra position was discontinued at the small rural school district due to budget cuts. The band teacher assumed the orchestra teaching responsibilities at the elementary, middle school and high school. Fortunately, Orrin was able to relocate to another city where he is now teaching orchestras in grades three through eight, private lessons at two music stores, leads the local community youth orchestra, and participates in the local symphony orchestra.

In his post-study written reflection, Orrin says that since our time together in the small, rural school district, he has learned "that being organized is the key to one's success." He values planning a year in advance to have the printed materials, scales, and musical essentials at the ready to enhance the students' learning experience. Orrin's

recent goals are to "train my students to count the various rhythms" that they will encounter in the compositions that they will perform to make them more independent musicians. He says that his foundational teacher beliefs remain the same, "awakening the students' musical abilities and encouraging them to know their purpose: to learn, to develop, to prepare, and to improve."

Marlene

Marlene, the most experienced string teacher of the study participants, has been teaching for 30 years. Her primary instrument is violin. Marlene teaches orchestra at two elementary schools and one junior high school in a large unified school district of 44,352 students. Marlene does not teach privately at the time of data generation.

Marlene was born and raised in a southwestern U.S. metropolitan area. Her parents were highly supportive of her musical development, starting her in a Suzuki school program when she was in the first grade. After a year of small group lessons she began private lessons from the same teacher—with whom she continued violin study until high school. Marlene's teacher started with a Suzuki approach—teaching students to play by ear, then about three years into study, teaching them "note names, finger numbers, gradually moving us into reading music." When she started playing violin with the beginning string class, she had been playing for several years; she was playing concertos by ear, but was not as experienced at note reading. Marlene expressed some frustration about having to go back and play "Twinkle, Twinkle Little Star" with her fourth-grade peers who were just starting to learn to play. She commented on the experience, "So that's why I incorporate *some* Suzuki concepts [into my teaching], but

not a *whole* lot, because I had that mixed background. Well, it was kind of cool, but, I really feel like kids should start reading music as early as possible" (I.1.5).

Marlene's musical progress was steady and continuous. However, at one point in junior high school she contemplated quitting. "In eighth grade I did not want to continue, mostly socially; friends were some influences there. But my parents said, 'That's not an option because you've put in too many years and we've put too much money into [your] playing.' By the time I was a freshman that all passed and I really enjoyed playing. I didn't want to give it up" (I.4.16). She continued playing in orchestra in high school, even though her orchestra director was not a strings specialist. Marlene recalls, "My high school director was a band teacher. That always bothered me. I wished that I had a strings teacher who could teach actual string styles, and that comes back to haunt us! So that is something that I definitely did not enjoy. It was a really small program, too" (I.4.14).

To augment her small high school orchestra experience, Marlene began playing in youth orchestras. She participated in the local professional orchestra youth program, as well as High School All-State Orchestra and other auditioned groups under her new private teacher's tutelage. As a high school senior she played with a local semi-professional community orchestra instead of a youth orchestra group.

Due to her rich private lesson and orchestra performance experience, Marlene received a four-year music scholarship to the nearby university where she earned degrees in music education and music therapy. As part of her music therapy program Marlene completed an internship at an outstanding facility for developmentally disabled adults in California, but after moving back to her home state, no similar jobs in music therapy

were available. So she ended up getting a teaching job at a nearby school district. “I loved it ever since,” she commented, “and I never looked back” (I.3.9).

Starting in college, Marlene taught private lessons on violin and viola. Additionally, she taught privately in her home in the four years she took off from teaching public school. At one point she had a studio of 35 students. Marlene really enjoyed teaching private lessons. She reflected on her studio teaching experience, “You know, with a student who is really focused and willing to learn, I *love* teaching privately. I think it’s just so important and it’s the way to go. You see the progress and I think it is great” (I.5.19). Marlene says that only a few of her top-notch students in her junior high orchestra take private lessons. When her students get into eighth grade and “see more of the hot players, then they want to play like them.” Since so many of her students only receive musical training at school, Marlene shared, “I really try to incorporate what a private teacher would do into my group teaching. But it has gotten harder as our class time has become more limited at the junior high level . . . you know, every other day and shorter classes” (I.5.20).

One thing Marlene emphasizes in her middle school classes (grades six through eight) is to teach from a method book *and* string orchestra arrangements. For intermediate students, (sixth grade in her district), Marlene uses a book two that introduces different key signatures, string playing techniques, and other skills, “just depending on what I need, or what the group needs.” She also supplements the method book with string orchestra arrangements, “I try to teach songs where each instrument group receives the melody part somewhere. I use the district music library and I have some music from my junior high that we seldom use, like *Fiddles on Fire* [by Mark Williams]” (I.6.28). Then

for beginning junior high classes (seventh grade), she uses a *different* series, level-two method book to unify her students with a common vocabulary since they come from various elementary feeder schools—some that Marlene teaches and some taught by other district employees:

> I've found that many kids coming into seventh grade didn't go through a [method] book in 6th grade so there was a lot of information and skills missing. . . . A lot of kids get to seventh grade and they've never played on their E string, or their G, or C string before, depending on their instrument. And the words that I used to describe things, they didn't all have that same background. So I found that by going through the book it kind of evens out the playing field. It helps the kids that need it—brings the kids understanding as far as using the terminology that I use, up to level. And then, it gives me something to work with on those playing skills that are needed—besides just using sheet music. (I.6.29)

For the eighth graders, Marlene uses a strings technique book to teach more advanced skills such as shifting and vibrato, working on chromatics and chorales. At that grade, they do more advanced sheet music that presents more technical challenge for the more experienced players.

At her current junior high school, Marlene has three levels of orchestras, despite having only two grade levels (seventh and eighth grade). At first she had only two levels spread out over three classes. Marlene explained how and why she changed her class levels:

> I found that I was losing the kids that fall through the cracks, as far as levels are concerned. This included the kids who were more advanced but not advanced enough to be in the top group, or sometimes because of scheduling conflicts, I couldn't move them into the top group as 7th graders. . . . So, at some point, they basically didn't get the instruction at the level that they needed it, and just made no progress, whatsoever.
>
> What I did for a while was I had middle group play with the more advanced group, but still complete the 7th grade curriculum. But that was difficult because I couldn't rehearse the kids together, and then with the testing changes and everything, my principal would not allow me to pull

> the kids out of their other classes to rehearse together. . . . So it was a gradual thing that happened. When I went to the three levels it was great because I could place 7th graders, or 8th graders, depending on where they fell, into each appropriate group. (I.7.39)

To place students accurately in the appropriate class in junior high, Marlene utilizes several differentiating techniques. Many of the students coming up from 6th into 7th grade are Marlene's former students, since she teaches at two of her elementary feeders. So she knows how they play—their strengths and weaknesses. But for the students from other teachers, she has had their elementary instructor make recommendations as to their students' playing level: strong, average, or weak. Then she does auditions so she can actually hear them play before their schedule for the first semester is set. Marlene talked about this about this year's auditions, "I was really glad I listened to them because (breathes in through her teeth) [the elementary teachers'] ideas about skill level were different or they were just being nice, instead of saying they really aren't ready for [the advanced class]" (I.8.44). Sometimes students are bumped into a class that is beyond their reach just because of scheduling conflicts with singleton electives classes. Marlene says that she tries to help them catch up by encouraging them to take private lessons, offering help during their lunch break, or "whatever it is that would help their situation." So she tries to be flexible and encourage students to keep playing—no matter what class they are placed into in the junior high school.

To prepare students for a junior high performance level, Marlene tries to raise the skill level of her second year (6th grade) students to beyond the "beginner" level. (Sixth grade in her district is housed in the elementary schools.) Sometimes she finds these intermediate classes to be inconsistent. Occasionally she has a class that really takes off.

At other times and other schools, getting students to continue playing their instruments from one year to the next is a struggle. Marlene explains:

> You know, it's funny, I've found that 6th grade is one of my biggest challenges—just trying to keep them excited but continue their learning. That's just been tough: different schools and different personalities. Some years, depending upon the personality of the sixth grade group, they are a great group and I can do anything with them. And other years it is just a challenge to keep [them] going: listening, making progress, and practicing. (I.7.35)

Overall, Marlene really likes teaching middle- school-age students. Teaching middle school orchestra students holds a certain appeal:

> I love teaching middle school. Compared to elementary, the level of music is a step above. I love being able to take them further, work on musicality and more technical things. I love the fact that the kids have a higher level of understanding. You can teach them things like key signatures, circle of fifths, things about playing technique, and theory. I really enjoy the age. Certainly, at times, it can be challenging. Kids in certain groups are more challenging than others. Some years I prefer elementary to junior high, but, for the most part I really cannot see giving up teaching junior high at this point. I really, really enjoy it. (I.7.34)

Marlene's approach to teaching junior high is student centered. She really wants students to think about what they're doing and consider why and how they are doing it. She encourages mindful playing so students purposefully play the correct notes and deliberately play with good sound, etc. Marlene asks students questions to guide them to self-evaluate and fix their technique issues themselves. She describes her teaching style as follows:

> I definitely try to make my teaching student centered. I try to pull things from the student and let them discover a little bit, and then guide them. When it comes down to it, when there's a time constraint, I have to tell them this is how we're doing it. So there is a little eclectic teaching happening. But I do really like the students to discover how to do things. (F.18.40)

Despite the fact that allowing students to self-evaluate and diagnose themselves takes more effort, Marlene claims that it is worth the extra time. She discusses her preferred teaching approach:

> I like them to evaluate what they're doing, and I will tell them what is happening if they're not going to come up with the right diagnosis. But I think when the students are thinking about what they just did, and what they're hearing, they're going to buy into it more and they're going to try and fix it as well as remember the correction in the future. I find that when I just tell students what they did wrong, they dismiss it, as if they are saying to themselves, "Oh, I did it wrong. Oh well." (V3.1.2)

In guiding students to fix errors or find solutions to playing problems, Marlene leads the students through a specific sequence. They talk about the problem, Marlene asks questions about it, and then she acknowledges all student suggestions, but affirms student responses when they get the answer/procedure correct. Then she demonstrates on an instrument and allows students to experiment, using the correct technique. Marlene says this sequence "gives them a variety of ways to remember it, by watching it, by trying it, by testing it again after they find out exactly how they should be doing something" (V2.3.12).

This self-discovery process is also evidenced in her positive, skill-specific approach to assessment feedback. Marlene uses a variety of assessment tools: live playing tests, videotaped playing tests, group playing tests, and written theory tests. She uses a written rubric to evaluate students' playing in live and recorded tests and gives verbal feedback after live test performances. In her comments, Marlene praises students for one or two items, such as, "You know what I really like? You were playing really close to the frog—your bow was strong" (O.5.40), or "You did a really nice job on your counting" (O.1.8). Then she gives them a suggestion for improvement or correction—

such as, “Push out your bow when you are at the tip to make the bow track straight” (O.1.9), or “Work on your wrist (left hand position)—that will help your second finger play in tune for that F-natural” (O.2.13).

Marlene encourages her students to use the same positive language when evaluating each other. She says, “Sometimes I'll have my kids evaluate each other and I always say, 'say something positive first, give them something to cheer about and then tell them something to work on’” (V3.4.10). She has students watch the bowings of a different instrument section. She says, “I find when they knew everybody’s watching them, they’re a little more careful about it. . . . I won’t ever let them say someone’s name, but ‘Just comment on how many bows you see that are going the right direction’” (V3.5.13).

When making suggestions for improvement during a group rehearsal, Marlene is careful not to single out erring students to the point of embarrassment. She says this about correcting students:

> I'll usually correct as a group or as a section. I'll make corrections but I won't refer to just that student. . . . Sometimes they're embarrassed and they know they did it wrong. Then I'll use my eyes where I'm correcting and I'll just look at them but I won't ever say their name. . . . If it happens over and over again, and it’s getting to be crunch time I'll say, ‘Chris, I really need you to watch more carefully because you're going a little too fast,’ but I try really hard not to single kids out unless I really have to. Or I'll go over and talk to them and explain it to them one-on-one. Sometimes there’s not enough time to do these various approaches. (V2.15.52)

But despite the time constraints, teaching middle school-level students has been very rewarding for Marlene over the course of her career. She reflected:

> I’ve really loved working with all of my students through the years. I love seeing them learn and get excited about playing. . . . I’ve really enjoyed watching the kids progress—year to year—watching them grow up and

> attain more musical talent, being able to play music that is harder and more musically challenging. (F.21.61)

When asked how she would be like to be remembered by her students, Marlene responded, “I always hope that they would feel like they learned to love music and that I encouraged them to do that, hopefully in a positive way. I feel that if it’s made an impact on their life, then that would be a good thing. I will have met my goal of sharing something I love with my students” (F.20.57).

In her follow-up written reflection, Marlene shares that the year after data collection for this study, she retired from public school teaching. She discussed her reasons for leaving the field: “I retired since I had met my 80 points. Before retiring, I wasn’t able to spend the amount of time teaching that I had once experienced, but was still required to have the same number of concerts in addition to teaching other unrelated subjects during orchestra time.” For the last eight years before Marlene chose to retire, her district had cut back middle school electives class time, utilizing an every-other-day electives schedule.

Now Marlene is teaching private lessons in her home. She teaches mostly adult beginning and intermediate level students. She mentions that she uses similar “literature, teaching methods, technique training, and student interaction skills” with her adult private students that she did when she was teaching junior high school orchestras. Marlene expressed, “I have rediscovered how fun teaching strings can be to students and to myself!”

Marlene reflected that, from teaching junior high students, she came to realize, “just how important repetition of various practicing techniques is to students at that level.” She shared that since she stopped teaching public school, her views on teaching

have not changed, but that she still believes that “teaching students at that age requires a lot of patience, creativity, and focus on music.”

CHAPTER FIVE

DISCUSSION

In this chapter I address the final three research questions:

3. How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?
4. How do inservice contextual classroom experiences and professional development influence teacher beliefs and practices?
5. What is the relationship between teachers' beliefs and their observed classroom practices?

For the purposes of this study, I defined teacher beliefs as follows (see chapter 1): ideas that are individually held and subjectively true. Beliefs may hold personal and musical values and can be relatively stable and integrated with closely held and committed-to principles. Beliefs that are in the process of development may be more easily challenged. Although they are individualized, teacher beliefs are formulated or altered through meaningful social experiences. Often influenced by their preservice experiences as students, teachers hold beliefs about *all* elements of teaching and learning (Nespor, 1987). Teaching beliefs influence and are influenced by teaching practice and contextual circumstances. Some teacher beliefs may be individually acknowledged, clear-cut, and purposefully defined while others are only implied or unspoken (Buehl & Beck, 2015). At times, researchers must infer beliefs from "what people say, intend, and do" (Rokeach 1969, cited in Pajares, 1992, p. 314).

To illuminate the relationship between beliefs and practices of middle school orchestra teachers in this study, I examined the recalled experiences, explicit and implicit teacher beliefs, and contextual factors reflected in the practices of the six middle school orchestra teacher participants. To help identify teacher beliefs in this study, I first looked for explicit beliefs. When participants stated in an interview, "I think that . . ." I felt assured that they had thought about this topic and were expressing their belief in words. In interview transcriptions, other indicators of explicit beliefs were manifest in phrases such as, "It is so important that . . ." and "I like to . . . because . . ." Implicit beliefs are more abstract, but were recognizable by teacher statements about their priorities in their practice, such as, "we do the scale warm up every day" or by observation of teaching practices and generalizations made from recurring actions in live and videotaped observations and researcher/participant discussions.

Although teacher beliefs about many different topics have been studied in the general education literature (Nespor, 1987; Pajares, 1992; Kagan, 1992; Fang, 1996; Ashton, 2015; Buehl & Beck, 2015; Fives & Gill, 2015; Levin, 2015; Rubie-Davies, 2015; Skott, 2015), I limited my discussion of middle school orchestra teacher beliefs to the following belief areas that emerged from the data: teacher beliefs about maintaining positive student self perceptions, teacher beliefs about their confidence in students' musical independence, teacher beliefs about developing student musicianship, teacher beliefs about the importance of teacher/student relationships, teacher beliefs about how students learn, and teacher beliefs about the importance of music making to students. I also analyzed teacher beliefs concerning and stemming from the teachers' own long-time learning, continuing education, and professional development activities.

Based on the conceptual framework on the sources of teacher beliefs introduced in Chapter 1, I analyzed the formative, school age, and teacher preparation program experiences of the participants, comparing them to their observed and stated practices (research question three). Next I investigated contextual factors that influenced the music teachers' beliefs and practices. In many instances, the teachers' beliefs *did* align with their professed and observed beliefs. However, when teacher practices *did not* align with their beliefs, I attempted to identify contextual factors that contributed to the incongruity (research question four). Finally, I considered the relationships between the teacher beliefs of the participants to their stated and observed practice, concerning their pedagogy, their middle school students, and their ideas about their orchestra programs (research question five).

Conceptual Framework and Models

To explore how the participants' formative and inservice experiences shaped their beliefs, I utilized the conceptual framework on teacher beliefs that I introduced in Chapter 1, loosely based on Borg's framework (2003) concerning teacher cognition and language education. The central concept in Borg's model was teacher cognition itself, including "Beliefs, knowledge, theories, attitudes, images, assumptions, metaphors, conceptions, and perspectives about teaching, teachers, learning, students, subject matter, curricula, materials, instructional activities, and self" (Borg, 2003, p. 82). Borg's model shows that experiences as a student are foundational to teacher cognition. His model diagrams how professional coursework may shape teacher cognitions and how, reciprocally, unacknowledged teacher cognitions may limit the impact of professional coursework. Borg also notes that "classroom experience influences cognitions

unconsciously and/or through conscious reflection" (p. 82). His model shows that contextual factors influence teacher cognition and that classroom practice is characterized by the interaction of both contextual factors and teacher cognition.

I adapted Borg's model to show "teacher beliefs" as my central concept, including personal and musical values that shape pedagogy, middle school students, and music programs of middle school orchestra teachers. In this teacher beliefs model, influences on preservice teachers' beliefs included early formative individual music experiences in musical families and private lessons, school-age school and community-based ensembles and social music experiences, and preservice teacher education programs. In employment settings, teacher practices are shaped by classroom contextual factors, teacher beliefs and ongoing professional development. Reciprocally, teacher beliefs may be reshaped by contextual factors and classroom practice experiences, and professional development activities.

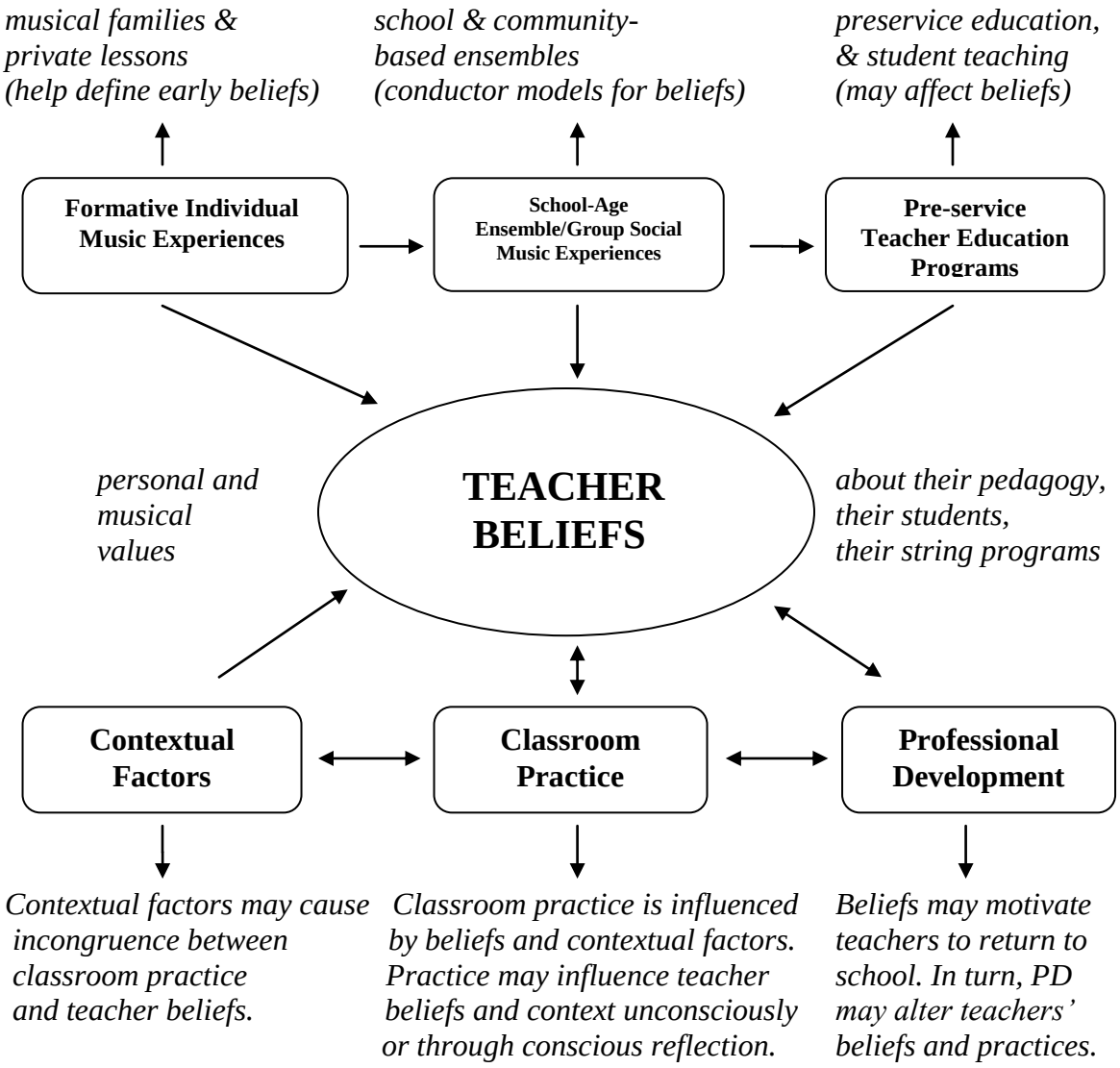

Figure 3. Sources of Teacher Beliefs Model

The teacher beliefs model above shows that the preservice sources of teacher beliefs can include formative individual music experiences, such as private lessons and family influences; school-age ensembles and other social music experiences, such as school orchestras and youth orchestras; and teacher education programs, like practicum classes and student teaching. The model recognizes some personal and musical valuative aspects of the teacher beliefs that are studied in this dissertation: the participants' beliefs about pedagogy, their beliefs about students, and their beliefs about their individual string

programs. The model also shows the complex interactions that influence teacher beliefs and practices once a teacher is engaged in teaching. As research suggests, teacher beliefs influence teacher practices (Buehl & Beck, 2015; Clark & Peterson, 1986; Fives, Lacatena, & Gerard, 2015; Levin, 2015; Nespor, 1987; Pajares, 1992; Russell, 2008; Skott, 2015). But practices can also reshape beliefs; as teachers try different strategies, they learn what works and does not work for them in the classroom. Contextual factors of many kinds (students, teaching environment, district policies and others) affect teacher practices and can also reshape teacher beliefs. Inservice professional development, such as master's degree programs, teacher workshops, and online research, can affect teacher practices and in some instances alter teacher beliefs

In this discussion, I analyze my findings following the teacher belief schematic conceptualization above. In Section I, I discuss early experiences of the participants and teacher education programs that contribute to their teacher belief formation, addressing research question three, "How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?" In Section II, I consider critical contextual factors and continuing education that influence both teacher beliefs and teacher practices, addressing research question four, "How do inservice classroom contextual experiences and professional development influence teacher beliefs and practices?"And in Section III, I introduce a new model exploring some of the core teacher beliefs that guide teachers in making classroom practice decisions. This model explores beliefs about maintaining positive student self perceptions, beliefs about teachers' confidence in their students' musical independence, beliefs about developing their students' musicianship, beliefs about the importance of teacher/student

relationships, beliefs about how students learn, and beliefs about the importance of music making to their students. This section addresses research question five, "What is the relationship between teachers' beliefs and their observed classroom practices?

Section I – Preservice Sources of Teacher Beliefs

Section I provides examples to address research question 3, "How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?" In this study, many string teacher beliefs originate in early experiences in the teacher participants' musical backgrounds. All of these middle school orchestra teachers had a foundation of family support and encouragement. They all had private lessons when they were young, and continued studying privately and in school ensembles through elementary, junior high, high school, and college. Francis, Rapacki, and Eker (2015) stated that "beliefs originate and develop over a lifetime" (p. 340).They quote Richardson (2003) in suggesting that teacher beliefs originate in "personal experience, experiences in schooling and other forms of instruction, and experiences with formal, academic knowledge" (cited in Francis et al., p. 340). The string teachers in this study described a variety of influential teacher examples from years of private lessons, school and youth orchestra ensembles, university music education programs, and student teaching mentors. All these formative experiences influenced their teacher beliefs, and ultimately, their practice.

Influence of Musical Families

Cassie's family had an influence on her belief that music was important and on her decision to pursue music education as a career. Cassie's mother played violin in high school. She had all of her children start on violin, but only Cassie continued. Cassie's

father was not a musician, but was highly supportive. Cassie talked about her dad and his role in her musical training:

> He has no musical bone in his body! But he supported us, and paid for lessons, and fired violin teachers when we were done with them. That was his job. It was kind of a funny joke; it was like, "Alright, we're done with this one. We'll move on." He had to call them and tell them. (I.5.13)

Cassie's mother resolutely supported Cassie's music education. When the family moved to a small community with no orchestra program in the schools, Cassie's mother drove her two and a half hours to a larger city for a weekly private lesson, and about 75 miles weekly so Cassie could participate in the closest community orchestra. Cassie learned lessons in perseverance and resolve from her mother, who felt, "Alright. You're it, so you've got to keep going" (I.1.2). Cassie said, "So I didn't really have a choice, seems like. But I loved it. And [my mother] was really pleased with that" (I.1.2). It seems that her parents were driven to provide the best violin lessons possible for their daughter, even letting her move away from home at age 16 to attend an internationally prestigious residential music school for her senior year of high school. This family support laid the foundation of Cassie's teacher beliefs about the importance of music and the value of working hard to improve musical skills.

Like Cassie, Susan's family had a strong impact on her teacher beliefs and decision to pursue music education. Susan was supported by her musical mother, a performing professional cellist and orchestra director at a local high school. Her mother made sure that Susan had private violin lessons from age five through high school (Suzuki, Rolland, and Traditional based), and made it possible for her to participate in some of the most successful school orchestra programs in the area. Susan acknowledged

that she models much of her current teaching technique after her mother's high school orchestra-teaching practice. In an interview, when Susan described her assessment procedure, she commented, "It is a seating test. So, the person with the highest score gets first chair. It has the same rubric on it, but I don't have all the notes written out [like a scale quiz]. This is what my mom did; when they make a mistake I put a tally mark, that's a point off" (I.18.57).

Wendi, like the other string teachers, had a musical upbringing; her mother's side of the family had several music teachers and a church "singing family" tradition. Wendi observed, "It was just something I grew up around" (I.3.9). Her parents drove long distances to enable her to participate in weekly youth orchestras in a bigger city. Like Cassie, this early investment of family time and resources firmly established a belief in the importance of music and musical training in Wendi's personal life and professional teacher beliefs.

Mark also came from a musical family; he observed, "It was kind of an expectation in my house—especially on my dad's side of the family. Everyone learned to play an instrument; my dad played the French horn and my grandfather played the violin" (I.1.1). Like his older sister, Mark chose to pursue multiple instruments and was interested in both the orchestra (violin) and band worlds (trombone)—unlike the other teachers in this study who focused on one primary instrument.

Orrin came from a home that valued both education and music making. He held his music educator father (a vocal and piano teacher) in high regard, complimenting him, "My father was a musical genius" (I.2.6). Orrin commented on the musical environment in his home, "As far as music was concerned, it was something that was just in the house.

I would see Dad teach piano lessons and he would put on these plays and everything had something to do with vocal [music]. I would see him do that" (I.1.3).

Orrin greatly valued his parents' musical support. He reflected back on his parents' confidence in him, "Well, my parents were teachers. . . my parents encouraged me every day, [my Mom told me,] 'You can do anything and be anything that you want'" (I.2.6). Orrin's mother's advice motivated him to become a music teacher and to nurture young string players. He reflected on her advice, "Well, Momma told me, when I made it, make sure I pass it down. So I'm just keeping my promise" (I.4.16).

From the common experiences of all the teacher participants in this study, it is clear they all came from musical families and received a good deal of support that encouraged them to pursue music teaching as a profession. By providing hours of private lessons, enabling participation in youth orchestras, and subsidizing undergraduate teacher education, these family support systems laid a foundation of music teacher beliefs about the value of music and music education for all the participants in my study.

Influence of Private Lessons

Legette and McCord (2015) note that preservice teachers form personal expectations of "what a music teacher should know and be able to do" from observing their own private lesson instructors, school teachers, and community group directors' practices (p. 164). Cassie, Susan, Wendi, and Marlene all had Suzuki-style early private lessons, where their instructors emphasized learning to play by ear before learning to read music notation. Wendi and Marlene continued to emphasize learning to play by ear in their middle school practices. Marlene, however, learned from her experience of learning note-reading as an older student that she *did not* want her own students to delay learning

to read—she now insists that her students try to sight read music *first* before listening to performance recordings. Cassie also says that she emphasizes ear training, but she seems to define ear training as careful listening for accurate intonation and instrument tuning, rather than learning pieces by ear.

Unlike the other music teachers, Orrin's and Mark's personal private lessons were more pedagogically traditional. Later in life Orrin sought out professional development and certification in Suzuki-style teaching. In his current practice Orrin uses Suzuki pedagogical techniques to emphasize tone production, proper posture, and bow arm technique.

Cassie's emphasis on listening and adjusting in teaching students to tune their own instruments (rather than relying on a visual electronic tuner for feedback) could also stem from her experience with Suzuki pedagogy that teaches aural matching before visual note reading. Cassie began playing the violin when she was six years old with a semi-traditional teacher who used Suzuki repertoire. Then her second teacher was a more exclusive Suzuki teacher who trained in Japan with Dr. Suzuki himself. With her second teacher, Cassie was more immersed in aural-based learning. Cassie recalls:

> I think I learned how to read first. Then after my first year I went to my first real Suzuki camp and I was the only one who had music up on the stand. And I realized, obviously, this isn't the norm. That's when I switched to a real Suzuki teacher. So I think that's when I got more of my ear training—with her. (I.3.7)

Cassie currently teaches private students in addition to her school assignment. She incorporates Suzuki methods in her private teaching. Cassie talks about her private teaching beliefs and practices:

> I mainly teach Suzuki. I supplement with other things. I try to do what the students like to do, what they enjoy doing. But I like the Suzuki program. I like the ear training. I try to get my students just to do that. (I.8.16)

Wendi incorporates teaching practices similar to the Suzuki method—especially the ear training. As part of her curriculum, she teaches her middle school orchestra students fiddle tunes using a listen-and-play technique. Wendi believes that there is much musical value in learning to play by ear and in memorizing music—both foundational beliefs in the Suzuki Method. When asked about how her students do with learning by ear without reading the printed music, she replied:

> They do okay; pretty well. And I told you in the last interview that I was a Suzuki kid so I can see the value in having to think about music that way, too. They don't use [notation]. I mean when you're first starting to play, you're not reading music. So it's kind of nice to bring that [skill] back. Then you can focus on other things if you're not trying to read the music. (V1.9.16)

Marlene started playing violin at age six—but she received Suzuki training in a small group class at her elementary school. Marlene talked about the experience, "I started playing [violin] when I was in first grade because at the school that I went to, the teacher was interested in teaching Suzuki. . . . He was a violinist and he decided to start the Suzuki program in first grade" (I.1.4). Marlene was a good student and advanced rapidly through the Suzuki levels, progressing to advanced playing techniques. But Marlene did not learn to read music notation until she was in fourth grade when she joined the regular orchestra students who were starting in the beginning orchestra class. Marlene began reading music with her inexperienced peers, "note names, finger numbers, gradually moving us into reading music" (I.1.4). But she was frustrated because she had to repeat all the beginning songs like *Twinkle, Twinkle Little Star*, when she was technically already performing violin concertos.

Much later, in her teaching practice, Marlene understands the frustrations of advanced players in beginning classes and empathizes with those students. She explains,

"So that's why, I think, I incorporate *some* Suzuki concepts, but not a *whole* lot, because I kind of had that mixed background. Well, it was kind of cool, but, I really feel like kids should start reading music as early as possible so they can do reading *and* playing" (I.1.6). In her practice, when her middle school orchestra students get a new piece of music, Marlene believes her students should sight read the piece *before* listening to a recording. She explained her process:

> Usually, the first time when we play something [new], we'll sight read it a little bit and *then* I'll let them listen to it because I want them to *not* hear it first. And then usually when they're walking in (if I have time) I'll put on [a recording] of the pieces; like going through [the pieces] so they keep hearing them, so they're listening. Hopefully [they will hear] the right notes and the right rhythms. (V4.9.26)

Although five of the teacher participants in this study had experience with or exposure to Suzuki-style pedagogy, whether or not they utilized those pedagogical techniques in their practice depended on the individual teacher's personal beliefs and priorities. This demonstrates the complexity of the relationship between the sources of teacher beliefs and the beliefs and practices of individual teachers. Pajares (1992) pointed out that the earlier a belief is formed, the more resolute it becomes, perpetuating a circular pattern of beliefs, directed perceptions, behaviors, and beliefs again. In this study, some of the teachers' Suzuki experiences began in early childhood, as young as age four. Buehl and Fives (2009) noted that the sources of teacher beliefs can include formal education (like private lessons), observational learning, and personal teacher experiences. This could account for the wide variety of Suzuki concept application in this small group of teacher-participants.

Influence of School and Community-based Ensembles

Cassie's experiences with her public school music teachers were very positive. She had many private teachers and some very good orchestra teachers in high school and college. Cassie was inspired to become a music teacher because of early experiences with her first high school orchestra teacher. She talked about her high school orchestra-teaching inclinations:

> I feel like my high school music teacher was the one that convinced me to do music ed just because he was a band teacher teaching orchestra. He was great. I really liked him as a person. But he was usually asking me for suggestions of how to do things, or how to tune instruments, or fingerings, bow strokes or whatever. So from then, my goal was to help build up orchestra programs and help make them stronger. (I.4.10)

Susan's elementary school and junior high school mentors were the source for many of her teaching beliefs about pedagogy and how to run her middle school orchestra program. Susan valued their expertise and experience so much that she adopted their beliefs and made them her own, modeling her practice after theirs.

Susan experienced early burn out in her undergraduate program and was planning to get out of music after she graduated. But her positive interactions with former school orchestra teachers encouraged her to come back to music education, finish her teaching credential, and begin teaching in the middle school orchestra setting. Susan talked about these exemplary former teachers:

> My junior high orchestra teacher called me. She was teaching at [a local middle school] and she said, "I need some help. Will you come and help me part time?" So the district hired me part time under an emergency certificate. And I started working with her. . . . I feel like *that* was my student teaching because I was teaching half time with [one of my former teachers] and half time with [another]– both just amazing teachers. So, I worked with them. . . . Then when [one of them] retired, I took her job there and finished up my certificate. (I.2.7)

Wendi participated in various youth and community orchestras as she was growing up. She recollects, "We just had wonderful, wonderful conductors–every single group that I was in. The conductor of the youth symphony, which was the top one, is still there. . . . They were just wonderful, thoughtful people who were in charge of the programs I got to be in. It was a good place to be" (I.4.11). Thus, her early music teachers and conductors helped instill in her a personal belief in the value of music in a person's life.

Wendi also attributes her private and public school teaching success to the many good teachers she encountered as she was growing up. They were positive role models for her. Wendi commented about learning from her own teachers:

> I think that I've had so many good teachers, specifically in music, but also in all sorts of areas, that just getting to see good teachers in action helps you out. And you know, they always say, "You can learn a lot from a bad teacher, too—what *not* to do." But that's not that helpful. I really think that the more you get to be around good teachers, it wears off on you—even if you are not trying to copy it. (I.12.28)

Mark first considered becoming an instrumental music teacher because of positive experiences with high school teachers both in band and orchestra. He talked about his career decision to go into music education:

> High school is when I had been doing both instruments for a few years already. And I had had some inspirational teachers and directors. I had been playing long enough and was at a skill level where I was kind of a section leader and was already running sectionals, or teaching others in some way. I was interested in it and it kind of came naturally to me. So it was in high school that I began thinking about pursuing music education. (I.2.10)

Mark's band and orchestra teachers were influential in the teacher beliefs he eventually espoused. Many of the techniques and practices he uses now with his own students were gleaned from his high school teachers. "I like to think that all the music

teachers and conductors I've had while I was growing up, I was kind of storing their techniques and little bits of what they would say. And that echoes in my own teaching. I'll find myself saying things that my previous directors had said" (I.2.9). So Mark seems to model his teaching on the practices of his former mentors; some of their teaching practices became a source for Mark's own future beliefs and practices.

Orrin had wonderful musical experiences in summer music camps. He loved participating with the various groups. He described his exposure to fine ensembles, "Mom and Dad sent me to [a big music camp in] Colorado on the reference from my [private] teacher, because *he* taught [there]. It is a place to go. You talk about all the musicians from all over the world—venture out [at that place]. It's just like a conference" (I.3.10).

However, Orrin did not have a positive experience with a string teacher he encountered in elementary school. This teacher told Orrin that he would *never* be successful on the violin because of his race. This negative experience served as an impetus for Orrin to prove this teacher wrong. Orrin explained his reaction to this potentially damaging influence, "I don't like to lose. And if I do, I will use it as a learning experience. I blame it on that man. He told me what I could and could not do. I don't know whether that was right or wrong" (I.10.44). Reacting with determination and grit, Orrin fixated on improving his violin-playing skills, practicing rigorously and pursuing his love for violin music with three supportive mentors: his private violin teacher, his middle school orchestra teacher, and his high school orchestra teacher. Orrin fondly recalls, "*Those* three people *nurtured* me" (I.6.25).

Marlene had several violin teachers. Her first teacher started her on études, shifting, and solo repertoire along with some Suzuki repertoire. In high school, Marlene started taking private lessons with a professional symphony violinist who was a more serious teacher. He introduced her to more advanced techniques and scales. This teacher encouraged Marlene to audition for a scholarship at the university. She was awarded the scholarship and ultimately decided to go into music education.

Marlene noted that as a student she responded best to teachers (in both private lessons and school classes) who were up-beat and encouraging rather than negative and critical. Marlene's own teaching now reflects this preference for the positive. The following quote is an exchange from her final interview:

> Valerie: You give the students a lot of positive feedback and positive reinforcement, like, "I like the way you did such and such," or "I really loved it when you did, fill in the blank," or "That was awesome because . . ." So did you develop that kind of a positive teaching style over time? Or did you always do that?
>
> Marlene: I think I always did that. Just from my personal experience, I always felt like I did better when there was a positive role model teaching, or a positive interaction with the teacher, or a positive interaction between students. So, I always felt like I want [to teach] that way. (F.18.44)

The high school music teachers and directors of youth orchestras and community groups were highly influential in the teacher participants' determination to initially become orchestra teachers and in the development of their teaching style. Legette and McCord (2015) suggested that students enrolling in teacher education programs often decide to pursue music teaching as a career after having identified with high school music teachers, admiring their professional role. "As the result of spending thousands of hours observing teachers during their pre-college years, students may have already formed

expectations of what a music teacher should know and be able to do before beginning a teacher education program of study" (Legette & McCord, p. 164). The teacher participants in this study acknowledged that their former music teachers served as role models of music educators and as catalysts for involvement in and dedication to music education as a career, shaping their beliefs about self and being a music teacher.

Influence of Preservice Music Education Classes

Teacher education research has shown that preservice teachers perceive that the student teaching requirement is their most influential educational experience (Duling, 2007; Haston & Leon-Guerrero, 2008; Legette & McCord, 2015). Student teacher mentors had an influence on the beliefs and practices of the participant teachers in this study, as well. During their collegiate student teaching, Susan, Wendi, Mark, and Marlene all had exemplary mentor teachers whom they highly esteemed.

Wendi majored in music education in her undergraduate program at a small state college where she was actively involved with performance majors in the university symphony orchestra; she was able to refine her violin playing skills more like a performance major. Wendi had many performance opportunities as well as opportunities to learn to teach. She described her college experience in String Project:

> My junior high school orchestra teacher was the mentor for the String Project there [at the university]. And so she got me involved with that. And through that, I ended up switching to music education. So it's all her fault! But it was a good switch. And I don't know—that wouldn't have happened if I hadn't been in String Project. But it was a good experience, and the professor who was in charge of it was just wonderful, and the mentor teacher was good—it was just a good group of people. It set me up to enjoy doing this. (I.2.8)

Cassie had a different experience in her undergraduate student teaching. Although she said that she enjoyed her interactions with students in her student teaching placement,

Cassie learned what *not* to do from her student teacher mentor. Because of his negative approach toward his students, Cassie made up her mind that in her own teaching practice she would *not* deride students the way her mentor did. Cassie also had specific string-teaching experience through a Suzuki teacher education program. Cassie talked about teaching in that program, "It was a great teaching experience for me. You had a mentor teacher so you had to go and observe them teach. I had some great teachers that I watched" (I.20.45).

In contrast, Susan's undergraduate teacher preparation was not particularly influential to her teaching. By the time she graduated in music education (without a teaching credential) she was burned out on music and took a job in the law field. Only through the encouragement of her former junior high teacher mentors did Susan get back into teaching music, complete her student teaching under an emergency teaching credential, and acquire her teaching certificate.

Mark had good musical experiences in college. Mark's advisor allowed him to do his student teaching in a placement where he was exposed to many different teaching environments and levels. He was able to work with exemplary cooperating teachers in both band and orchestra. Mark recalled the following about his mentor teachers:

> I definitely learned a lot from my student teaching, especially because I had such a broad spectrum to which I was assigned. Being a band and strings person, they assigned me to both band and strings. So I taught high school band and jazz band at a high school in one school district, then I taught elementary through high school orchestra in another school district.
>
> I worked with some really, really good teachers that taught me a lot. I actually worked under at least four different teachers. I had two main teachers I worked with, but at one high school where I did band, there was also a part time orchestra teacher, so I worked with him as well. The schools where I did orchestra, there was a co-orchestra teacher so I worked with her as well. So it was really a good experience for me. (I.3.11)

One of Marlene's college professors was especially influential in her undergraduate university music program. Because of his step-by-step technique of teaching rhythm counting, Marlene felt that she became a better musician, and developed teaching beliefs and priorities that are evident in her teaching approach today. Marlene talked about her college experience:

> Interestingly, I was never really taught to count [rhythms]. I learned quickly by ear. And so that was a big thing. When I got into college, I seriously did not know how to count. So my third year of college—that's why I loved [this teacher]—he pulled things apart and explained exactly, "This is how you count it. This is where the beat falls." He just ripped everything into little tiny chunks and then put it together very musically. So, I think he would be the one, I would say, I would emulate the way he taught and how important it was to know how to count. I struggle with [rhythm], even now. I have to think first about how to teach counting just because I just don't have such a really strong background in it, for so many years. (I.4.12)

Undergraduate university professors and student teacher mentors influenced all of the middle school orchestra teacher participants' teacher beliefs—in either a positive or a negative way. Conway (2002) found that preservice teachers perceived student teaching to be one of the most valuable aspects of teacher preparation programs at large universities. She also noted that preservice fieldwork experiences, such as internships and observations, were valuable to new teachers. In her study, university studio teachers were also supportive to new teacher musical growth.

Similar to Conway's findings, the teacher participants in this study did not emphasize teacher education classes. In their view, teaching experiences and applied lessons were much more influential. In her study, Conway's participants opined, "that the fifteen credits taken in the College of Education were not useful for preparation for the first year of teaching" (p. 32). Conway suggested more transparent communication

between music teacher educators and teacher educators from the College of Education to meet the specific needs of preservice music teachers.

Section II – Influence of Contextual Inservice Experiences on Teacher Beliefs and Practices

Inservice experiences, both from the school site and from ongoing teacher development, can confirm, build on, challenge, or override teacher beliefs. Contextual classroom experiences and inservice professional development classes have an impact on teacher beliefs and may influence teachers in enacting their practice (Levin, 2015; Nespor, 1987; Pajares, 1992; Russell, 2008, Tabachnick & Zeichner, 1985). School cultures created by common teacher beliefs and shared determination can enable teachers to facilitate school-wide student growth (Tschannen-Moran et al., 2015). In Section II, I will address research question 4, "How do inservice classroom experiences and professional development influence teacher beliefs and practices?" by examining the middle school orchestra teacher participants' reactions to inservice professional development as well as contextual challenges that impact the participants' teacher beliefs and practices.

Influence of Inservice Professional Development

Several teachers in this study chose to improve their teaching and performance skills by pursuing master's degree programs, either right after their student teaching, or after a few years of inservice teaching. Some also voluntarily participated in string teacher workshops and independent online research. Additionally, as inservice teachers, credentialed teachers in this state are required to have a certain number of professional development hours to maintain their certification. The teacher participants were eager to

pursue their professional development in string-related classes, rather than non-music-focused professional development courses for general classroom teachers. I talked with the participants about how their chosen inservice professional development influenced their teacher beliefs and practices

To refine her instrumental technique, Wendi pursued an advanced degree in violin performance. She talked about moving to the southwestern United States for her master's degree program and the influence that those teacher mentors had on her teaching beliefs:

> I knew [my master's degree professor] from a summer music festival in Colorado where I had been a student and a staff member. And I auditioned at [the university]. So I [moved there] and did my masters in performance. I was his teaching assistant—which is great, too, because he is a fantastic teacher and he's really about kind of breaking everything down to the fundamental building blocks and then building it back up, technique-wise. And so, getting to be a student of his was great, but also having to teach his students *his* ideas, was really, really helpful for me too. Being able to put everything into words and help someone else do that, you know, was great. (I.5.12)

Even though she has been teaching now for eight years, Wendi continues to look for ways to improve her teaching. She is open to learning new ways to help her students, especially in refining her practice to more closely enact her teaching beliefs.

Orrin is also willing to change his practice and beliefs to improve his teaching and the musical growth of his students. Orrin sought out professional development to help with classroom management and literature selection through the state music educator association annual conference—where we met. Orrin commented in our initial interview, "That's why I came here to the conference" (I.7.30).

In his new position after his rural school district job was discontinued, Orrin set learning goals for himself in the areas of organization, planning, and rhythm teaching. He is always on the lookout for new strategies to become a better teacher.

Although she is not yet required to earn professional development hours because she is in her first three years of teaching, Cassie voluntarily seeks out ongoing teacher education. She is still solidifying her beliefs about what is important to her in her teaching. Cassie enjoys attending summer workshop and university professional development classes to find new teaching techniques for her students. She says, "I love going to Suzuki camps just to learn and observe the teachers—both Suzuki camp and some of the [university] classes in the summer time. I really love those. I feel like you're never too old or too good to keep learning. You can share ideas—and I really like that" (I.19.42). Additionally, Cassie pursues online research to expand her teaching strategies. She talked about one junior high orchestra teacher she found online, whom she admires:

> I have been following Angela Harmon, her blog. I don't know if you've heard of her. She's amazing. She's a teacher in Utah. I just found her Googling some things online. I really appreciate things that she does. It seems like she really tries to make it fun for her students. She tries to do a lot of different activities. I try to have some of that in my orchestras. She teaches a junior high in Spanish Fork. Her program has grown exponentially since she's been there. She has huge, huge groups now. She seems fantastic, just learning from her online. (I.18.38)

Research is beginning to emerge on the positive effect of online professional development, utilizing resources such as pod casts, blogs, and Facebook groups. In their 2014 study, Zandi, Thang, and Krish suggested that blogging has become a medium for collaboration and sharing knowledge. In remote geographical areas as well as in unique educational niches, blogging can reduce teachers' feelings of isolation and create a problem-solving community by "providing a suitable environment and support for teachers" (p. 535).

Teacher education programs, both preservice and graduate school, have been shown to be persuasive in establishing teacher beliefs (Duling, 2007; Haston & Leon-

Guerrero, 2008; Legette & McCord, 2015). After they had been in the field, the music teachers in my study chose to expand or refine their teacher beliefs by taking continuing education classes, workshops, and online research to improve their practice.

Coping with Lack of Administrative Support

Cassie comes from a smaller district where she teaches all three levels of orchestra: elementary, middle school, and high school. Her district has no written strings curriculum, and her elementary program for fourth and fifth grades consists of early morning classes several days a week where parents from students at several schools drop off and pick up their children before the school day begins. Cassie perceives that the strings program is not a high priority in her district. She said that her teaching is formally evaluated only at her high school, and that the elementary principals did not attend any of the student concerts. She said, "I think half the time they don't even know that I exist, to be honest" (F.3.6). She had very little interaction with administration and was frustrated because she had no one to turn to at the administrative level for questions about her program. She says, "That's OK, but I just don't know what my expectations are—I guess to put on concerts. . . I just felt like I could do what I wanted. That was nice" (F.3.7). So Cassie set up her own curricular expectations, and the learning goals she created for herself served that purpose.

Discussing the influence of school leaders in fostering collective beliefs and shared norms, Tschannen-Moran, Salloum, and Goddard (2015) noted that school leaders set the tone and levels of trust and professionalism that create a culture of collective efficacy at a school site. They explain, "How teachers perceive and respond to the actions and attitudes of their leader will influence their own behavior and attitudes" (p. 310).

Strong leaders who listen to their teachers and encourage collaborative teacher efforts can foster a positive school climate and improve on-site student achievement. In contrast, when teachers do not trust their principal, they may "devote their energies to protecting themselves from anticipated harm" (p. 310). In Cassie's case, not knowing the expectations of her principal(s) and not feeling support for her program has led her to create her own curriculum and set her own expectations, hoping that those efforts would make her program strong enough to earn a status of legitimacy. With more district support, Cassie could have put more time and effort into establishing her teacher beliefs and aligning her practices to those beliefs rather than worrying if she would have a program or a job in the future.

Maintaining Student Dignity while Using Poor Quality Site Instruments

Susan has strong beliefs about maintaining positive student self perceptions. Within her large, Title I classes, the majority of Susan's students use a site-provided instrument. To provide opportunities for all students, over the years her site administration has purchased many low-quality instruments. During a videotaped class, two instruments broke during one class period. We discussed the incident during a video reflection interview:

Valerie:	They're playing and you're talking. Then you just hear—crash! You walk over there while still talking to the kids.
Susan:	A student dropped her instrument.
Valerie:	But I was just shocked—it just didn't even phase you! You just kept on teaching. There was no big, "Ugh!" Nobody gasped. So tell me, what are your thoughts about this? I saw it happen again at the end of class with a cello or something. So does that happen often?

Susan: Yes, I tell the kids at the beginning. I prepare them for things that will go wrong with their instrument because what we found is kids were gluing bridges onto the instrument and dad was trying to fix what happened. And so I prepare them at the beginning. I say, "Your bridge is going to fall off and it's okay; that's what happens. Your strings are probably going to break sometime; that's another thing that happens. Don't *help* it happen. Of course we talk about instrument care.

But again, I think that I don't react unless something really [bad happens]. Even, you know, when I've looked over and I see an instrument just demolished, I don't react, because then the kid reacts, and then I usually have tears. Then it usually, you know, becomes an emotional issue and I hate taking time away. Now sometimes I'll fix it and sometimes I won't—depending on what we're doing. If I'm in the middle of direct instruction, I'll just say, "You're going to have to hold onto that." Or I'll say, "Put it in my office; I'll fix it after class." I don't always fix it in the middle of class; it really just depends. So if I can have them playing and I'm listening and I can fix the bridge really quickly, then that's what I do.

Valerie: Just pick it up and go for it.

Susan: I think it makes the kid feel better. You know, sometimes, I think I've lost that emotion because, I think, I used to care a lot and now I think, "Don't worry, it's gonna be fine." You know? Because they, of course, especially if it is a school instrument, they see it break and they think, "I'm gonna have to pay for this!" It just becomes a whole emotional issue. But if I can fix it really quick, and they're fine, then we move on. That's what I do. (V2.9.15)

Susan's beliefs about maintaining student dignity and class camaraderie are held as a higher priority than maintaining the school inventory of inexpensive instruments. This is an example of Susan's beliefs guiding her practice, in the face of contextual problems.

In our initial interview, Susan discussed her frustrations in her current teaching position at the Title I middle school. She expressed an interest in teaching high school instead. She elaborated on her rationale for seeking a change in employment:

> At the end of the year I'm probably going to start looking at high school [positions] for different reasons. Probably the biggest reason is I'm tired of teaching *how* to play. The sixth graders are just, you know. They used to be my favorite class and I used to *love* teaching how to play. And then, I don't know, now I just love my chamber [group]—just being able *to* play. So I think if I have to teach "Serenata" or "Hot Cross Buns" one more time a year . . . or just face a pizza wrist (poor left hand position) or just all of those things. It just gets so tedious. I think that I'll start looking, I don't know. I'm very picky because I am spoiled rotten at this school. [She has a big classroom—the former shop room.] I don't want to go into a position where I need to develop a program. (F.8.14)

A year after the conclusion of the data collection portion of this study, Susan changed positions from her middle school to a high school position in a neighboring district. Russell (2008) suggested that job demands and contextual influences on music teachers may make enacting their personal teaching beliefs a challenge. These teachers may choose to change positions or abandon music teaching, altogether. Gill and Hardin (2015) stated that "Emotions can serve to strengthen or undermine pre-existing teacher beliefs, especially when policies affect teachers' competence in their own classroom. School reforms that put perceived restrictions on resources can create negative beliefs about school/state policy" (p. 241). Susan's perceived lack of support and her frustrations with the classroom contexts at the middle school could have motivated her change of employment to a high school in a different school district.

Limiting Teacher Time Commitment

In choosing employment in the field of music education, Mark acknowledged that teaching high school would be fun—it would be more musically challenging than middle school, with great opportunities to teach great music. But he recognized that teaching high school also requires an increased commitment of time and involvement. Mark commented, "[In high school] you have huge trips, and Europe trips, and fundraisers, and

meetings, and All-State, and parent meetings, and whatever—all these other extra things that I don't really care to do" (I.4.15). So he chooses to teach middle school orchestra, where there is more musical challenge than teaching elementary school, yet he is able to limit his extracurricular obligations to a manageable level.

Mark is intentional in his middle school teaching activities. He limits his school activities to their specific purpose and avoids taking on responsibilities that would take too much time away from his family. In contrast, Tschannen-Moran et al. (2015) state that to meet higher, more challenging academic standards, teachers may be called upon to serve beyond their minimum contractual performance duties to motivate students to "extend themselves and to give their very best at school" (p. 311). Perhaps Mark feels that the extra orchestra activities were not that important, or that the goals of his program were focused on in-class activities. Mark's beliefs are not explicit, but his practices reflect different priorities than some of the other study participants (Buehl & Beck, 2015).

Dealing with Rehearsal Time Constraints

Marlene's district enacts an every-other-day schedule which was implemented in lean economic times for all elective classes at the districts' junior high schools. She is frustrated by the lack of time available to teach. In the interviews and video reflections Marlene continued to point out the need for more time to teach effectively:

> I really try to incorporate what a private teacher would do into my group teaching. And it has gotten harder as our time has become more limited at the junior high level. I used to really, I still do, focus on scales and arpeggios and try to go through the [method] books to some extent, teach technique, [and] make sure that they all understand everything that's in the book. I try to stick to that as much as possible, but I've found that it's gotten really hard trying to get them ready for concerts—you know [having classes only] every other day. (I.5.25)

Time is an ongoing restraint and challenge for Marlene's teaching. There does not seem to be enough time to do the extra things she did in past years, like listening to recorded examples (V4.9.25), learning fiddling or Klezmer tunes by rote (F.17.38), or doing fun activities in rehearsals (V4.17.47). Marlene observed, "It's so hard to cover the full curriculum when we keep having less and less time in our class period per week. It is impossible to really cover everything with fewer and fewer hours" (F.1.1). Marlene feels that preparing students for concert performances adds extra pressure to a limited rehearsal schedule and precludes covering a broad, skills-based curriculum. Marlene expressed her dissatisfaction:

> I felt that everything sped up so much that it was all about the concerts, all about the performance, and preparation for the evening concerts. Even though I had the goals set out for each quarter, like I had completed before, I more recently could not fulfill them. The first quarter, I think, I was able to, but then it was all about getting ready for the concerts and the festivals. So I really felt that the curriculum took a bit of a backseat from where it should be. (F.2.6)

Limited rehearsal time even affected the way that Marlene approached teaching; she likes to take a child-centered "discovery" approach to teaching, where students come up with their own solutions to their playing challenges. She teaches that way with her elementary students. whom she sees two out of every three days (elementary block program). But because the junior high classes are every other day, Marlene feels she does not have time to teach with this student-centered approach. The following conversation, recorded during a video reflection interview, reflected her frustration at not being able to teach in her preferred style:

> Marlene: So I think I really want them to consider *why* they're doing what they're doing, and *how* they're doing it—how do you actually physically *do* that to make it sound better.

Valerie: You ask them questions to get them to think about it and be mindful about their actions.

Marlene: Sometimes I feel it takes *so* much time—it's easier to just *tell* them.

Valerie: Oh, it does. But will they remember? That's the thing.

Marlene: Right. [They forget] And sometimes, depending on circumstances, I find that, at the junior high, I'll have to end up having to just cut through all that and say, "This is how you do it." There's never enough time. They take a long time. (V2.13.48)

Marlene feels that the every-other-day schedule puts pressure on her to be hard on her students. She still has deadlines to perform for quarterly concerts. "It was a push. I had to push them. And, you know, usually I can have a little more fun and I just felt like I was a drill sergeant. I don't want to teach like that. It's not the way I prefer to teach" (V4.17.48).

Marlene's frustration at the district's scheduling decisions was career changing. She decided to retire at the end of the year. She reiterated her views at the final interview, "It's that same thing—if we had [the students] every day, it would make a huge difference in our teaching" (F.18.41).

Like Susan, Marlene's personal decision to leave the field at this particular time was most likely due to the contextual factors that prevented her from enacting her deeply held teaching beliefs. As Russell (2008) observed in his article about the career plans of string music educators, teachers who "planned to take early retirement, retire, or leave music teaching completely and permanently for reasons other than retirement" usually did so because of contextual reasons: "stressful work conditions, extracurricular responsibilities, low curricular status, feelings of isolation, fears of budget cuts, or lack of administrative support" (p. 204). Given the difficulty that school districts encounter

finding qualified string teachers (Gillespie & Hamann,1999), Marlene's district could have ameliorated her frustrations by addressing concerns of all the string teachers in the district by reevaluating their junior high elective scheduling policies. Perhaps Marlene would have stayed with teaching for a few more years, lending her expertise to enriching her students.

Section III –Relationships between Teacher Practices and Teacher Beliefs

In Section III, I address research question 5, "What is the relationship between teachers' beliefs and their observed classroom practices? Teacher beliefs are intertwined with closely held personal values (Pajares, 1992; Skott, 2015). Teacher beliefs, imbued with value-laden priorities, influence action, or teacher practices (Rokeach, 1969). Through their practice, teachers will pursue the beliefs that they value most (Pajaras, 1992).

As Fang (1996) suggested, teacher beliefs are the underpinnings upon which teacher judgments and decisions are based. In examining the teacher participants' beliefs and practices, I found that it was sometimes problematic whether to classify a teachers' priority as a belief or as a practice. Practices were easier to recognize than the deeply-held core beliefs behind these practices. But referring to teacher belief researchers' definitions helped me to identify which ideas were beliefs and which were practices based on those beliefs. Nespor (1987) posited that teacher beliefs and belief systems help teachers define teaching tasks and problems by framing or putting into perspective the task or problem. She pointed out that teacher beliefs set up priorities for teacher practices, influence how teachers approach contextual classroom challenges, and shape how teachers define their teaching tasks. Therefore, in analyzing the teacher beliefs, I

considered what ideas were foundational to the practices that I observed. I also considered the teachers' direct reflections on their beliefs, as Levin and He (2008) suggested in their "teachers' personal practical theories" (PPT) protocol. In identifying the teachers' beliefs, it became clear that the beliefs set up the values that these teachers deemed important—what they feel they should teach to their students, and in their view, the best way to teach it.

I will next discuss teacher practices and their relationship to core teacher beliefs. As part of the analysis I identified six core beliefs that guided the teachers' practices in this study: beliefs about maintaining positive student self-perception, about their confidence in student musical independence, about developing student musicianship, about the importance of teacher/student relationships, about how students learn, and about the importance of student music making (Figure 6). Following a brief description of each core belief, I discuss examples of how these beliefs were enacted in the participants' practices dealing with pedagogy, middle school students and their orchestra programs.

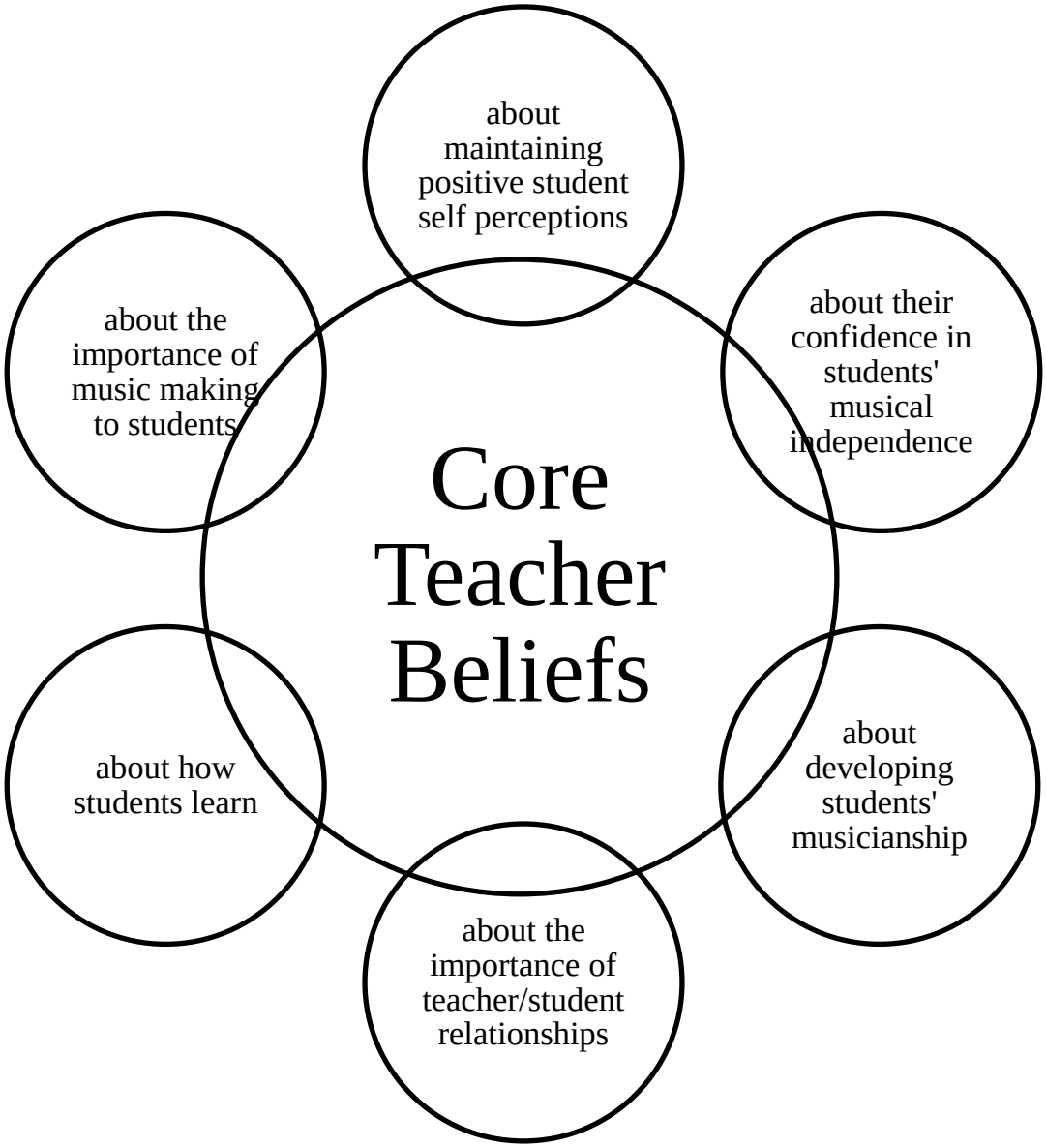

Figure 5: CoreTeacher Beliefs Model

Core Teacher Beliefs

Teacher practices noted in the interviews, observations, and teacher reflections in this study were grounded in these core teacher beliefs. Preservice influences, contextual factors, professional development activities and experience teaching within their practices may have served as sources for these core beliefs. Each of the beliefs in the model

describes ideas that are integrated with closely held and committed to values. The six teacher participants hold beliefs about all elements of teaching and these core beliefs are enacted in their choices of specific and individualized teaching practices.

Core teacher beliefs about *maintaining positive student self perceptions* involve teacher ideas that students should be extended personal dignity in the classroom. These beliefs shape teacher practices that prioritize student self respect; e.g., Wendi and Marlene both believe that they should not embarrass students in front of their peers, so they have their students do recorded individual assessments on an iPad in a practice room. Cassie and Mark relied on these beliefs when prioritizing individualized achievement/mastery goals rather than competitive performance goals in their class seating policies (R. Butler, 2007).

Core teacher beliefs about *teacher confidence in students' musical independence* describe teachers' faith in their students' ability to learn new musical techniques. Some teachers felt that middle school students are capable of learning particular musical techniques where others felt that the middle school students were only capable of being introduced to that technique. For example, Wendi and Cassie's practices reflected their belief that their middle school students are capable of tuning their own instruments, where Orrin believed that that skill was too difficult to expect middle school students to execute; therefore he mostly tuned the students' instruments himself. Teachers in this study with confidence in their students' musical independence (Marlene, Cassie, and Wendi) were more likely to foster student musical self-efficacy and as a result, their students were willing to try new musical techniques and take musical risks like tuning their own instruments, starting to use vibrato, and learning to play higher shifting notes.

Core teacher beliefs about *developing students' musicianship* address teachers' sense of which musical concepts they should teach their middle school students in order to be good musicians. All the teachers believed that they had a responsibility to develop students' musicianship; however, the participants' specific beliefs about what constitutes good musicianship for middle school students varied widely; for example, Wendi prioritized teaching her students to play by ear because that skill was essential to her beliefs about developing student musicianship; Marlene believed that playing by ear is in important element of student musicianship, but due to lack of rehearsal time to address this skill, she prioritized learning to read music and perform instead. Mark believed that his students should learn to compose music to demonstrate good musicianship, but none of the other teachers addressed this musical skill in their curriculum.

Core teacher beliefs about *the importance of teacher/student relationships* illustrate how teachers value a positive rapport with their students in the classroom. This belief is foundational to practices that demonstrate teacher dedication to their music students and appreciation for the opportunity to work with their students and their students' families; i.e., Wendi mentioned that she cares for her students and that positive teacher/student relationships are a significant factor in her decision to stay in the music-teaching profession. Cassie prioritizes her beliefs about the value of her relationship with her students over her beliefs about the importance of developing her students' musicianship; Cassie stated, "I care about the students more than, necessarily, the program or the concerts" (F.23.32).

Core teacher beliefs about *how students learn* are pivotal to the teachers' decisions about pedagogy and classroom instruction. Teachers in this study had diverse

beliefs about how students learn. This was reflected in their distinct practices regarding student motivation, such as student vs. teacher-led instruction, a practice record requirement, or the purpose of assessments. However, some beliefs about how students learn were shared among all participants of this study, such as the importance of teacher modeling as a musical role model.

Finally, core beliefs about the *importance of music making to students* reflect the importance of student performance for some of the teachers. The practices of carefully selecting student literature and the priority each teacher placed on formal concert performance both depended on the teachers' beliefs about student music making. These beliefs were also foundational to teacher practices such as recruiting, and giving students music making opportunities in orchestra classes. Reflecting a common belief that making music, itself, is the primary motivator for middle school students to select orchestra as an elective class, the teacher participants all held strong beliefs about the importance of music making to students in their classes.

The following section offers examples of the participants' practices and suggested foundational teacher beliefs that motivate those practices concerning their pedagogy, their students, and their orchestra programs. Sometimes their practices could be an expression of more than one underlying core belief. In other instances, the teachers may hold multiple beliefs, but prioritize one belief over another, reflecting their reaction to contextual factors. The core beliefs are shared by the participants to varying degrees.

Teaching Students to Tune String Instruments

Cassie, the least experienced teacher of the study participants, is still experimenting with her pedagogy of teaching students to tune their own instruments.

When I first interviewed Cassie, her goal was to get through the tuning process more quickly during class time. She explained, "Tuning seems to take a while at times. That's one of the things that I want to get better at—how to help [my students] to tune themselves; how to get faster at it" (I.11.24). Cassie's tuning-teaching practice, as well as her continued experimentation with procedures, demonstrates a strong belief in her confidence in her students' musical independence to tune their own instruments.

Cassie has tried having the students use electronic tuners or tuner apps on their cell phones or tablets. She talked about her thought process about various ways to teach her students to tune their instruments:

> Two days a week I had them put an app on their iPad or phone. And I just say, tune up yourselves using the tuner. And that just saves me some time so I can get other things ready or go around helping people. It just takes the pressure off me and they can do it themselves for the most part. The other three days a week, I had them tune themselves and I tuned the cellos first and then had them play their strings while I helped the violas and seconds, etc. Sometimes I will tune myself and I will just play the drone. I'm still experimenting how to do it. (I.15.35)

Later in the year, Cassie went back to having her students use their ears to tune their instruments. She said, "I found that it was hard to then put [the phones] back into the backpack. It became a distraction. So I just felt it better to [say,] 'We're not going to use electronic tuners,' so now I don't use them" (V4.12.15). She is still trying out different tuning strategies, such as using the piano or students as a drone, and is open to suggestions from more experienced colleagues.

Cassie occasionally gets frustrated by students who do not listen and adjust their open strings during tuning time. She thinks they get lazy and just go through the motions. Cassie says, "I think there are some times they just play the 'A' because I tell them to . . .

and when I actually have them go pair by pair, that kind of thing, it's like, 'Were you listening? That wasn't sounding right'" (V4.12.15). Cassie described her process:

> I try to just give some general instructions in the first quarter or so. I've thought about how I probably need to spend more time helping them learn how to tune. I feel like, again, it's my impatience level; I just want to start playing.
>
> I make them use their fine tuners, for sure, but if it is obviously badly out of tune and [the student's instrument] needs to use the peg, that's when I usually jump in. I don't know if I should start teaching them to use their pegs at this age but I feel, if they're ambitious, they start, on their own, learning how to use the pegs.
>
> But I'm impressed, I'd say five to ten of them *do* use their pegs and they're comfortable, but I didn't really teach it. They just listen. If they are not wanting to pursue it, I don't pressure them, but I have them use their fine tuners. (V1.2.1)

On one video Cassie is having her cello and bass players tune to the piano reference pitch. She asks them, "Sing it in your head." She explained to me that she doesn't know why, but her students will not sing aloud for her, but that singing might help them. "I'm just hoping that they'll actually hear it because I think sometimes they start playing their string before they actually listen to the piano; to the pitch that's given" (V4.11.15). Cassie's ongoing experiments with various strategies show that she believes that students can develop musical independence in listening and tuning their own instruments, if she can discover the best method for helping them learn.

Cassie's tuning pedagogy concurs with Hopkins' (2013) research about middle school teachers' beliefs and practices in teaching their students to tune their own instruments which says that middle school string teachers formally taught tuning more often than elementary school string teachers and that many teachers believe that students should achieve tuning independence sooner than they reported that their own students actually achieved that independence. Skott (2015) suggested that inexperienced teachers are just developing their belief system and are still in an unstable mode of establishing

their own practice. As a less experienced teacher, Cassie is investigating different tuning techniques and developing her practice in deciding when and how to teach her students to tune their own instruments. As a core belief, Cassie feels that teaching her students to tune their own instrument is a vital aspect of developing students' musicianship. When teaching his students how to tune their own instruments, Orrin explains the process of using the fine tuners, but he does not have them use their pegs (Hopkins, 2013). He explains, "If their "D" is out of tune, I'll come to them and tell them, 'Turn [the fine tuner] clockwise or counterclockwise. . . You start with the pitches that you want; [determine] whether the note is sharp or flat. You know, don't turn the peg, because it's kind of hard'" (F.3.4). Still, Orrin is doing the listening and students are responding to his tuning direction, "Until the child knows how to actually, physically do it, you have to help them out, yeah. That's a hard thing" (F.3.6). So it seems that Orrin recognizes the need for tuning, but assumes that responsibility himself, rather than holding the belief that he should teach the students to tune their own instruments. Perhaps he believes that his job is to introduce this skill rather than to expect that level of musicianship from his middle school students.

In my classroom visit, I observed Orrin use a keyboard to generate a tuning pitch. He calls his tuning/warm-up procedure "Around the House" (I.1.1). Orrin has the first student play half notes on each of their four strings, descending and ascending. Then the next student does the same thing, keeping in time with a drum track background from the teachers' keyboard; "They pass the sound. It's just like passing a ball, throwing a ball. You pass the sound to the next person" (F.2.1).

I noticed that during the "Around the House" tuning, Orrin kept adding students in rhythm, even if their strings were off. He did not stop the exercise to make sure the out of tune students fixed their strings. Therefore, several students' instruments remained out of tune. The students didn't catch it, and Orrin was busy tuning other instruments. Orrin never got back to those out of tune instruments because of the continuous nature of the warm up—student to student. Orrin says he believes that good student intonation is very important (an aspect of student musicianship), but he missed tuning several badly-out-of-tune instruments, so good student intonation was compromised. It seems that his "Around the House" procedure did not allow students to stop playing so he could identify and address individual out-of-tune instruments. Orrin's tuning procedure may work well if only a few strings are off, but with many instruments out of tune, it is hard to keep up with tuning while the next person is playing their strings without stopping. In the observations I made of Orrin's classroom, this stated pedagogical belief was incongruent with his observed practice.

It is not clear why Orrin's belief and practice were not in alignment, but Fives et al. (2015) suggest that teachers often manifest multiple beliefs in one practice; that they "blend extreme perspectives or shift beliefs based on the salience of the task" (p. 256). Therefore, Orrin may be prioritizing completion of his warm up procedure over the precise tuning of each student instrument. Or it might just have been a mistake or oversight. Fang (1996) states that "Complexities of classroom life can constrain teachers' abilities to attend to their beliefs and provide instruction which aligns with their theoretical beliefs" (p. 53).

Teacher Modeling

Several teachers' practices involved modeling to show good musical examples for their students to follow. Modeling, as a practice, is a reflection of a core teacher belief about how students learn. Wendi stated in her interviews that students need to both *hear* and *see* a correct model to learn how to read and play accurately, clarifying her core teacher belief in the importance of student musicianship, as well as her beliefs about how students learn. She explained her pedagogical practice prioritizing teacher modeling:

> I think part of it is to help figure out what the written music is supposed to sound like but I've always done a lot of modeling, just all the time. But I think recently I've noticed that a lot of kids who have weird posture—even if you're not bugging them about it over the course of the year—after *seeing* someone who has good posture, they slowly just come over to your side. Whenever they are seeing me [model good posture], they start doing it too. So the more I can be playing, I figured, being careful to have a balance so I'm not stepping on their toes and somehow keeping them from learning on their own, [it is important to] have a good balance so they're *seeing* someone who has good posture and *hearing* good tone—so they know what they want to sound like. (V1.11.18)

Wendi has put a lot of thought into why and when to use modeling in her teaching. She realizes the importance of a good balance of modeling and conducting, to allow students to have the skills needed to play correctly, but enough independence to watch the director. She believes that her students can develop that musical independence over time. Wendi explained her inner musings more thoroughly:

> [I ask myself] "Am I playing with them too much? Do they need to have more experience playing with a conductor?" Then, I think just what we're *really* working on is having that steady tempo, playing with each other, and playing the right notes and rhythm and I think I can help them as they're playing by playing with them *more* if I'm doing that than if I'm conducting, especially with the tempo thing. They're pretty good. If they *hear* someone playing the right tempo, they can play with you. Then we can work on watching-conductor skills as we get closer [to the concert]; that's really hard to do. So I think it's more effective use of our time if I'm playing with them as long as I don't do it too much. (V2.17.25)

Another risk Wendi wishes to avoid by playing with her students too much, is not being able to hear and diagnose their mistakes as they are playing. She explained, “The other problem is when I’m playing [with them], especially on a violin, [my own sound is] right in my ear so I don't hear them as well. So I have to make sure I have a balance, so I know what they're doing” (V2.17.25). So by continuing her modeling practice, Wendi demonstrates her prioritized belief in how students learn by watching a competent teacher model.

Similar to Wendi, Mark models for his students on his viola to demonstrate the musical style he wants them to imitate. He often plays troublesome passages more slowly for his students so they can hear the part played correctly. His teacher modeling also serves as an example of correct intonation. Mark explained his practice of teacher modeling, “I feel like it helps them, especially with scales, to know what the target is for intonation. I try to give a good example; it just helps push them along as far as intonation goes” (V2.16.20). Mark’s practice reveals his belief in how students learn.

Mark models both positive examples and non-examples for his students, as he plays for them on his viola. His practice involves demonstrating in-tune notes and out-of-tune notes and having students differentiate between the correct and incorrect notes. He explained his practice, “I really believe that they can hear the difference when they really try. And I try to have my students get inside of their own head and really listen to the notes” (V4.16.21). Like Wendi, Mark holds a core teacher belief in the importance of developing student musical independence. He commented on his modeling, “[I play with them], sometimes to an excessive point that they then become dependent on me playing.

Then I have to be like, ‘Oh. Okay. Nope, I can't play with you. You guys have to do it on your own. You need to be leader; *you’ve* got to do it’” (V2.16.21).

Mark expressed a belief about how students learn that stood apart from the other participants. His musical background in both string and wind instruments has given him a distinctive view about teaching string technique. He feels that string players are uniquely qualified to teach orchestras at the middle school level. Mark explained why:

> I’ve become an orchestra snob in that it really irks me when I see non-string specialists get hired for orchestra jobs, especially at the middle school level. I've had different conversations with people and gone back and forth on where is it acceptable to have a non-strings person. Where is it okay? What type of person does it take to not be a string expert and still do a really good job? I've seen people who came in and they don't have any kind of strings experience but they still do a really amazing job somehow. But I think middle school is a hard place to do it.
>
> Elementary school is pretty basic; you just go through a [method] book one and it basically shows you how to teach it and how to do it. You don't need a lot of planning. In high school, the kids are old enough to kind to figure things out themselves or take instructions or teach each other things like that, but middle school you don’t have any of those options. [Middle school] students just have things they need to learn and it’s going to take more experience than just going through the basic method book—and they can't necessarily figure it out for themselves or teach each other yet.
>
> So I’ve come to think of it as being a really important time. Being a violinist, being a strings player, and having done it for my entire life (practically), I feel that's where [string] people are really needed. (F.15.32)

These anecdotes demonstrate the participants’ teacher belief that students learn best through teacher modeling; therefore, it is important for string teachers to be competent performers on string instruments. In his article in professional journal, *Strings*, VanDemark (2017) suggests more values of modeling as a pedagogical approach, “After watching a few examples of this modeling. . . I soon realized that far from learning how to imitate, I was learning a process of quickly integrating physical gesture and musical

judgment, building confidence and creativity one small step at a time" (p. 56). All the participants in my study feel teachers should model for students as an important pedagogical strategy because they believe that that is one way students learn.

Teaching Good Intonation

Like many music teachers, Marlene values her students' ability to play in tune, which is a different skill to teach than independently tuning their instruments. She believes that her students can learn to listen and adjust their fingers, reflecting her confidence in her students' musical independence. Over her teaching career she has utilized a variety of pedagogical strategies to encourage them to play with good intonation. Marlene tried using black fingerboard tape markers for her students, but changed back to colors. She explained why, "I always had the black tape to put on if the kids wanted them, but I found that the kids who really needed them couldn't see them well enough. So they would play out of tune anyways. So I always had a set of red, white, and blue [pinstripe tapes]" (F.15.33). Marlene went through a period when she tried no fingerboard markers for her students, requiring them to do more listening and adjusting, but found that using the tapes was more expeditious for students who need intonation help. Marlene commented on her practice of teaching her students to play with good intonation:

> I realized that that was not helping them. I had kids who were playing out of tune, and getting *used* to playing out of tune. So I now put [fingerboard tapes] on right away—if they want them. If they don't want them, like private lesson students, I don't put them on. And [I leave them off] for some kids who have a really good ear—they can [play in tune] without tapes. (F.15.32)

Marlene tells her students that fingerboard tapes are not always accurate, so they will need to adjust their fingers. Here is her feedback to a student during the observation:

"Does it matter where the [the tape mark] is? No, it matters where your finger is. Check your fourth finger note with your open E string" (0.2.20). Marlene realizes that some students have no concept of pitch. Marlene commented, "Some kids with no tapes would play out of tune. And then the kids around them start thinking, 'It's OK.' They started developing bad pitch problems as well" (F.16.34). But Marlene believes that students *can* improve their individual intonation skills and develop musical independence. When students start to play more and more in tune, "then they start learning to hear it, as opposed to not even listening to themselves" (F.15.33).

Some middle school orchestra teachers practice "intonation triage," overlooking or not recognizing intonation errors while focusing on other glaring issues, like students failing to play together (ensemble). Not so in Cassie's teaching. Like Marlene, Cassie has a high expectation for accurate intonation in her classroom and believes that her students can develop good intonation playing skills. As a practice, Cassie has strong high intonation-accuracy standards and is very particular about giving her students feedback about their intonation. Cassie verbally counsels her students with feedback such as, "Play sharper," "Match your Cs to the cellos," "There it is!" She often gives her students intonation advice hand signals: thumb up to raise the pitch, thumb down to lower the pitch. Cassie believes her students learn best when she gives them specific feedback about their intonation.

During the observation, Cassie slowed down the very top notes of a two-octave G Major scale to help her cello and viola players play the higher position notes in tune, having the students adjust each note (O.2.3). While we were discussing one of her videotape excerpts, Cassie commented about her students' intonation, "Yeah, so just get

that third finger high enough. They know it drives me crazy. I will stop a run-through because I'm so bugged if it's out of tune" (V1.4.7). If she stops the orchestra for another error (for example, a missed entrance), Cassie will also have students fix an out of tune note:

> I feel it's harder to hear [intonation errors] when they're playing multiple notes. So I just wanted them to make sure to find whatever note it was to be in tune. I was really more practicing the entrance of their solo—that was my main purpose. But since the note was out of tune, we might as well fix it! I mean, I don't want to necessarily just go on. (V2.12.19)

Cassie believes that her students should identify their out-of-tune notes on their own. She likes to use drone notes so her students can compare their fingered note to an in-tune open string. Here is a conversation about her practice of having students self-adjust with the help of a drone:

> <On the video Cassie asks the students, "Which are the notes you *don't* love?">
>
> Valerie: I love that! Which notes you *don't* love? So, you're having the cellos play the drones and then having the others play the arpeggio. So, tell me about that. What is your goal in using this technique?
>
> Cassie: That's the way I practice myself. I'd stick a drone on and listen. So I figure, I'm hoping they'll have some sort of reference to listen to. Then I'm also hoping that ideally it will carry over to their repertoire. So, sometimes I'll do a similar tuning, where I have the cellos hold their note, like if they're holding whole notes or half notes or repeated eighth notes that the violins are used to listening to, [they might think] "Oh, I can tune to them."
>
> Valerie: Adjust and match.
>
> Cassie: Yeah.
>
> Valerie: Do they respond to that?
>
> Cassie: They have been getting better at it, I feel like. I still have to do a lot of thumb work [non-verbal teacher feedback]. (V3.2.4)

Rather than write in intonation reminders in their music, Cassie relies on verbal teacher feedback and repetition to encourage her students to play in tune. When asked what she thinks about her practice of asking her students to play songs in challenging keys for middle school students (like D harmonic minor) Cassie responded,

> Play in tune! I don't care what notes they are, I want it in tune! . . . I tend to just harp on them more, like, "Come on!" I don't think they write it in like I ask them to. But, we just do it over and over until they get it right. Pretty soon their fingers start to remember playing the key. (V3.6.10)

Cassie has her middle school students use fingerboard markers to help them place their fingers accurately, but she prefers to use black tapes that are more discrete. Cassie's practice shows a strong positive connection with her stated teacher belief that her students should demonstrate good student musicianship and play in tune in middle school orchestra.

Susan has large numbers of students in her classes. She also believes that her students should demonstrate good musicianship and play in tune. Susan described how she made the pedagogical decision to start using "Don't Fret"® fingerboard marker decals about five or six years ago. She says that these fingerboard-length decals stay in place on the better than individual pinstripe-style tapes; they also have a different color fingerboard stripe for the different finger placements on the instrument. Susan commented, "There was a lot of push back, I can remember. At different festivals they would say, 'Oh, this is the rainbow group.' You know there's so much controversy on whether to use tapes or not. I know it horrifies some of our [high school teachers]" (I.17.52). Although she did not originally start using the decals for the various finger placement colors, she now finds that the colors help to minimize her frustration level and

to communicate quickly with her large groups of students. Susan justifies her practice that brings about this stability:

> [When teaching, I can say,] "First finger goes on yellow. Everyone check your finger. Visually look at your finger. Is it on yellow?" My frustration level [goes down]. That's my orchestra. I'm the first to admit that at different schools it could be a totally different situation. If you have a class that is smaller, [it is a] totally different situation. I'm not sure that [the decals] are the best thing in the world, but they work at my school. And that's all that I can ever say to people, "They work for me." You have to do what you have to do. (I.17.53)

Susan states that she believes that her students need in-class rehearsal and teacher feedback to learn to play in tune. She says, "I have a big thing with intonation. They have to hear it from me. They really do" (F.14.29). Susan uses daily scales and étude warm-ups to help teach her students to play with accurate intonation. She has written out a warm-up packet with scales and correlated exercises for the different keys and finger patterns that the students will encounter in orchestral literature. Susan believes that students will learn to play independently in tune if they can hear an accurate aural example first. She says, "It seems dumb to try and make them do it first if they don't even know what it's supposed to sound like—until they're older; until they've played enough [on their own]" (F.14.26).

In her teaching, Susan occasionally pointed out specific problem notes to her students, and where to place their fingers. In my observation field notes I recorded the following: "Susan reminds students: red tape for C-sharp, white tape for D-sharp, orange tape for E" (O.4.17). However, unlike Cassie, Susan rarely called individuals out on intonation errors. The following is a researcher comment I recorded during the observation:

> Susan doesn't stop to fix major intonation errors. She has the kids play the section over and over, tells them what to do, then does it again, over and over. Some kids still didn't get the correct note (F natural).
>
> I wonder if this has to do with her belief about calling students out individually. These errors were on a slow, lyrical section, violas playing the melody. It was very exposed. It was really obvious to me which student was not playing the F natural. Yet, Susan did not point out that student individually. (O.17.34)

This is an example of where the teacher's stated belief and their actual practice do not seem to be in congruence. Susan says that she needs to point out students' intonation errors, but she did not do it in that observed instance. Perhaps she did not want to embarrass students by correcting them in front of their peers, a belief about maintaining positive student self perceptions. Perhaps she prioritizes one belief over another. It is difficult to point to the exact reason for the incongruence between Susan's self-identified belief about how students learn to play with good intonation, and her conflicting teacher practice of overlooking student intonation errors.

Mark has a distinctly different practice in teaching his students to play with accurate intonation. He does not allow his violin and viola players to have *any* fingerboard markers. He explains his strategies:

> My thoughts are, I'd rather they look with their ears, which is what I tell them: "With your ears, not with your eyes." And from my experience with tapes, half of them end up not looking at them, anyway—and they're playing the wrong note. I don't know. I've never found tapes to be super successful.
>
> Once I had a student transfer from another school and they had that sticker, that long sticker on the fingerboard with different colors. I was like, "Oh, that's convenient. Here's B-flats green and F-sharp is whatever." But I really want them to *listen* and *feel* rather than look. . . . A lot of times I feel the tapes are wrong and stuff like that. (V2.18.24)

Instead of referring to fingerboard tapes, Mark teaches his middle school students where to accurately place their fingers by using finger patterns and chord tone matching.

I wrote this in my field notes during Mark's observation, where he seemed to be trying to help the students anticipate and avoid intonation errors:

> Mark gives verbal directions: "I'll give you one more minute to tune and warm-up on one-octave scales C and G Major. At measure 44, remember your finger patterns. Be careful to use the correct pattern. Think about when you start. If you start the scale on the open string, you have a two-three finger pattern. If you start on third finger, like C major, you have a one-two finger pattern. (O.4.16)

In a different teaching example, Mark had each of the instrument groups play the chord tones of an A-major arpeggio. The lesson ended up focusing on both the definition of chords, and the proper intonation for the major third in the arpeggio. Here's what Mark said about the same lesson when watching the video clip:

> It was going to be something to, kind of, reinforce the high third finger—to help build [the chord] and make sure it sounds *major* as a way of checking your intonation for the high third finger. And then it worked into using chords for the sake of knowing what the chords are, which I do a lot. They should know what chords are eventually, so now's the time. (V3.14.17)

Mark believes that his students can learn to be more observant and fix their own intonation errors. He acknowledges that playing a string instrument, even at the middle school level, requires good listening and adjusting skills. Mark explained his core beliefs about the importance of his students developing musical independence in learning to play in tune:

> Yeah, I think they can do it. I really believe that they can hear the difference when they really try. I try to have my students get inside of their own head and really listen, too. I feel like students, so much of the time, just play the right fingerings. The right fingerings and the right [rhythm]—and that's not good enough. You have to adjust.
>
> So you have to listen to what's going on and you have to adjust your fingers. Sometimes I tell my students, "Assume every note is going to be out of tune. You're going to have to adjust every note that you play. You're going to have to listen for it, sometimes, to that degree of expecting that it's *not* going to be in tune—you'll have to adjust a little bit."

> So I really try to encourage them to listen and adjust their intonation based on what they're hearing rather than finger tapes or anything else. Just listen to what's going on—don't just look at the music and play the fingerings. (V4.16.21)

Overall, all of the teachers believe that their students can learn to play in tune. Their different pedagogical practices demonstrate a variety of ideas about the effectiveness of their preferred pedagogical technique, the value that they put on that particular pedagogical aspect of teaching, and a disparity of levels of tolerance for out-of-tune playing. I observed, however, that Mark's students played more out of tune than the students of teachers who used fingerboard markers. Bergonzi (1997) suggested that the using finger placement markers in combination with harmonic context and listening examples may improve the intonation of beginning middle school string players. Each study participant favored at least one or more of these teaching techniques in their practice, reflecting their core beliefs about how middle school students learn.

Teaching by Ear

Unlike some of the other participants, Wendi believes that good musicianship includes the ability to play by ear and memorize music. Therefore, Wendi utilizes aural teaching techniques for some of her middle school pedagogy. Every year she chooses two fiddle tunes for the concert, one in 4/4 time and one in 6/8 time, so her students get exposure to playing in different meters. She commented about the value of learning to play 6/8 time by ear, rather than by note reading first:

> What I really like is that [my students] are pretty good at 6/8 when they don't have to read it. It's a really nice way to introduce it so they get the feel of it. And then when they read, it it's not quite as scary because they know what it's supposed to sound like already—so that's good. (F.13.17)

Wendi teaches the melody by ear to everyone in the orchestra. She plays a chunk of notes on her violin and the students play the same chunk of notes back to her—over

and over. She then connects the chunks and repeats the longer combined section until they have learned a phrase. This aural pedagogical teaching technique is characteristic of transmission of folk music styles. When asked whether the students remember the song from day to day, Wendi replied:

> Pretty much. After you learn something brand new one day, then the next day it's pretty rough. You review it, maybe not one note at a time, but maybe a couple notes at a time. It comes to them a lot quicker [the second time]. I think the review is incredibly important because it doesn't stick completely, but then it's easier to learn. If you keep reviewing, I don't know, three or four days in, they've really got it. (V1.12.19)

Wendi requires everyone to learn the melody—even the basses, who have to do quite a bit of shifting to play the range of notes in the folk tune melodies. When asked whether the students ever ask for the notation, Wendi replied, "Yes. [They ask,] 'When are you going to give us the music?' 'Well, once we know everything!' So this [becomes] kind of a joke. When I *do* give it to them, so we can learn those other parts, they will have it. There's always a couple kids who really struggle with memorizing" (V1.11.15). After everyone learns the melody by heart, advanced students learn the more elaborate "break" part, some students learn to play the back-up line, and bass players can choose to play the bass line. Wendi talks about their final fiddle tune product that they present at the concert:

> When we performed [*Mara's Wedding*] we came up with our own arrangement. So, the first time, we're going to do the tune. The second time, if you know the break part, you play that. And if you don't, then you play the backup part. [We needed to] just figure out who's doing what—and when. There were a lot of kids who played the break. It was great. I told the audience before [the performance], "The kids didn't get to see the sheet music. And if you hear the break part, they learned it all on their own." And I didn't conduct them either. I just, like, left. There's a little kick off part. We had auditions to play the one measure kick off and somebody played that. Then they played the whole thing. It was pretty cool. (V1.9.16)

Wendi acts on her core belief of developing her students' musicianship. By utilizing aural pedagogical techniques, Wendi reinforces her belief that students should play as well by ear as they do by reading notes. Although this traditional aural pedagogy is not required by her district, Wendi makes a concerted effort to teach her students this skill because she believes that it is an important part of becoming a well-rounded musician.

Like Wendi, Marlene has experimented with teaching students fiddle tunes by ear in her middle school strings classes. In her long career, she has taught units on improvisation, purchased and had students perform with electric instruments, and performed memorized folk music with her students at assisted living facilities. These practices demonstrate her core belief in the importance of developing many aspects of student musicianship, as well as her beliefs about the value she places on student music making.

Marlene has used aural teaching as a pedagogical approach with varied frequency over her teaching career. But with limited rehearsal time during this study, projects like these are often postponed or overlooked because Marlene prioritizes preparation for adjudicated festival and required concerts. When asked if she ever has her students learn to play a song by ear, Marlene responded:

> I do. And I have done it in the past, but that's again one of those things that [take time]. We always did some sort of a fiddle tune during the year. Sometimes I'd try to teach them methods of fiddling by ear, as opposed to having it written down, or changing what's written down. And sometimes we did jazz because we had a whole jazz series that I bought. And I actually did a Klezmer thing one year. I just tried a whole bunch of different things. So I really like doing that. Did I do it every year? No. I wish I had. (F.17.38)

Marlene noted that teaching tunes by ear was successful, but time consuming—depending on the group. Sometimes students could not remember what they had learned in the previous class, because they were on an every-other-day schedule. Marlene lamented, "And there were groups, depending on the level of the group, that, I swear that they totally forgot everything we did the last class—it was too long ago" (F.17.39).

Unfortunately, Marlene feels that district-imposed restraints on her teaching time do not allow her to offer her students musical activities like learning fiddle tunes by ear. Buehl and Beck (2015) suggested that teacher belief/practice incongruity may induce job dissatisfaction and lead to teacher attrition. They propose that by reducing conflicting external factors, teachers may become more resilient in defending and acting upon their strongly held beliefs, and may avoid frustration and possible burnout. Unfortunately, Marlene chose to leave her teaching position for this very reason. Marlene's teacher beliefs, the sources of Marlene's beliefs, and her contextual environments all overlap and interact within her practice to shape her personal decisions.

Competitive Orchestral Seating

The teacher participants revealed their beliefs about how students learn, through their choices about inter-student competition, and its value for motivating students. These beliefs were also reflected through the structure of their rehearsal space via seat rotation or "chairs."

Susan and Orrin believe that students learn best in a competitive environment, and that competition is a motivator for students. They both believe that the best students should be rewarded for their hard work by being placed in the front of the section. Orrin even goes to the effort of differentiating the color of the physical chairs for his first chair

players (red chairs for the first stand, black chairs for everyone else.) They both have embraced the beliefs of more traditional orchestra seating to motivate students to work hard to improve their playing abilities.

Mark believes in utilizing seating for other strategic reasons: classroom management, balance, or just to mix it up in class. Sometimes, for variety, he uses "open" seating—allowing students to sit where they like. But then he returns to seating charts to minimize student disruptions.

Wendi has carefully considered her pedagogical beliefs about how students learn, and about the best seating practice for the entire ensemble—both in rehearsal and in performance. She believes students should rotate seating for rehearsals and have ranked seating for concerts. She commented, "We use [playing tests] for seating for the concert. Otherwise we just rotate through seating, and I'm never worried about that. But for the concert I do put them, kind of, strongest in the front and then the weaker kids in the back" (I.17.44). It seems that Wendi believes that strong students sitting in the front of the section at the concert sets an example for the weaker students to follow; this practice addresses her belief about how students learn.

In rehearsal, Wendi likes to use a strong/weak stand pairing to enable students to help each other, and ensure that they all get rehearsal time closer to the teacher. This rotational seating practice illustrates her beliefs about the limited value of competition in how students learn, as well as her beliefs about maintaining positive student self perceptions in the classroom. She explained her seating practice:

> I rank them best to worst, and split them in half and move the second half stand partners to the front. So if there are ten kids in a section, number one and number six would be stand partners; number two and number seven would be stand

> partners. Then they rotate up a stand each week with their stand partners. So they are not stuck in the front or the back.
>
> Once you get it going, and if you have kids who can figure out the rotation, then you don't have to do a whole lot, really. It is a little more work but I think it's really helped me to make sure I'm paying attention to everyone, first of all, and I think it helps the weaker kids when they are with a better stand partner. (F.18.26)

Wendi also follows a practice that all the middle school violin players should play both first and second parts. This may reflect a belief about maintaining positive student self perceptions, avoiding a "second violin" complex. She explained why:

> I put strong kids in both [first and second violin] sections. I think when you get to more advanced high school music, the first violin part is a lot harder, but with this music, it's not. I mean maybe, but not really—maybe a little bit. So I think it's good for them to get the experience to play both parts and then you don't develop that second violin stigma, 'I'm not as good; no one loves me.' So that way I think it definitely helps with morale in both sections. (V2.15.22)

In contrast, Susan utilized a practice of assigning chairs with "first to worst" seating to motivate her students to learn through competition. Her views reflect a tradition passed down from her mother's orchestra (and professional music ensemble practices) and/or a reflection of her experiences with her current population of students. Susan says that she seats her weak players in the back of the orchestra for a reason, "Truthfully, those are also the kids who are not super reliable about coming to the concert. I don't know. I could put them first and worst and second . . . but then half [of the orchestra] would be there [at the concert]" (F.16.37). Susan recognizes that ranked seating may be going out of style in educational settings, but she believes that rewarding hard work is fair and important. She asserted:

> Let me see how to say this—I do like to reward the kids who are practicing. So whether it's a fair system or the best learning system, I don't know. But sometimes you don't get rewarded for doing practice records. Sometimes at our school—this is definitely our school—so much attention is put into those last row kids in other classes, so much attention, that I feel like, sometimes, our great kids don't get half

> the stuff the bad kids do. So I just feel like, "You know, you earned this. Thank you for practicing. Thank you for being a strong leader. And you're going to sit there [at the front of the orchestra]. I'm sorry, kids [in the back]—you had the same exact opportunities." (F.17.38)

Susan believes that competition can be a good way for students to learn and sees a need to prepare her students for future audition opportunities. She commented, "I don't know that competition is necessarily bad all the time. They still have to earn chairs in Regionals or All State or if they go on [to high school]. I think we need to make sure they're prepared for an audition, I guess. I don't know." Susan acknowledged that other teachers may be moving away from ranked seating—even the high school teacher at her feeder high school now does random seating. Nevertheless, she defended her practice, "I can't judge either way. It works for some people and doesn't [for others]" (F.17.38).

The way teachers perceive student motivation is reflected in their beliefs about how students learn. R. Butler (2007) suggested that student motivational systems "are associated with qualitative differences in the way [K-12] students define and evaluate success, process information, and regulate behavior" (p. 242). Although Butler's research focuses on teacher motivation, it is based on student motivation research by Ames and Ames (1984) and Elliot and Dweck (1988) that differentiated between *achievement/mastery goals* that focus on individual skills and effort, and *performance goals* that evaluate ability based on comparison with others, like the competitive beliefs about how students learn espoused by Susan and Orrin in this study. In contrast, Wendi and Mark fostered mastery goals through their practice of rotating seating.

Literature Selection

Wendi believes in strategically choosing literature to capture student interest, motivate them to work hard, and develop student musicianship. For each concert, Wendi

selects a group of pieces with appropriate difficulty levels, opportunities for teaching string technique, and a variety of styles, keys, and tempos. Her literature selection process seems very thoughtful and sequential. Wendi talks about her specific criteria for music selection:

> [When choosing literature, I'm] looking at the skills involved and what other pieces I've already chosen. So I'm trying to not have everything really be at the top of what they can do. I try to find a piece that's middle ground to really solidify what [technique] they're working on. [Then I'll choose] an easier piece so we can work on musicality or for adding a skill like vibrato; the notes aren't hard and they're slow. . . . A lot of times with this age range, tempo is one of those things where that's what's going to be hard. If it's a faster piece, that's always a challenge—or a piece that involves shifting. . . . (F.12.16)

Wendi also believes that it is important for students to *like* the songs that they play in orchestra class, so she chooses proven favorites as well as exciting new literature. When asked if she chooses new pieces every year, Wendi answered, "Oh yeah, I do. I think what's great is there's so much really great music being written for that age level right now that it's so fun to order new music" (F.12.17).

During one recorded rehearsal Wendi gave the students a direction to get out their music for "Night Rider" by Richard Meyer. The students were extremely excited to rehearse that piece. One boy let out a loud, exuberant, "Yessss!!!" When I pointed out this enthusiastic reaction to the piece, Wendi responded:

> I love that! I *want* to get reactions like that. I spend a lot of time trying to figure out what to have my kids play. I think that is one of the most important things. You have to pick music that is at the right level, whether it's a stretcher piece, [or] at a lower level.
>
> And figuring out why. What are you learning from this? What skills are you helping? Is it an easier piece so we can think more musically and kind of go for that? Is it introducing some new rhythms that we have to do? What's the purpose behind it? And are kids going to like how it sounds? Usually if I like how it sounds they're going to like how it sounds. So [I'm looking for] those three

> things: what level is it at, what are we learning, and do you like how it sounds. (V2.21.31)

With a different pedagogical direction, Mark's literature selection process is more about choosing challenging pieces to motivate his middle school orchestra students to want to improve their musicianship. Sometimes he picks pieces that are a little over their heads, just so they can make an attempt. Discussing his literature selection in reviewing a videotaped lesson, Mark explained, "I wanted to try this piece I bought; it was an arrangement from the movie, 'Brave.' So I bought this arrangement, knowing it might be too hard. I just wanted to let those kids try it" (V2.19.25). Mark believes in teaching musicianship skills that present themselves in the literature he selects. Sometimes his students perform those challenging pieces at a concert; sometimes they just rehearse them in class. Mark talks about his belief in letting students experiment with new skills in the context of a demanding piece of music:

> So let's just go for it. That's a lot of what I teach to—what they're playing, to the repertoire—and choose the repertoire to what I want them to learn. So I was like, "Let's try it and we'll have to re-teach it next year." But at least some of them will already have an idea on how to do it and at least it will be, "Yeah, we did do this, remember? No? Well you will eventually." (V1.7.8)

Gill and Hardin (2015) suggest that teachers should strive to promote a positive climate in their classrooms to encourage student growth. They also suggest that teachers promote student emotional buy-in by selecting high interest topics and curricular material (Gill & Hardin, 2015, p. 240). The teachers participating in my study seemed to believe that, when students are able to learn and perform affectively attractive music, a rewarding emotional experience occurs, further motivating students to excel on their instruments. It appears that when these teachers take the time to select high quality and pedagogically

appropriate repertoire for their groups to gain student buy-in to their program, their students have meaningful music making experiences.

Recruiting

Since music making is important to Cassie, she believes that all students at her schools should also have an opportunity to have meaningful music making experiences. Her active recruiting practices reflect her strong teacher beliefs about the importance of music making to students. As a new teacher in a relatively new program, perhaps she feels that if she is able to increase the number of students who choose to participate (increase enrollment) in her classes, the more legitimate her program would become to district decision makers, and the less likely it would be for administration to cut the strings program. Cassie planned and executed recruiting efforts for her incoming elementary students. She would take a handful of middle school students on a "road show" to play for elementary school children at their schools:

> I felt like I didn't really want to gear [my recruiting] towards my fifth graders because that only gives them one year to prepare before going into middle school so I'd rather gear it towards third and fourth graders so there's two years [to choose to participate]. And they [would] have two years to practice before they join the middle school group. And so, it just depended on the school, I would leave it up to the teachers how they could organize it. We could do it assembly style or just [for each] classroom. And we'd only take about 15-20 minutes. It was fun. (F.7.11)

On the road show, Cassie's students would demonstrate the sound of each instrument and play some solos. Cassie explained her presentation: "I would say, 'But orchestra is where we play *all together*, it's not just about being a soloist; we get to actually play together.' Then we'd play all together and then we usually end with a fun piece like, this year it was, 'Pirates [of the Caribbean'] or something like that" (F.14.22).

Cassie would involve students in other extracurricular performances to help students "have fun" and build her program. They played for a local nursing home, at the preschool on her middle school campus, and at the local farmers' market at Christmas time. "It was fun for them. They had their orchestra shirts and some wore Santa hats" (F.9.14). Cassie believes that both music making and having fun in orchestra are motivating for middle school students.

Similarly, Susan says she is *always* in recruiting mode to promote her program because of her belief that students should have an opportunity to experience music making in orchestra. Susan talks about the ongoing challenge of getting students in her school's geographic boundaries to sign up for orchestra:

> I'm a big recruiter, but not only in orchestra things. I go to community events; I go to sporting events. I do all those things to get to know parents and get to know kids, so by the time they get to middle school, they recognize me and parents recognize me, which is very comforting to them. (F.8.14)

Susan believes in forming strong relationships with her students and their families. She tries to attend her feeder elementary school concerts in December to increase her exposure to those students. She takes her own personal leave days to talk to and listen to those students. She also holds a "step-up"-type recruiting concert, where the feeder elementary students come play on a concert with the middle school orchestras. Susan says that some elementary string teachers are more helpful with that event than others. She illustrates the event:

> You know, I get two kids who show up from one school and 40 or 50 from another school, so it depends on the elementary teacher. . . . It's not really a concert, it's just like a workshop. It's me working with them, playing together, [while] parents are listening. It gives me an opportunity to talk to parents about different middle school things and I try to make it fun. [We have it] in January because that's right before registration [for middle school]. (F.9.16)

Both of these teachers hold strong teacher beliefs about giving students music making opportunities so they practice active recruiting to build their middle school programs. In contrast, the elementary teachers whose classes feed Susan's program were inconsistent; some of the elementary school teachers supported the middle school program, others did not feel it was their job to help with student attrition. Different teachers have different priorities (Cheng & Durrant, 2007; Nespor, 1987), and that shows up in the contrasting practices of those teachers.

Strengthening Teacher/Student Relationships

Although Cassie has only been teaching orchestra a short time, she has come to see the importance of teacher/student relationships. Through their rehearsals and performances the most important thing that has emerged for Cassie is a strong teacher-student bond. She describes what has become the vital essence of her teaching:

> I think, especially my second year [of teaching], that developing relationships with my students has become the most important thing. I've really come to love them. It's fun. I look forward to seeing them. (I. 21.47)

In a later interview Cassie reflected on her position as her student's junior high orchestra teacher, noting the unique relationship between her string students and herself:

> I think we [music teachers] have the best kids in the school. I feel like we do connect more with them, in a way. I was telling my eighth graders goodbye yesterday and I felt like I was genuine when I was saying, "I love you guys. You guys are fun to work with and fun to direct." I feel like we bond when we create music together. (F.24.34)

As Nespor (1987) acknowledged, evaluative (a teacher's priorities) and affective (emotional and meaningful) components are foundational to teacher belief systems. These beliefs about the value of student/teacher relationships and the importance of establishing a common musical bond with students are foundational to why many

undergraduate musicians choose to become teachers. The caring role that teachers fill in teaching music is also a vital motivator for inservice teachers to continue in teaching positions that sometimes have low financial compensation, long hours, and challenging settings.

Importance of Performing

In his practice, Orrin believes in encouraging his students to develop their musicianship, and then to share their music with others. For him, allowing students to showcase their musical accomplishments by performing in public is part of being a good musician—and perhaps an opportunity to prove that he is also good musician. "I prepared the kids for extra concerts, performances . . . I like being on stage, I like having the kids on stage, and having that opportunity. My teachers did it for me and they always told me to pass it down" (F.5.8). Orrin's students played in the local founder's day parade with students performing songs as they sat on a float. They participated in the community college holiday program. They made a musical presentation at a community art show and a private dinner engagement. They performed at the mall in a neighboring community. "They knew that I would do it, and that I could do it," Orrin reflected (F.6.9).

Similarly, Susan holds a belief that she should help her students perform well for the concerts, thus promoting student music making; any way she can accomplish that goal is a viable practice. She believes that her students will learn with whatever modality works best for them, for example, by reading notes, listening to the teacher's model, or watching other students' fingers—whatever it takes to get them to perform well. Susan commented on her multiple-modality approach to teaching:

> I have kids who learn because I'm writing on the board, and I have the kids who learn because they are listening to me play it. Every time I tell my student teachers: I understand that some of them are just playing by ear because I have just played it for them. I totally understand that and I don't know if they will ever be able to do it on their own. But, at some point, I have to think, we have a performance coming up and that they're going to learn it if I play it for them. Of course, you are trying to wean them away from yourself, so that they can do it on their own, but you just never know. I think that's the difference in our classes. We have to perform, so, for those three kids that I have to force feed this to this way, I'm still going to do it—because we're going to perform. And those three kids are still going to be there. (I.16.52)

Perhaps Susan holds this belief about how students learn because her current school population has changed over time, to include more students from lower SES backgrounds and lower skill levels. She may feel the need to maintain a high performance level due to her own sense of teacher efficacy—despite the change in student demographic.

Mark believes that his students learn by following a more comprehensive-participatory model rather than a performance-based practice. Although he does have his students present semester concerts, he seems to be less concerned about performances, making time during class for more general music lessons. Mark has students complete music theory and music history projects and assessments using the district-provided laptop computers. He explained his assignments and his practice:

> Sometimes we'll do either a music theory assignment to build scaffolding for different techniques and concepts or review—especially note reading for the younger kids. I'll have them notate things to help them learn how to read the notes, or a little music history assignment. If we're working on a particular composer or genre, then we'll read a short excerpt about that or things like that: summarize an article, take notes on something. It's kind of something that I always put in my grade book. (I.6.21)

Mark also believes in sharing various musical works with his students by showing them YouTube videos. In one video reflection interview, Mark showed the students a clip

from Rossini's "Barber of Seville" because a student was singing a theme from the Figaro aria. He talked to several classes about the operatic style (V2.16.20). In addition to music theory and music history projects, Mark sometimes has his students do composition activities. He explained:

> Every now and then I'll do like a composition project on Finale Notepad [software] of different sorts. Sometimes it will be to assess understanding of form. A lot of times I'll have them do a rondo composition to show that they understand how rondo form works. . . I'll get some students that come up with some really good compositions. It sounds really, really cool. [I tell them,] "You should develop that into a piece, or you should play it at one of our concerts." (I.7.23)

Mark provides many opportunities for his middle school students to explore, learn about, and play many kinds of music. He believes that all of these activities contribute to well-rounded student musicianship. He may also feel that learning a variety of musical skills may motivate students to be in, or stay in orchestra classes.

Teacher practices in performance-based music classes can be very different from teacher practices in experience-based music classes. Teachers may choose to have a combination of performance and experience-based activities in their classes, but with limited instructional time available, teachers must make curricular choices of what *to* include, recognizing that they are, at the same time, deciding what *not to* include in their practice. Skott (2015) suggested that teacher belief systems, while often unexamined or unacknowledged, are highly influential in determining teachers' priorities in the classroom. Nespor (1987) noted that differences in teacher beliefs change how teachers think about knowledge, the priorities and emphases they put into their practice, how they address classroom problems, and how they personally define their teaching responsibilities. The study participants enact the style of orchestra class that they deem to be most important by consciously or unconsciously aligning their practice with their

personal teacher beliefs about the importance of student music making, about how students learn, and about developing students' musicianship.

Nurturing Students' Love of Music

Mark takes pleasure in developing the musicianship of his middle school students. He says, "I really like teaching middle school. You set up the [musical] foundation but you also start them into more advanced skills. There are a lot of fun things you can expose the kids to and get them started on, musically" (F.14.30). Mark also enjoys his middle school students' growing creativity and likes to engage his students in musical conversation and questioning—outside of the performing realm. In Mark's view, every student-initiated musical discussion leads to more advanced musical understanding, even if it was not part of his plans that day. These tangent musical discussions help fulfill Mark's musical teaching beliefs about the importance of developing student musicianship. Mark explains:

> I like how creative they are, and how a lot of times they'll ask really, really interesting questions. There are times that I'll be teaching a unit or lesson and a kid will ask a question and it wasn't something that I anticipated. [I'll say,] "That's a great question, let me talk to you about that." The downside is that we will end up spending most of the class [discussing the question] that then leads to another question. And then something else. And if that's the truth, then what about this? And we spend most of the class answering these great questions and not doing a lot of playing. But that is valuable to them, and if I can answer those questions then, they'll know it later. And we might not have to work on it so much. (I.4.16)

Mark likes to see his adolescent students develop a musical identity. He acknowledges that his students might not continue playing into high school or college, but that the musical experiences they had in middle school can stick with them the rest of their lives. Mark talks about this personal teaching belief:

> It's especially rewarding when [my students] grow to identify with the music and it's part of who they are and it's part of their life, whether or not they continue—because 99% of them aren't going to go on to be music majors or even play after high school—but they've had that experience and they've identified as, "Yeah, I was an orchestra kid." I'll meet staff members [who tell me], "Yeah, I was an orchestra kid, too!" It's *part* of them. So, *that* I find really rewarding. Seeing them go through that and band together and have a common bond and feeling special because "I'm in orchestra!" I think that's amazing. (F.16.34)

Wendi also sees her students acquire an "orchestra kid" identity. She recognizes that many of her students take orchestra because they love to play. She enjoys teaching students who take her class because music making matters in their lives. Wendi explains this emotionally rewarding aspect of her job:

> I think it's also kind of nice getting to be the teacher of the class that [my students] love—not the class they just get through—it's not quite the same. I mean, some kids love math—I love math—but most kids don't love going to math class. So it's really fun to get to be part of their life in that area where they really enjoy being there. (F.18.29)

Wendi appreciates positive feedback from the parents of her students and the students themselves. These expressions of gratitude help her feel that her teaching is meaningful and worthwhile, despite low teacher salaries. Wendi explains:

> At our last concert at the end of last year my kids were above and beyond grateful. They really expressed how much they enjoyed orchestra and how much they enjoyed me as a teacher and I got a lot of really nice feedback from kids and parents, too. That's nice, but you always want it from the kids more because those are the ones who are sitting in your class. . . . Yeah, so it's those kinds of moments that make me not quit my job and go find something that pays better. There's always [the thought of], "Well, what if I did something else?" So I think those are the types of moments where I go, "Okay, it's all worth it." (F.18.29)

Orrin also holds strong beliefs about his students having meaningful music making experiences in orchestra. He enjoys hearing his students make progress on their instruments. He believes he has a responsibility to foster his students' musical growth

because he loves music and wants his students to love it too. Orrin explains his musical motivation to successfully teach his middle school students:

> My job is just to enhance [the lives of] as many children as possible. And I'm selfish. I'm doing it for a selfish reason. The selfish reason is because I love music *so* much, and I train children—we train children—to read and to interpret the music as we [envision] it. So, my selfishness comes back—you're on stage, and I can stand in front of you and enjoy it. That's my selfishness. Hearing you perform Beethoven, or whatever we've chosen, and I can actually conduct and change those rhythms in an interpretive manner, it just soothes my mentality. That's being selfish, but in a positive way. They benefit. But just to close my eyes and to listen to the music makes me feel proud. And seeing the little children's faces after All-State! "Now I can see why [Mr. O.] acted the way that he did. Now I see why he held up posters, or made me play alone by myself. I see it now." When they're on stage they see it, they hear it, they achieve it. And when they hear the applause, that's the payoff. (I.9.42)

Orrin's positive source of inspiration from his family and his three mentor teachers, and the negative influence of the bigoted elementary string teacher, combined with that to shape Orrin's steely belief that he *was* going to play the violin and he *would* pursue a music education degree where he could "pass it on" and nurture his string students. Snow, Corno, and Jackson (1996) addressed teacher beliefs in a way that I perceive to be applicable to Orrin's violin playing and teaching career motivation. They suggested, "Such beliefs may exhibit ties to temperament and motivational goal differences, and may be sustained through ties to emotions experienced as these beliefs are formed, as well as forms of information processing called protectively into play" (Snow et al., p. 291).

The teacher participants in this study believe it is their privilege to share their own love of music with their students. They have fond recollections of their own positive and meaningful music making experiences and want to allow the next generation to create

their own music making memories. The personal value of music making appeals to these teachers, and makes teaching worthwhile for them.

Overall Summary of Chapter 5

I began this discussion chapter by addressing the final three research questions:

3. How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?
4. How do inservice contextual classroom experiences and professional development influence teacher beliefs and practices?
5. What is the relationship between teachers' beliefs and their observed classroom practices?

I then reviewed my definition of teacher beliefs, how I identified some of the teacher beliefs of the study participants, and how I developed and used my own model of sources teacher beliefs based on the Borg model (see chapter 1). I then utilized this Sources of Teacher Beliefs model to serve as a conceptual framework for the analysis of the collected data. Preservice teacher belief sources (top of the model – addressed in Section I) spoke to research question 3. The relationship of contextual inservice experiences and teacher beliefs and practices (bottom of the model – addressed in Section II) replied to research question 4, how teacher beliefs are formed through assimilating cultural norms. Finally, I introduced a new model of core teacher beliefs and examined the relationship between those teacher beliefs and the participants' practices (addressed in Section III). This discussion responded to research question 5.

Section I Summary – Preservice Sources of Teacher Beliefs

Pajaras (1992) noted that by observing, imitating, and participating in formative educational environments, teachers form preliminary beliefs. Skott (2015) adds that teachers formulate their foundational beliefs from influential sources in early educational experiences. In this study, all of the string teacher participants experienced similar parent/teacher supports in their formative years, initiating beliefs that music is valuable and important in their lives. Each participant had their own adaptation of the influence and continuation of the practices of their early mentors. This shows that despite similar experiences as the source of their beliefs, the perceived and enacted beliefs and practices of music teachers can vary. The influence of their student teaching mentors underscores the importance of positive role models in student teaching placements in those impressionable teacher-education-program years.

Section II Summary – Influence of Contextual Inservice Experiences on Teacher Beliefs and Practices

Levin (2015) suggested that teachers' beliefs are fundamentally connected to the sources wherein they originated. However, contextual social, cultural, economic, and political environments may affect teachers' abilities to synthesize their beliefs and practices. Levin claims that variations on these contextual factors can help explain variations and incongruities in teacher beliefs and practice styles.

Buehl and Beck (2015) identified some of these contextual influences on teacher practices: classroom contexts (student related), school contexts (teacher peer and administrator related) and community contexts (parent and public related). In teacher

beliefs studies, they found that external contextual factors, such as standards and policies at the district, state, and national levels, can limit teachers' practices.

Skott (2015), refering to the work of Fives and Buehl (2015), suggested that context is crucial to understanding the dynamic between teacher beliefs and practices. He described teaching as an interactional, complex process that involves teacher decisions based on teacher beliefs and values as well as situational realities.

In this study, inservice teaching experiences in the classroom, classroom contextual factors, and learning experiences from inservice professional development classes, all had a considerable impact on the teachers' beliefs and practices. Contexts served to either reinforce preexisting teacher beliefs, or cause incongruence between what the participant teachers believed and how they enacted those beliefs in their practice. Given situational factors, inservice teachers must make choices about how they enact their beliefs in their classrooms. Contextual issues sometimes compelled the teachers in this study to prioritize one belief over another, to ignore their beliefs and teach the stripped down essentials of their curriculum, or to abandon their position all together. As Russell (2008) described, contextual concerns that cause teacher belief and practice incongruity may influence teachers' decisions about staying in the classroom or leaving music education as a profession.

Section III Summary – Relationships Between Teacher Beliefs and Practices

Fang (1996) claimed that teacher beliefs can form teacher philosophies and theories about specific pedagogies. Pajares (1992) noted that it is helpful to narrow the very broad study of teacher beliefs to smaller, more manageable topics such as beliefs about specific educational subjects and pedagogy. As is evidenced in Section III, teacher

practices differ from one teacher to the next, even when they are derived from similar core beliefs. Classroom practices reflect the values and beliefs of each teacher and the teaching strategies they individually choose. Moreover, non-standard curricula and varying teaching practices point to the great variability in student experiences from one orchestra program to another.

All of the teacher participants in this study seemed to value the strong teacher/student bonds that appeared to be present in their middle school orchestra classes. Indeed, the personal and musical growth made available in middle school orchestra classes serves as a important draw for students to enroll. Gill and Hardin (2015) noted that emotional connections are an important factor in teaching. They suggest that teachers remember personal events from their own educational experiences, which help to form beliefs that influence their decisions in the classroom, which ultimately impact student learning. Middle school orchestra teachers should highlight the essential benefits of personal and musical growth in their recruiting efforts with potential students.

CHAPTER SIX

SUMMARY, IMPLICATIONS, AND SUGGESTIONS

This chapter provides a summary of the dissertation, recommendations for practice, and suggestions for future research in the area of teacher beliefs and practices.

Overall Summary

The purpose of this study was to explore the teacher beliefs of middle school orchestra teachers and to examine how their self-reported and observed teaching practices reflected these beliefs. In this study I chose to utilize the following definition of teacher beliefs: teacher beliefs are ideas that are individually held and subjectively true, are relatively stable, and are integrated with closely held and committed-to personal and musical values.

The following research questions guided this investigation:

1. How do middle school orchestra teachers describe their classroom practices?
2. What are middle school orchestra teachers' stated and/or implied beliefs about their pedagogy, middle school students, and their middle school orchestra programs?
3. How do the preservice and formal educational experiences of middle school orchestra teachers shape their beliefs?
4. How do inservice contextual classroom experiences and professional development influence teacher beliefs and practices?
5. What is the relationship between teachers' beliefs and their observed classroom practices?

Utilizing the work of Simon Borg (2003), a second language educator and researcher, I formulated a conceptual framework based on his model of teacher cognition to outline the sources of teacher beliefs and practices. The model identified preservice sources of teacher beliefs for the middle school orchestra teacher participants as the following: formative individual music experiences (musical families and private lessons), school-age ensembles and group social musical experiences (school and community-based ensembles), and preservice teacher education programs (including student teaching). The model delineated inservice sources of teacher beliefs as the following: contextual factors, classroom practices, and inservice professional development or graduate degree programs. The model recognizes that teacher beliefs reflect the personal and musical values about the middle school orchestra teachers' pedagogies, their students, and their string programs. In the teacher belief source model, inservice contextual factors, classroom practices, and graduate school/inservice professional development are interactive with teacher belief; beliefs shape practices and teachers' decisions to seek out further professional development, and, contextual factors, teacher practices, and professional development can reshape and refine teacher beliefs.

I selected a qualitative, multiple case study method for this study. After receiving IRB approval, I collected data in a naturalistic way from six purposively selected middle school orchestra participants, in order to "grasp the meanings and values that educational experiences have for various groups of people" (Elliot, 2002, p. 92). The six teacher participants represented a wide variety of teachers: teachers with differing experience levels, teachers with different program sizes, teachers from schools with differing

socioeconomic status, and teachers from schools in varying geographic settings (suburban/rural).

Despite the difficulty of identifying teacher beliefs, Skott (2015) suggested that researchers "infer or attribute beliefs to research participants, based on different types of data" (p. 20). Therefore, I chose to utilize four different methods of data generation for this study: 1) field notes from an in-person observation of each of the participants' orchestra classes (including collected artifacts: rubrics, photos, parent letters, and informal conversations between classes), 2) an initial and final semi-structured interview with each participant, 3) stimulated recall of teacher-generated videotaped lessons, wherein the participants reflected upon their practice during the second and third interviews (think-aloud protocol), and 4) a post-interview written participant reflection. To recognize my own middle school orchestra teaching experiences and differentiate them from those of the participants, I chose to reflexively examine and consider the same interview questions and record my responses in a personal research journal. Although I could not remove myself from the research setting, by utilizing this bracketing technique, I endeavored to be as objective as possible.

Field notes, recorded interviews, and think-aloud video interviews were transcribed and identified by data source, page number, and sequence number. I categorized each anecdote by code, and compiled the collected data and category codes into a database that noted common experiences as well as distinct individual themes and topics. Utilizing those categories and topics, I created a summary chart that identified stated and implied sources of teacher beliefs, both stated and implied teacher beliefs

themselves, observed teacher practices, and contextual factors that may have influenced teacher beliefs and practices (Appendix F).

Utilizing the database and observation/interview chart, I created a portrait of each teacher, sharing quotes and anecdotes to support perceived teacher beliefs and observed practices. Each participant member-checked their own portrait, with two participants offering edits. The portraits helped to unpack research questions one and two: “How do middle school orchestra teachers describe their classroom practices?” and “What are middle school orchestra teachers' stated and/or implied beliefs about their pedagogy, middle school student motivation, and their middle school orchestra programs?”

Summary of Participants

Since Cassie was a beginning teacher, her beliefs and practices seemed to be just starting to take shape. She was willing to explore and try many different pedagogical strategies from various sources: professional development, blogs, and observations of other string teachers. She was frustrated by the lack of support her district administration gave to her students and her program.

In contrast, Marlene was a veteran teacher with a wide variety of teaching experiences. She had well-formed beliefs about her preferred teaching style and what works and doesn’t work in her classroom. Ironically, Marlene was also frustrated by her district’s lack of support for her middle school music classes. Because of her district’s middle school elective scheduling decisions, Marlene felt she never had enough time to teach her students. Rather than continue the internal struggle of her practice being incongruous with her teaching beliefs, because of contextual scheduling factors, Marlene chose to retire early and leave public school teaching.

Wendi is thoughtful in forming her teacher beliefs about how students learn and about developing students' musicianship. She translates those beliefs into action in her pedagogical practice. Wendi utilizes teacher modeling, aural teaching, non-competitive orchestral seating, and careful literature selection to teach effectively and to motivate her students to want to improve on their string instruments.

Mark believes in developing his students' musicianship by providing a curriculum that includes music history, theory, and playing skills. Mark feels that teaching at the middle school level is the best balance of musical challenge and time commitment for him, as a teacher. He is not as concerned with a concert product as he is with developing a strong teacher/student relationship where his students can develop an "orchestra kid" identity.

Susan's primary teacher belief emphasizes the importance of music making to students. She enacts this belief by prioritizing student preparation to successfully present school concerts. Her teacher beliefs are shaped by the contextual challenges of teaching large groups of inexperienced students on poor quality instruments, while maintaining positive student self perceptions. In Susan's belief, any way that she can achieve this goal is a viable teaching strategy: modeling, direct instruction, written reminders, verbal reminders, or colorful fingerboard markers. The ongoing struggle was wearing on Susan; she changed positions from middle school to a nearby high school position the following year.

Orrin believes that competition is an effective strategy to motivate his students. He validates his program and his own musicianship by having his students perform in public. Unfortunately, the administration in Orrin's rural school district did not see the

value of having a string specialist so they terminated his position and delegated the orchestra-teaching responsibilities to the current band teacher. Orrin went on to find an elementary/middle school string position in another area of the state where he could continue to "see it, believe it, and achieve it" (I.4.14) with his students.

Summary of Findings

In the discussion and analysis, I recognized the importance of the sources of teacher beliefs, including preservice influences of early individual musical experiences in families and private lessons, school and community based ensembles and social musical experiences, and preservice teacher education programs, including student teaching. Inservice sources of teacher beliefs included contextual factors, experiences in classroom practice, and graduate school/ inservice professional development. In turn teacher beliefs influence classroom practices and teachers' decisions to seek out ongoing professional development.

Data addressing research questions 3 and 4 (preservice sources of teacher beliefs, influence of contextual experiences and professional development on beliefs and practices, and comparing practices with teacher beliefs, and inservice contextual factors/inservice professional development) brought to light the following findings. The participants experienced similar parent/teacher supports in their formative years, initiating beliefs that music is valuable and important in their lives, and a worthwhile career path. Yet the participants chose to model their own instructional practices after their own unique teaching styles. Sometimes the teachers followed the model of their student teacher mentors and sometimes not. This shows that despite similar types of

source experiences, the formulated beliefs and practices of music teachers can vary because the source type does not lead directly to teaching style or teaching practice.

Addressing research 5 (comparing teacher beliefs with teacher practices), teacher beliefs and practices of the middle school orchestra teacher participants were recognized through observation and direct teacher identification. I created a model that outlined core teacher beliefs that shaped the teacher practices. These core beliefs were foundational to the teachers' personal and musical values and included the following (not in any priority or particular order):

- Teacher beliefs about maintaining positive student self perceptions
- Teacher beliefs about their confidence in students' musical independence
- Teacher beliefs about developing students' musicianship
- Teacher beliefs about the importance of teacher/student relationships
- Teacher beliefs about how students learn
- Teacher beliefs about the importance of music making to students

The middle school orchestra teachers in this study displayed a wide variety of practices based on these core values. Each teacher individualized their instructional practices according to their own personal and musical and values. Sometimes contextual factors stood between teachers' practices and their beliefs, and occasionally I observed incongruity between a teacher's stated beliefs and their practices which I could not easily explain. But often their beliefs and instructional practices were in harmony. The variety of beliefs and practices between the teachers suggests that student experiences vary greatly from one orchestra program to another.

The strong emotional bonds that developed between the middle school orchestra teachers and their students reflected the participants' beliefs in the importance of teacher/student relationships in the music classroom. They believed that the experience of making and sharing music together served as an important social draw for student orchestra participation, as well as self-motivation to choose and remain in music education as a career.

Inservice professional development influenced the middle school teachers' decisions concerning their instructional practices. The participants sought out ways to improve their teaching strategies through summer courses, master's degree programs, and even online blog research. These professional development sources were influential to the teachers' practices and may have led them to modify or refine their teaching beliefs along the way.

Contextual factors in the classroom, the school, or the district sometimes prevented the teachers from enacting their beliefs. Situational realities sometimes limited the teachers' instructional practice choices, obliging them to disregard their teaching beliefs or abandon them all together, i.e., Marlene felt she did not have time to teach in her preferred student-led style because of district-imposed scheduling, so she defaulted to direct instruction to facilitate student preparation for quarterly concerts.

The overall aim of this research was to explore the sources of the teacher beliefs of middle school orchestra teachers and to compare the core teachers' beliefs to their instructional practices. Overall findings of this research include: middle school orchestra teachers in this study have similar preservice experiences, but diverse inservice practices; teacher beliefs that emerged from the data revolved around students; and contextual

factors sometimes prevented teachers in this study from enacting their beliefs. Elliot (2002) quotes Clark (1997) in validating the importance of music education qualitative research:

> The goal of interpretive inquiry is to discover the beliefs, values, motivations, and attitudes of people's actions in educational contexts. Why? Because to discover people's subjective meanings (beliefs, values, and so on) is to gain deeper insights into individual and group actions. (Elliot, p. 92)

By sharing the collected data from the middle school orchestra teacher participants, I hope to increase the awareness of the reader by providing insights into the experiences of these string teachers as they express their teacher beliefs through their teaching practices and continue to refine their ongoing beliefs.

Implications for Practice

In this section, I discuss implications for practice based on the findings of this study. I offer recommendations for teacher educators and preservice teachers, inservice teacher and teacher development planners, district policy makers and arts advocates.

Teacher Educators and Preservice Teachers

What formative educational experiences and personal events influence middle school orchestra teachers to form deeply held beliefs? To what extent do teachers' past musical ensemble experiences as pupils inform their current praxis as teachers through these beliefs? How and when do teachers establish their own beliefs about teaching, learning, their students, and their school settings? What personal teaching practices and teaching experiences help to shape and define individually held teacher beliefs? What specific string teaching beliefs do middle school orchestra instructors hold that transform their teaching practices? And how do their experiences in their teaching practices reshape their teacher beliefs?

Teacher educators may be interested in finding answers to these questions. Examining the preexisting beliefs of preservice teachers may help music teacher educators to shape the planning and instruction of curriculum. Teacher educators may be able to more fully prepare teacher candidates for the challenges of the classroom by exposing them to contextual factors (such and problematic schedules and lack of administrative support) that may challenge their preexisting teacher beliefs, perhaps avoiding early career abandonment (Ingersoll, 2001). In a music education practitioner journal, Thompson (2007) noted,

> Only as music teacher educators understand the beliefs of their students will they appropriately identify the kinds of experiences that will require these students to reconsider their beliefs in light of practice, theory, and research. Equally important, [music education] students must have ongoing opportunities for uncovering, examining, reflecting and refining beliefs throughout their program. (p. 33)

By recognizing and acknowledging the influence of their preexisting beliefs, teacher candidates, themselves, may become more fully aware of their own internal biases and may expand their view of teacher education to include more strategies and pedagogical choices in their future practice.

Inservice Teachers and Teacher Development Planners

Information gleaned from analysis of the teacher beliefs and practices of the participants of this study may support current inservice teachers in evaluating their own present practice and reflecting on their own career path. By recognizing their individual teacher beliefs and the effects of specific classroom contexts, inservice teachers may be able to acknowledge particular influences on their practice and negotiate changes to more fully agree with their thoughtfully developed teacher beliefs. The example of Orrin's personal experience with a teacher demonstrating racial bias points to the importance of

individual inservice teacher introspection on their teacher beliefs. In Orrin's case, the negative experience served as a catalyst for personal determination to overcome racial biases and become professionally successful. However, another student may react by turning their back on music education and dropping out of the program (Younker, 2007). By studying research on teacher beliefs and reflecting on their own beliefs and practices, inservice teachers can unveil problematic equity issues. Conway (2014) commented that "qualitative researchers are charged with giving voice to those who are silenced, marginalized, or misunderstood, especially related to issues of race, class, gender, dis/ability. Research in music education has interrogated questions related to power, access, poverty, privilege, oppression, injustice, and invisibility. Equity is an aim for us all" (p. 643). Personal reflection and evaluation of their own beliefs and practices may help inservice teachers elevate their individual teacher beliefs.

Personal reflection may also assist inservice teachers in choosing and participating in professional development to improve their instructional practices and refine their teaching beliefs. In this study, four of the participants personally sought out inservice professional development, by pursuing a master's degree, attending workshops, or researching other orchestra program blogs for ideas to improve their own program. Sometimes inservice teachers are compelled by the state to participate in professional development to keep their professional credentials. Utilizing research on the stability of teacher beliefs and the challenges of changing deeply held beliefs, professional development planners may utilize strategies such as giving inservice teachers opportunities to practice and experiment with new procedures and techniques, followed by structured opportunities for discussion and reflection. By providing inservice teachers

new instructional tools that the teachers, themselves, have found to be effective, changes in teacher beliefs are more likely to be accepted and implemented (Buehl & Beck, 2015; Pajares, 1992).

District Policy Makers

Using data and discussion from this study, district policy makers may glean information to help make pedagogically sound weekly schedules for middle school elective classes such as performing arts and foreign languages (contextual factors that prevented Marlene from enacting her teacher beliefs). This data could also help districts make more prudent financial decisions dealing with student instruments and method books, requiring a nominal parent financial investment to imbue district assets with intrinsic value (contextual factor that influenced Susan's practice). Review of this particular study may encourage district and site administrators to give traveling teachers the support they need to build their programs, while including them in a "home school" community (contextual factors that contributed to teacher isolation like Cassie experienced).

When administrators delegate complete control to teachers, each teacher will design their practice based on their own beliefs. This leads to a wide variety of interpretations of what middle school orchestra classes should be like. Does it matter that each program within a state, or even within a district, is significantly different from others? Do district administrators even know what string programs should entail? Is there any standard that makes recommendations for what should be included in a middle school orchestra program? The American String Teacher Association has published a curriculum guide that can assist K-12 administrators in making recommendations for

school string teachers (Benham et al., 2011). State Departments of Education often set curricular standards for visual and performing arts. But do string teachers in various school districts value and utilize such resources in their practices? By becoming aware of their string teachers' beliefs and practices dealing with curriculum, administrators may support string teachers in their individual programs and facilitate music learning opportunities for students.

Meaningful Experiences in the Music Classroom

As is evidenced in the data of this study, middle school string teachers value the meaningful musical experiences they cultivate and experience with their orchestra students. Indeed, love of music making and desire to share music with students are two primary motivators that encourage preservice teachers to pursue music education as a career (Jones & Parkes, 2010; Millican & Pellegrino, 2017). In an age of hyper-technical measurement, emphasis on careers in science and technology, and stress over academic competition via test scores, acknowledging strong teacher beliefs about the importance of music making to students and developing students' musicianship can contribute to educating the whole child. Studying teacher beliefs can validate the importance of music and the arts in education.

Overall, preservice teachers and music teacher educators could benefit from this research by recognizing the value of self reflection to illuminate preexisting teacher beliefs and values. Inservice teachers and teacher development planners may recognize contextual factors and best practices in designing their program and instructional strategies. District policy makers could learn how their role is crucial in enabling teachers to activate their deeply held beliefs through their practices.

Suggestions for Future Research

This study raises questions for continued research about relationships between teacher beliefs and practices. In the following section, I offer suggestions for further study concerning this topic.

Additional and More Varied Participants

Since this study was limited to six middle school orchestra teachers in the southwest region of the United States, their teacher beliefs and practices may be related to common expectations of string teachers in this geographical area. Future studies with a broader geographical base may yield a wider variety of teacher beliefs and practices. Similarly, because of the small number of participants, experience levels were limited to one teacher new to the field, two teachers with approximately 10 years of experience, two teachers with about 15 years of experience and one teacher with over 30 years of experience. In future studies, examining the teacher beliefs and practices of more teachers at each experience level could add depth to the analysis of this topic. A broader research participant base could show a more diverse view of orchestra teachers' beliefs and practices.

In this study I chose to limit the teacher beliefs and practices addressed to beliefs about middle school string pedagogy, beliefs about the motivations of middle school string students, and beliefs about the individual teachers' string programs. Additional teacher belief research could examine other teacher beliefs about matters such as curriculum, materials, instructional activities, and teacher self-efficacy concerns (Siwatu & Chesnut, 2015; Watt & Richardson, 2015).

This study focused on the orchestra teachers who taught at the middle school level. Additional studies could examine teacher beliefs and practices related to working with elementary school or high school students. These studies may show concerns unique to those age-appropriate levels. At the college level, research on the preexisting beliefs of preservice music educators could reveal biases and expectations that impact the curricular choices of practicum and methods courses teachers, both specific to strings, as well as other areas of music education.

Longitudinal Research

Longitudinal research is another way to gather data on teacher beliefs and practices. Ashton (2015) recommended that researchers utilize comprehensive, longitudinal studies to examine the impact of teachers' beliefs on teaching and learning. She advocated that university researchers, teacher educators, and school districts work together to "conduct large-scale ecologically based research studies of the multiple contexts affecting teachers' and students' beliefs" (p. 44) to produce more in-depth data. Ethical dilemmas may emerge from studies that attempt to change teachers' beliefs, but studies that seek to improve teacher/student relationships and promote student achievement and motivation may be worth the effort.

In this study, the length of the data collection period was approximately one year. The follow-up survey was completed after another year had passed. In Mark's follow up survey, he reflected on how he has changed his beliefs and practices since his last interview with me. He responded to the survey question, "Over the last two years, have you changed your ideas about teaching middle school orchestras?" by stating the following:

> [Now] I focus less on units and more on performance skills. I used to teach and assess on genres of music and give projects, listening examples, and lectures on musicology that would take up a lot of rehearsal time. I still teach about comparing Baroque and Classical music and what makes jazz and fiddle genres unique, but I don't give as many assessments on it. I assess more on knowing articulation and dynamic markings and other such fundamentals. (R.1.2)

In his follow up survey, Mark also expressed that he changed his ideas about his class practicing requirements and his concept of who should participate in middle school orchestra ensembles. Mark wrote,

> My ideas regarding student commitment have changed a little this past year. I used to have more of a strict attitude about practicing, that students who don't practice really shouldn't be in instrumental ensembles at all. However, I have some students that either don't practice or practice really minimally, and still progress in class and can do pretty well. They just can't be pushed very hard with more technical music.
>
> I question whether or not achievement should supersede involvement. If I can put those kids that resist practicing on easier parts or in a class that does easier music, and still keep them involved in music, perhaps that's better than pushing them to practice to the point of quitting. On the other hand, I'm a believer that most students will work as hard as they have to. Without challenging them, they don't have motivation to work harder. (R.1.3)

It is not clear what motivated Mark to change his beliefs about his instructional priorities and practice requirements in the classroom. Is the motivation behind his change in beliefs to increase enrollment in his orchestra classes (a practical change), or is his change in belief due to a shift of thinking—that orchestra is for all kids, not just the really dedicated students (a philosophical change). It seems that he now desires to focus more on performance or assessment of performance with his various levels of students rather than on cultivating general musical knowledge.

When and why do teachers change their teaching beliefs? Future longitudinal studies on teachers' beliefs and practices in music education could focus on studying changing teacher beliefs. Research questions could include: When do teachers make

major changes in their teacher beliefs? Why would they choose to change their teacher beliefs? What teaching environments are necessary to foster positive teacher belief changes? What strategies are most successful in effecting change?

Relating Teacher Beliefs and Practices to Student Learning

Clark and Peterson (1986) noted the relationship between teacher thought processes and teacher action in the classroom. In education research, much interest focuses on the relationship between teacher practices and student learning; there is not as much research on the connection between teachers' beliefs and student learning outcomes (Hoffman & Seidel, 2015). Hoffman and Seidel suggest that study designs include quantitative student performance data such as "achievement test scores, measures of engaged behavior, and learner feedback" (p. 122) to reflect the effects of teacher beliefs on student achievement. By better understanding the relationship between teacher beliefs and practices, educational researchers may discover how teacher beliefs ultimately impact student learning and the overall success of educational programs.

Inservice Teacher Beliefs and Practices

Currently, much research is conducted by music educators with preservice teachers as study participants. University music education programs have easy access to college students in their class, which facilitates research without leaving campus. Campbell and Thompson (2014) analyzed qualitative research studies done with preservice music education majors and found that "Analysis [of preservice music education teachers] suggested three focus areas: (a) beliefs or concerns of preservice music teachers, (b) perceptions or attitudes of preservice music teachers regarding some aspect of learning to teach, and (c) specific course improvements/interventions by music

teacher educators for evaluative purposes that would help preservice teachers learn to teach" (p. 453). In that same handbook, Conway (2014) dedicates a chapter to inservice teacher professional development, but not to inservice teachers' lived experiences. She points out the need for more qualitative research with inservice teachers within their teaching environments: "Elementary and secondary classrooms have traditionally been and will remain inviting contexts of inquiry in probing musical understanding, the reciprocality of teaching and learning, processes of social interaction, and especially the influences of educational policy on music education" (p. 643).

Additional research on teacher beliefs and practices of inservice teachers could help explore the consequences for students, teachers, and programs when there is incongruence between teacher beliefs and teacher practices. More studies addressing the issues of how teaching contexts affect teacher practices and even teacher beliefs can help all stakeholders support teachers and music programs. Understanding the connections between classroom contexts, teachers' beliefs, and teachers' practices is a research area that shows great potential to help teachers understand the teaching environment and their responsibilities.

Qualitative Research in String Music Education

Research on teacher beliefs is prolific in academic areas such as teaching reading, math, social studies, and science. Studies also exist in the areas of teaching technology, foreign languages, and special education. But very few teacher belief studies concentrate on music education, and even fewer focus on string teaching. In addition, "To date, published qualitative research on stringed instrument teaching, learning, and performance is limited, with the *String Research Journal/Journal of String Research* having published

only two articles, or nine percent of the total number of articles, that use qualitative methodology" (Berg, 2014, p. 409). Berg notes that in the last decade, more research in the areas of string playing and teaching is being conducted, especially as reflected in the increase of poster sessions of the American String Teacher Association (ASTA) national conference. Berg concludes, "Researchers have a prime opportunity to add to this corpus of qualitative studies for topics that have been the focus of prior research in order to begin to establish a larger body of research on American string/orchestra teaching and learning" (p. 425). Studies such as this dissertation can expand the research boundaries of string music education, and enrich the research area of teaching string instruments.

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APPENDIX A

INTERVIEW GUIDES

Interview 1 (Initial) Sample Questions

Tell me about your musical background.
- When did you start playing your instrument?
- Why did you choose that instrument?

Tell me about your experience in school and/or youth orchestras?
Tell me about influential musical people in your pre-college years. (teachers, relatives, friends)
- What did you admire about them?
- What did you wish to emulate in your practice?
- How did you want your life to be different from them?

When did you decide to go into teaching?
- What/who inspired you to make that decision?
- Did you consider other majors besides music education?
- What was your thought process in deciding between music performance and music education?

Do you still personally perform?
- On your primary instrument or some other way?
- How do you balance your teaching and your own musicianship?

Since you graduated with your teaching certificate, what are some things you have learned about music education that you didn't know before you started teaching?
Tell me about your goals related to music education and your job as an orchestra teacher.
- Have your goals and concerns for practice changed over time?
- What experiences have shaped your sense of purpose in your job?

When in your career did you start feeling comfortable teaching your classes?
- Tell me about an incident when you knew you were a confident teacher.
- In what aspects of being a teacher do you feel you excel?
- In what aspects of being a teacher do you feel you could make progress?
- How would your students/colleagues describe you?

What are some of the roles you play as teacher/mentor?

What levels have you taught in the past?
- Did/do you teach privately as well as in schools?

Why did you choose to pursue your current position?
- Did you intentionally choose to teach at the middle school level?
- What do you like/not like about teaching this age group?

How would you describe junior high age students?
- What are some of the characteristics and quirks of your students?
- How does the nature of junior high age students affect your teaching?
- What are some of the things that middle school students do that frustrate you?
- Tell me an example of how you find teaching this age group to be gratifying?

Describe a typical rehearsal with your middle school orchestra.

Tell me a little bit about your students.
What kind of differentiation do you do in your classroom?
What individual needs have you addressed with your students?
What strategies have you employed to meet those needs?
For you, what is important for your students to learn over their years with you in middle school? What are your musical goals for your students?
What are your personal goals for your students?

Do you ever hear from former students?
Share some stories of students you have influenced.

If I asked former students to recall three or four things that they learned in your class, what would they say?
What would you want them to remember most about you and your class?

Interview 2 & 3 (Reflecting on Teacher Videos) Sample Questions

Video reference – Wendi Video 1 – 7th grade class

0:19 - 0:40 Here you're doing your gathering procedure. Tell me about your "attention getter" activity.

1:00 – 1:35 Tell me about your tuning procedure. Do you check back with students after you help them discover whether they need to make their string higher or lower?

4:30 – 5:06 Here you're talking about playing with the balance part of the bow. Tell me about your ideas about bow placement for this level of students?

12:38 – 13:12 You are teaching the students to play Mari's Wedding by ear. Tell me about how and why you teach your students fiddle tunes by ear.

24:50 – 25:06 Here you are doing a pencil check and giving the students candy. What are your thoughts about external rewards?

37:14 – 37:20 You have the students get their "Nightrider" piece ready. The kids really like that one, watch this student's reaction. How do you select literature? What is your thought process when selecting music for your students?

Video reference – Wendi Video 3 – 8th grade class

2:01 – 2:10 You talk about "Free Concert Friday." What is that? Why do you do it?

2:12 – 2:30 Tell me about your "Open String Cycle" warm up. What is the purpose for the activity?

4:40 – 5:10 You have them close their eyes during the scale. They get apart, then back together again. You don't stop them or help them. What are your thoughts about this?

13:55 – 14:15 Here you isolate a problem and help the students correct. Tell me about your thinking process here.

24:52 – 25:24 Kids are getting tired; you have to restart them three times. You tease them. Tell me how and why you use humor at this age level to help students self-correct.

Interview 4 (Final) Sample Questions

As teachers, we carry a lot of personal responsibility. What expectations do you feel from your school site?
What expectations do you feel from other teachers at your site?
What expectations do you feel from administrators?
Tell me about an experience unique to your school site.

What do you feel about expectations from other music teachers?
In your district?
In our area?

Tell me about what you feel parents expect of you and your program?

What about student expectations?
How do your students express their expectations?
How do you learn about your students' expectations/desires/goals?
Tell me an experience when students confided in you about their expectations of orchestra class

What beliefs do you hold about the educational culture of your area?
Tell me an example of community expectations in your geographic area?
How do community expectations influence your curricular decisions?

What external forces influence your instructional practice such as curriculum decisions or available resources?
If you disagree with something your principal or district asks of you, how do you handle it?
Share an experience where you changed your practice due to people above you or policies beyond your control.

Tell me about your interactions and relationships with other orchestra teachers in your district.
Do you often work together? On what kinds of projects?

In what kind of recruiting efforts are you involved?
- With elementary teachers for incoming students?
- With high school teachers for students moving on?
- Who organizes recruiting efforts?

Do you participate in adjudicated festivals?
- Which group(s) do you take to festival and why?
- In your opinion, what is the value of adjudicated festivals?

Do you encourage your middle school students to participate in honor groups? (District or MEA)
- Why or why not?

What criteria do you use to grade your students?
- What computer grade book do you use? Do you like it?
- How do you evaluate student progress?
- Do you give individual playing test? How do you do it? What criteria do you use?
- Do you use ability-based seating? How do you seat your orchestras?
- Do you use practice records?
- If so, describe your practice record artifact and process.

If your peers nominated you for a teaching award, what would you hope they would say about you?

We've talked a lot about your teaching and your thoughts about teaching. Are there any other experiences that you would like to share with me that illustrate what is meaningful to you about teaching middle school orchestra?

APPENDIX B

IRB APPROVAL & EXCEMPTION GRANTED

Arizona State University

APPROVAL: MODIFICATION

Margaret Schmidt
Music, School of
480/965-8277
Marg.Schmidt@asu.edu

Dear Margaret Schmidt:

On 4/19/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Modification
Title:	Middle School Orchestra Teachers' Instructional Beliefs and Teaching Practices
Investigator:	Margaret Schmidt
IRB ID:	STUDY00002442
Funding:	Name: (Unspecified)
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Photo Release - information.pdf, Category: Other (to reflect anything not captured above); • Schmidt-Dopp_Protocol_ Social-Behavioral_Rev(3).docx, Category: IRB Protocol; • Schmidt-Dopp_Interview_2&3_Sample_Questions.pdf, Category: Other (to reflect anything not captured above); • Parent consent for video, Category: Consent Form; • Schmidt-Dopp_Initial_Contact_Script_Rev.pdf, Category: Recruitment Materials; • Schmidt-Dopp_Recruitment_email_Rev.pdf, Category: Recruitment Materials; • Schmidt-Dopp_Consent_Form_Rev(3).pdf, Category: Consent Form; • Photo Release - sample.pdf, Category: Other (to reflect anything not captured above); • Schmidt-Dopp_Interview_1_Sample_Questions.pdf, Category: Other (to reflect anything not captured

	above); • Schmidt-Dopp_Interview_4_Sample_Questions.pdf, Category: Other (to reflect anything not captured above); • Schmidt-Dopp_Principal_Information_LetterRev(3).pdf, Category: Other (to reflect anything not captured above); • Schmidt-Dopp_Teacher_Video_Recording_Instructions_Rev(3).pdf, Category: Participant materials (specific directions for them);

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Valerie Dopp
Valerie Dopp

APPENDIX C

PARTICIPANT CONSENT FORM

Title of research study: Relationships Between Middle School String Teachers' Teaching Beliefs and Classroom Practices

Investigator: Valerie Dopp, graduate student, under the direction of Dr. Margaret Schmidt

Why am I being invited to take part in a research study?

I invite you to take part in a research study because you are a current middle school orchestra teacher in the state of Arizona and I would like for you to share your experience with me. The target of this study is orchestra teachers of gr. 6 - 8.

Why is this research being done?

The purpose of this research study is to learn more about your experiences as a middle school orchestra teacher, exploring how you think about helping your students learn.

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

I expect that individuals will spend 4 to 6 hours during the 2015-16 school year, including three meetings that each will last about an hour and a half, and making videos of 4 of your classes.

1) We will start with a discussion (interview) about your experience being a middle school orchestra teacher. I will ask you to recall specific lessons, memories, situations, and anecdotes that you have encountered in your teaching career. I'm interested to know what is most important to you in your teaching and what makes teaching worthwhile for you.
2) Then I will ask you to make a videotape of four 20-45 minutes classes with the camera on a tripod facing you (not the students). We will then meet for a second and third interview and watch portions of the videos together. I will ask you to "think aloud" about your teaching as we watch, telling me what you were thinking at the time as you taught the videotaped lesson.
3) Later, we will meet for a fourth interview, so that I can more fully I understand your ideas about teaching. All of the interviews will be audio for transcription.

You are free to decide whether you wish to participate in this study.

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

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

Is there any way being in this study could be bad for me?

There are no known physical, psychological, legal, social, economic, or privacy risks involved in this study.

Will being in this study help me in any way?

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include taking time for self-reflection on your own teaching practice.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of data, including research study records, to people who have a need to review this information. Organizations that may inspect and copy your information include the University board that reviews research that ensures that researchers are doing their jobs correctly and protecting your information and rights.

If I use any of your information in my dissertation or other reports, you will be identified by a pseudonym and specific details will be changed so that you cannot be identified. To protect the privacy of others, please avoid using the names of students and/or individuals during the interviews.

All data (transcripts and audio, and videotapes) will be deleted upon completion of the project.

What else do I need to know?

This research is part of my dissertation in music education. It is not being funded by any source.

Who can I talk to?

If you have questions, concerns, or complaints, talk to the research team: Valerie Dopp – email: vdopp@xxx.edu phone: xxx-750-0790 or Margaret Schmidt – email: marg.schmidt@xxx.edu

This research has been reviewed and approved by the Social Behavioral IRB. You may talk to them at (xxx) 965-6788 or by email at research.integrity@xxx.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.

Your signature documents your permission to take part in this research including audio and videotaping during interviews and teaching episodes.

_____ _____

Signature of participant Date

_____

Printed name of participant

_____ _____

Signature of person obtaining consent Date

_____

Printed name of person obtaining consent

APPENDIX D

PRINCIPAL INFORMATIONAL LETTER

I am conducting a study in music education about the experiences of orchestra teachers of grades 6-8. _____, the orchestra teacher at your school, has agreed to participate. Since the study focuses on the classroom teacher, not the students, approval from the district is not necessary. This letter is to inform you of your orchestra teacher's participation. In this letter I'm providing contact information if you desire further details.

To help the teachers illustrate their teaching experience, I am asking the teachers to videotape four of their own classes, with a video camera on a tripod. It is okay if the teacher walks out of the camera view during part of the lesson. The audio will pick up the action at that point.

The teacher will participate in four 1.5 hour interviews, recalling specific lessons, memories, situations, and anecdotes that were meaningful in their teaching career. These will take place off campus, outside of the school day. They will not interfere with the teacher's regular responsibilities.

To protect the privacy of others, the orchestra teachers are asked to avoid using names of students/individuals during interviews. All data (audio and video files and transcriptions) will be labeled with pseudonyms for individuals as well as school names.

If you have questions or concerns talk to the research team: Valerie Dopp – email: vdopp@xxx.edu phone: xxx-750-0790 or Margaret Schmidt – email: marg.schmidt@xxx.edu

This research has been reviewed and approved by the XXX Social Behavioral IRB. You may talk to them at (xxx) 965-6788 or by email at research.integrity@xxx.edu if:

- You have questions or concerns that 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 want to get information or provide input about this research.
-

Thank you for contributing to my study!

Sincerely,
Valerie Dopp, doctoral student

APPENDIX E

FOLLOW-UP WRITTEN REFLECTION SURVEY

Name:

1. If you have changed your position/location; what motivated your change in location/employment?

2. If you are still teaching; where, what kind of classes, and what level are you teaching now?

3. If you have changed your position/location; how have you utilized your middle school orchestra-teaching experiences in the Phoenix area in the new chapter of your life?

4. No matter where you are now, what are some things you learned from your middle school orchestra-teaching experiences three years ago?

5. Over the last year, have you changed your ideas about teaching middle school orchestras? If so, what and why?

6. What important ideas and teaching techniques have you picked up in the last year?

APPENDIX F

DATABASE CODING SAMPLE

Wendi - List of Codes	teacher	1st int	observ	video 1&2	video 3&4	final
ability grouping	JAW				1	
accompaniment recordings	A					
adapting music or teaching to address needs of students	JAKW				27	
adjudicated festivals	JAKOW	47				
adolescent discipline - maturity	JAKOW	30		44		
adolescent enthusiasm	W	29				
adolescent student responsibility	JAKOW			24		
advanced skills - shifting, vibrato, phrasing, and spiccato	AKOW	34			*34*	
affective teaching	KOW					29
assessment - grades	JAKOW					22
assessment - high expectations	JW	42				
assessment - informal	W	39				
assessment – live, individual	JAKOW	40				24
assessment - rubric	JAW	40,42				23
assessment – small group	JOW	41				23
assessment – video recorded	JAW	43				24
attrition	JOW	17,22, 25	33			
balance of correction and praise	JAKOW		21	28		
balance of hard work and fun	W	22, 26,38	34			
band and choirs experiences	W	5,				
beginners in advanced classes	J					
beginning classes offered at different grade levels	A					
being the “new” teacher	JO					
bow apportioning stickers	JO					
bow dexterity	AKW				21	
bow placement	KOW	35		7,9,36		
bow technique - using whole bows	KOW					
broken instruments	A					
busy musical life	O					
caring about students	AK					
celebrating successes	K					

APPENDIX G

BELIEF/PRACTICE/SOURCE SUMMARIZING CHART SAMPLE

Q 1 – Describe Practice, Cassie
Initial Interview
Begins classes with tuning – takes a while, students slow
Uses scales and bow exercises, rhythmic things on board
as a warm-up activity
Uses Essential Elements 2000 bk. 2 – progressing to bk. 3
Has students work on 3 pieces: one challenge piece, two
manageable pieces
Does playing tests different each week: mostly in front of
everyone, whole section playing, stand partners
playing, random 2 people in the orchestra – everyone
else gets 100
Tests individually in a practice room only once a quarter ,
gives them a 2-minute private lesson
Only does "chairs" first to worst seating if students are
not learning the music and not practicing
Pairs up stand partners "strong/weak" or for discipline
Rotates stands to everyone has turn sitting in the back &
front
Has students tune with electronic tuner apps on

Q 2 – Stated and Implied Beliefs
Initial Interview
>*Believes that performances are important-when the pressure is on, you practice – or it just doesn't happen; in her own life, and for her students
>Gr. 6-8 is her favorite age to teach.
>Believes MS students are enthusiastic and want to please teacher and want to do their best.
>*Believes students can be manipulative when they are not prepared and are embarrassed – perceive that their instruments are out of tune
>Believes her MS classes are smaller than the choir because choir students do not need to have prior music training/experience like strings kids do.
> Believes that feeding your own program helps with recruiting
> Believes school students should take private lessons
>Believes MS students should start method book 3 to learn skills
>Believes if she teaches theory/history skills, students can figure out musical things on their own (6/8 time, dotted notes)
>Believes that specific practicing assignments and corresponding playing quizzes get kids to practice more requiring a practice

Q 3 – Experience that Shapes Belief
Initial Interview
Parents made financial and time sacrifices to support violin lessons/youth orchestra participation
Learned viola in high school for more challenge (small,
inexperienced HS group)
Did not read music very well when she joined youth orch.
When she was 6 played in community college orchestra
stand partner was 80 yr. old lady having fun
In high school the Orch/Band teacher had her teach string
techniques to peers-fingerings, bowings, tuning
Did official Suzuki training in college – pre book 1 and
book 1
Took first job in Higley because it was an all-string
position gr. 4 – 12
Mentor teacher allowed her to take over-do lots of
teaching
Practices violin every day – even now – 30 min per day
Teaches private lessons – studio of 12 students
Had a group of 8th graders who were "cocky" – wanted
them to be more unified
Had a group of students who would make (or claim) their
instruments out of tune to avoid participation in

phones two days a week. Has students tune with drones and teacher feedback the other 3 days a week With 6th graders – tunes students individually at piano – time restraints (sees kids twice a week before school) Delays teaching tuning until 7th grade	record >*Believes that representative assessments are OK (2 kids test, the rest get 100%) >Believes that students <u>do</u> respond to chair seating by practicing >Believes that focus should be on learning the music and having a good time – not on competitive chairs (but does use chair tests)	rehearsal Her current programs are smaller than the choir Her elem. classes feed her MS program and her MS