

BEGINNING MUSIC TEACHER MENTORING:
IMPACT ON REFLECTIVE PRACTICE, TEACHING EFFICACY,
AND PROFESSIONAL COMMITMENT

by

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Beginning Music Teacher Mentoring: Impact on Reflective Practice, Teaching Efficacy, and Professional Commitment

Dissertation Directed by Professor James R. Austin

Abstract

The purpose of this study was to investigate the status of mentoring and induction programs and their impacts on beginning music teachers. I measured mentoring program comprehensiveness, along with mentor functions and attributes, mentor support practices, and mentor effectiveness as perceived by mentees. I also explored the effects of mentee status, perceived mentor effectiveness, and mentor content area on reflective practice, teaching efficacy, and professional commitment. Data were collected from beginning music teachers within 10 states in Fall 2016 ($N = 245$) and again in March 2017 ($n = 154$).

After using exploratory and confirmatory factor analysis techniques to reduce multi-item variables into smaller, latent factor structures, I utilized multivariate inferential statistics to explore whether beginning music teachers' growth in reflective practice, teaching efficacy, and professional commitment over time was connected to mentor content area or mentor effectiveness (as perceived by the mentee). Then, I used path analysis techniques to explore relations among mentor and mentee characteristics, beginning teacher perceptions of mentor functions and effectiveness, and beginning music teachers' self-reports of reflective practice, teaching efficacy, and professional commitment.

Reflective practice, teaching efficacy, and professional commitment did not differ by mentee status (current, former). Additionally, perceived mentor effectiveness (as moderated by mentor content area) did not impact reflective practice, teaching efficacy, or professional

commitment over time. In fact, mentees with non-music mentors reported increases in reflective practice, teaching efficacy, and professional commitment, but these gains were not statistically different from mentee respondents who were assigned a music mentor. Lastly, a measurement model that predicts professional commitment—including direct effects of Reflection-on-Action, Reflection-in-Action, and Classroom Management and Engagement efficacy, and indirect effects of Reflection-in-Action and mentee status—is proposed. Only mentee status predicted Classroom Management and Engagement efficacy; current mentees tended to be less efficacious. None of the other demographic or mentoring program variables—including mentor effectiveness, mentor content area, level of education, school setting, and years of teaching experience—predicted reflective practice, teaching efficacy, or professional commitment. Implications for beginning music teacher mentoring and recommendations for future research are discussed.

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CHAPTER I

Introduction

My first year of teaching was filled with challenges! These included adjusting to the local community and culture, getting organized, keeping proactive communication, dealing with broken instruments, designing curriculum, and classroom management...those are the big ones, though of course there were more. I feel like those are pretty typical things to face as a first-year teacher, because they're not really anything I was exposed to as a student or student teacher. Just kind of the trial-by-fire type stuff. Luckily, my assigned mentor was awesome. I appreciated having someone to talk to who had worked in the district for a long time. My mentor wasn't a music teacher but she genuinely listened and offered great advice. I definitely got more out of our conversations than from the actual paperwork.

Margaret, second-year instrumental music teacher in 2016-17, Southwestern U.S.

Teachers from the early 20th century would likely not recognize the current American educational system, as contemporary educators arguably face more professional challenges than their predecessors. Hargreaves (1995) warned that “teacher’s work is becoming increasingly intensified, with teachers expected to respond to greater pressures and comply with multiplying innovations under conditions that are at best stable and at worst deteriorating” (p. 84). Mandates for updated curricular design, evolving state standards, increases in standardized testing, educational transparency, technology implementation, and—in some states—teacher evaluation linked to retention or salary, continue to weigh heavily on teachers and school administrators.

Student poverty rates, large class enrollments, and insufficient school funding, which often limit student achievement (Rothstein, 2013) also are major concerns for teachers. Perhaps not surprisingly, a large proportion (73%) of educators surveyed by the American Federation of Teachers (AFT) indicated that they often find their work to be stressful (AFT, 2015). In 2013, only 39% of teachers reported they were satisfied with their jobs, a sizeable decrease from the 62% satisfaction rate documented in 2008 (MetLife, 2013).

While these professional challenges impact teachers of all experience levels, beginning teachers have additional challenges, often which “cannot be grasped in advance or outside the contexts of teaching” (Feiman-Nemser, 2003, p. 26). These challenges are both professional and personal, and can include teacher evaluation systems (Good & Bennett, 2005), classroom management strategies (Good & Bennett, 2005; Veenman, 1984; Zepeda & Ponticell, 1996), knowledge of school and district procedures (Zepeda & Ponticell, 1996), sufficient planning time (Ganser, 1999; Veenman, 1984), and instructional practices such as assessment (Beck, Kosnik, & Rowsell, 2007; Veenman, 1984), instructional delivery (Zepeda & Ponticell, 1996), and planning (Good & Bennett, 2005). This is not to say that experienced teachers do not face these challenges; rather, that the beginning teachers’ challenges may be magnified by their initial professional experiences. Fortunately for beginning teachers, principals (Crain & Young, 1990; Roberson & Roberson, 2009) and school counselors (Bradley, 2010) can be sources of assistance. Recognizing the need for beginning teacher supports, an increasing number of states and school districts have implemented formalized induction (Feiman-Nemser, 2001a) or mentoring programs (Jonson, 2002; Schwille, 2008; Stanulis & Ames, 2009). Induction and mentoring programs will be defined in the following section.

Distinguishing Induction and Mentoring Programs

A viewpoint that has steadily gained momentum for some twenty years is that “induction represents one of the most critical periods in a teacher’s career” (Moir, Barlin, Gless, & Miles, 2009, p. 29). *Induction* can refer to: (a) a phase of development that occurs during beginning teachers’ first years; (b) a transition period where teachers shift from teacher preparation to inservice practice; or (c) a formal beginning teacher program that may range from one to three years (Feiman-Nemser, Schwille, Carver, & Yusko, 1999). Moir and colleagues (2009) provide sobering advice regarding induction programs and beginning teachers:

The first two features of induction will occur whether or not a formal program is in place. New teachers will go through a period of development; and they will be enculturated and socialized by the dominant practices and attitudes of their particular context, whether those features positively influence their teaching effectiveness—or not. If there is no support for new teachers and no structures in place to help them survive the bumpy transition into the classroom, new teachers will experience the common sink-or-swim model of induction—an isolating, frustrating experience in which teachers learn their craft by hook or by crook (pp. 30–31).

Common elements of formal, structured, and well-conceived induction programs include orientation meetings, classes, workshops, professional development sessions specific to beginning teachers, classroom observations, constructive feedback through formative assessments, and *mentoring* (Glazerman et al., 2010; Ingersoll, 2009).

Although the terms *induction* and *mentoring* are sometimes used interchangeably, it must be noted that the ongoing mentor-mentee relationship is just one facet of an induction program

(Jacobs, 2008). The mentor plays a vital role in beginning teachers' development, as they establish a "one-to-one professional relationship that can simultaneously empower and enhance practice" (Fletcher, 2000, p. 1). Thus, a primary goal of mentoring is to prepare and empower beginning teachers to eventually make their own informed decisions (Portner, 2008). I overview the evolution and status of teacher mentoring and induction programs in the following section.

Current Status of Induction and Mentoring Programs

Education scholars first voiced the importance of mentoring and induction over fifty years ago (e.g., Conant, 1963; Jones, 1977), but policy efforts lagged for several decades. As recently as 1996, only seven states (14%) required beginning teachers to engage in induction programs (Ingersoll & Smith, 2004), but just four years later, the number of states mandating that local districts to offer induction programs had increased to 19 (38%; Jerald & Boser, 2000). In 2001, 28 states (56%) reported mentoring program were available for beginning teachers, yet only 10 states required mentoring program participation and allocated funding to support the program (National Commission on Teaching and America's Future, 2003). The increase in access to induction and mentoring programs over the past 20 years may reflect implementation of the No Child Left Behind Act of 2001 (Dee & Jacob, 2010) which required that states either develop new mentoring programs or maintain existing programs (Hall, 2005). One decade after adoption of the NCLB Act, 27 states (54%) were requiring mentoring or induction for new teachers during their first two years in the profession, with 11 of those states requiring *both* induction and mentoring (Goldrick et al., 2012). In a more recent analysis, Goldrick (2016) concluded that 29 states required either mentoring or induction supports for beginning teachers, but that "just 15 states require a research-based, multi-year course of support for all beginning teachers" (p. vi).

Despite progress in the number of states requiring mentoring and/or induction program participation, many of these programs lack adequate funding or fail to satisfy extensive mentor program criteria as outlined by the New Teacher Center (NTC), a national non-profit research organization formerly associated with the University of California at Santa Cruz. (Goldrick, 2016). According to Goldrick:

Only three states meet NTC's most important criteria for a high-quality system of new teacher support. Connecticut, Delaware, and Iowa are the only states that require schools and districts to provide multi-year support for new teachers, require teachers to complete an induction program for a professional license, and provide dedicated funding for new teacher induction and mentoring (p. iii).

In 2016, dedicated funding—which likely determines the veracity, impact, and sustainability of state induction and/or mentoring programs—was evident in only 16 states (Goldrick, 2016), down from 17 states identified just four years earlier (Goldrick et al., 2012).

Mentoring in dissertation focus states. For this investigation, I surveyed beginning music teachers within 10 states that require districts to provide mentoring supports. (Additional information regarding my rationale and methods are included later in Chapter One as well as throughout Chapter Three.) Mentoring policies for these 10 focus states are briefly described below.

California. In the early 1990s, California developed the Beginning Teacher Support and Assessment Program as a response to teacher turnover and as a means to improve teacher quality (California Commission on Teacher Credentialing, 2015). State law currently requires all first- and second-year educators to receive induction supports, which includes mentoring and professional development (NTC California State Policy Review, 2016). Embedded within these

policies are requirements for classroom observations by and of beginning teachers, use of formative assessments, and ongoing mentor training (Goldrick, 2016). The California MEA designed and launched a music-specific mentoring program that is available at no cost for any interested CMEA members (Nicholson, 2016). This program allows mentors to share knowledge and expertise which, according to the CMEA, results in greater teacher effectiveness and a sense of empowerment (Nicholson, 2016). Both mentors and mentees can apply for participation via the CMEA website.

Colorado. Colorado is one of three states—along with Rhode Island and Wisconsin—that requires induction support for beginning teachers but does not specify a minimum program length (Goldrick, 2016); rather, school districts are granted local control to determine induction program length (Goldrick, 2016). State policies provide recommendations for mentor attributes and mentor selection, but school districts also have discretion to determine mentor training requirements (NTC Colorado State Policy Review, 2016). Within its induction program requirements, Colorado mandates that districts provide beginning teachers with “sufficient planning time” (i.e., reduced teaching load) (Goldrick, 2016, p. 6), but protected release time for mentor-mentee interactions is not required (NTC Colorado State Policy Review, 2016). Before beginning teachers may obtain a professional license, the Colorado Department of Education (CDE) requires satisfactory completion of a State Board of Education-approved, district-level induction program (“Moving from an Initial License,” 2016). Despite this, it is unclear how the state monitors or evaluates the effectiveness of such programs, even though the “CDE supports these educators by providing funding for and approving school districts’ induction programs, and surveying new educators” (“Induction,” 2017).

Many of these induction and mentoring policies appear to be the result of the CDE hiring the New Teacher Center's Educator Induction Consulting Services between November 2011 and June 2012 (New Teacher Center, 2013). After reviewing district induction plans, the NTC determined that 74% of the existing Colorado district induction programs were "Establishing" (i.e., basic). To increase the quality of induction programs across the state, the NTC provided several policy recommendations, including the development of state induction standards, induction program assessment and oversight, and dedicating state funding to such programs (New Teacher Center, 2013). Despite these recommendations, Colorado still lacks induction program standards as well as dedicated state funding for local induction programs (NTC Colorado State Policy Review, 2016). Specific to music, the Colorado MEA does not offer a mentoring program (Baumgartner et al., 2015).

Iowa. As noted earlier in Chapter One, Iowa is one of three states that meet the NTC's criteria for comprehensive beginning teacher supports: multiyear support, required induction participation that is linked to advanced licensure, and allocated state funding for both induction and mentoring (Goldrick, 2016; NTC Iowa State Policy Review, 2016). Beginning teachers in Iowa are required to receive a minimum of two years of support (NTC Iowa State Policy Review, 2016). The Iowa Alliance for Arts Education offers the voluntary Arts Educator Mentor Program, which provides mentor stipends, travel reimbursement, and funds to support up to four face-to-face visits for first-year teachers and two visits for second-year teachers (Koerner, Baughman, Baumgartner, Stanbery, & Millican, 2016). Additionally, grant funding provides \$250 to each beginning music teacher so that they can attend a conference of their choice (Koerner et al., 2016).

The Iowa MEA does not offer a mentoring program. Instead, minutes from the January 2016 Executive Committee Meeting state that IMEA is determining “what IMEA can do to support membership in the Iowa Alliance for Arts Education” (IMEA, 2016b, p. 62), including soliciting donations, increasing IMEA’s annual financial contributions to the program, or providing a one-time donation (Iowa Music Educators Association, 2016). IMEA supports the Iowa Alliance for Arts Education, while at the same time, other music organizations in the state (i.e., Iowa Bandmasters Association, Iowa Choral Directors Association) provide more specialized mentoring supports (IMEA, 2016a).

Maine. School districts in Maine are required to provide induction supports for beginning teachers in their first two years, of which successful completion is linked to advanced licensure (Goldrick, 2016). The Maine Department of Education has developed induction program standards (Goldrick, 2016), which include mentor selection criteria (NTC Maine State Policy Review, 2016) and guidelines for the frequency of mentor observations (Maine Department of Education, 2016). The Maine MEA does not provide an optional music-specific mentoring program.

Massachusetts. Beginning teachers in Massachusetts receive induction supports for three years (Goldrick, 2016). The Commonwealth’s induction policies require a rigorous mentor selection process, mandate that mentors be assigned to mentees of similar content areas or grade levels within the first two weeks of the academic year, require mentors to receive ongoing training, and state that mentors must provide mentees with post-observation feedback (Goldrick, 2016; NTC Massachusetts State Policy review). These induction policies also encourage districts to provide reduced teaching loads for beginning teachers, although this is not required (Goldrick, 2016). Specific to music, the Massachusetts MEA recently launched the Embracing

the New Music Educator mentoring initiative (MMEA, 2016), a voluntary program available to any music educator (Koerner et al., 2016). Although the program is only available to music teachers in the Northeast District of MMEA (MMEA, 2016), the program's leaders hope to expand availability to interested music teachers in all of Massachusetts.

New Mexico. Beginning teachers in New Mexico receive one year of mentoring support (NTC New Mexico State Policy Review, 2016). The state has adopted mentoring program standards (Goldrick, 2016), which include mentor selection and evaluation criteria, mentor training, a focus on beginning teachers' developmental needs, and documentation of beginning teacher growth over time (NTC New Mexico State Policy Review, 2016). State policies do not address providing mentors and mentees with release time or reduced teaching loads, nor is the state required to appropriate funding for mentoring and induction programs (NTC New Mexico State Policy Review, 2016). The New Mexico MEA does not offer a music mentoring program.

North Carolina. In North Carolina, districts are required to provide mentoring support for beginning teachers during their first three years, and mentors must complete initial and ongoing training (NTC North Carolina State Policy Review, 2016). As in California and Massachusetts, the North Carolina induction program policies emphasize formative assessments, observations of and by beginning teachers, and beginning teacher-specific professional development (Goldrick, 2016). Furthermore, mentors are required to learn about beginning teachers' needs prior to the start of the school year, and districts are required to allot release time for mentors (Goldrick, 2016).

To assist first-year music teachers, the North Carolina MEA has developed an optional music mentoring program (NCMEA, 2016). As part of this program, new music teachers are grouped with a second- or third-year teacher and a veteran teacher. The developing teacher and

veteran teacher “will serve as facilitators and resources for the new teacher” (NCMEA, 2016); according to the program website, beginning music teachers may continue in the program, initially as the developing teacher in a new team, and ultimately as the veteran teacher mentor. New mentors and beginning music teachers can sign up for the mentoring program via the NCMEA mentoring program website. Once in the program, beginning music teachers participate in a new teacher retreat and receive a minimum of two in-person visits and a minimum of six telephone conversations with their mentor.

Oklahoma. Schools in Oklahoma are required to provide beginning teachers with one year of mentoring support (NTC Oklahoma State Policy Review, 2016), a mandate that has been enacted within the last five years (Goldrick, 2016). Oklahoma mentoring policies specify that mentors observe their beginning teacher(s) a minimum of three times (Goldrick, 2016; NTC Oklahoma State Policy Review, 2016). State regulations also require school districts to “ensure that a mechanism be provided whereby the mentor teacher will provide guidance and assistance to the beginning teacher a minimum of seventy-two (72) hours per year in classroom observation and consultation” (Oklahoma Office of Administrative Rules, n.d.). The Oklahoma MEA approved a new music mentoring program in October 2016 and is seeking mentors and mentees (C. Baumgartner, personal communication, March 29, 2017).

Pennsylvania. School districts within Pennsylvania are required to provide beginning teachers with induction support for one year (Goldrick, 2016). Pennsylvania is one of the 20 states that has adopted induction program standards (Goldrick, 2016), therefore these locally-designed induction programs must ultimately be approved by the Commonwealth’s Department of Education (NTC Pennsylvania State Policy Review, 2016). Districts, however, are not bound to specific mentor selection criteria and mentor responsibility guidelines as suggested by the

Commonwealth, nor is the state required to provide funding for induction programs (NTC Pennsylvania State Policy Review, 2016).

The Pennsylvania MEA offers a mentoring program to serve beginning music teachers of every specialty area, school type, and grade level (“PMEA Mentor Program Information,” 2016). Since its formation in 2005, the PME A Mentor Program has trained some 69 music mentors to help “answer any questions music teachers may have about lesson planning, classroom management strategies, assessment and data collection, the SLO process, and to discuss problems both beginning and experienced music educators may be facing in their teaching situation” (“PMEA Mentoring Program,” 2016).

Rhode Island. Although districts are required to provide mentoring programs for beginning teachers, Rhode Island does not specify a minimum number of years for such supports (NTC Rhode Island State Policy Review, 2016). Mentors are required to receive ongoing professional development, and the state has adopted formal program standards that are aligned with those proposed by the New Teacher Center (Goldrick, 2016; NTC Rhode Island State Policy Review, 2016). The Rhode Island MEA does not offer a music-specific mentoring program (Baumgartner et al., 2016).

Focus state summary. While many experts recommend that beginning teachers be provided access to formal mentoring and induction programs, and while there has been some growth in access to such programs over the past 20 years, access is still lacking in many states, participation is too often voluntary rather than required, and programs may not have the funding necessary to yield meaningful results on a continuing basis. In the section that follows, the potential benefits specific to induction supports and mentoring programs for beginning teachers are considered.

Benefits of Mentoring

Mentoring programs offer numerous potential benefits to beginning teachers. As Moir (2005) states:

Student teaching and preservice training are necessary steps in creating competent and qualified teaching professionals, but they are not enough. Mentors have an impact on new teachers in ways that no amount of training can. The real-life classroom presents questions that only real-life experience can answer. Mentors help provide those answers (p. 60).

Effective mentoring may help to increase beginning teachers' confidence and comfort (Jonson, 2002), ease their transition into the profession (Fletcher, 2000), and improve instructional practices (Sweeny, 2005). Mentoring also plays an important role in beginning teachers' psychological development, as collaborating with veteran teachers can boost motivation and confidence (Odell & Ferraro, 1992). Additionally, there is some evidence that students demonstrate greater learning growth when their teachers have received comprehensive induction supports that include frequent, time-protected interactions with a trained school mentor (Glazerman et al., 2010). It appears that effective mentoring may indirectly impact student achievement through direct effects on teacher confidence, motivation, and instructional quality.

Through descriptive investigations, education researchers have shown that mentees value being observed and observing others (Hall, Johnson, & Bowman, 1995) and engaging in post-observation reflection discussions (Luft & Cox, 2001). As Moir (2005) points out, the mentor must support their mentee through a variety of roles: offering practical advice, modeling teaching behaviors, observing the mentee, providing feedback, and posing questions that stimulate reflective practice. Reflective practice and the role of mentors in prompting their mentees'

reflective practices will be discussed in the next section. Then, I will address the potential impact of comprehensive mentoring programs on beginning teachers' teaching efficacy and professional commitment.

Reflective practice. Reflective practice is considered an important characteristic of effective teachers. As such, teacher preparation programs have placed great emphasis on developing preservice teachers who reflect on their experiences and become more insightful educators. According to Dewey (1933/1993), reflective thought is an “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of grounds that support it and the further conclusions to which it tends” (p. 118). Thus, reflective thinking is an active process that allows an individual to make decisions as to how experiences or ideas are interconnected, which ultimately results in greater personal understanding. Within the classroom, Schön's (1983, 1987) definition of *reflection-on-action* describes a teacher's reflection that occurs after a situation (e.g., What could have been done differently? What act might have produced a different outcome?), whereas *reflection-in-action* refers to one's real-time assessments and adaptations (i.e., while in the act of teaching).

Musthafa (1995) articulated the importance of reflective thinking in beginning teachers' development:

It is therefore critical that we encourage the novice teachers to review, reconstruct, and critically examine their own teaching performance and the performance of the classes they teach. Only through this reflective process will the beginning teachers be able to apply educational principles and instructional techniques within a framework of their own experience, contextual factors, and social and philosophical values (p. 13).

In the spirit of this quote, numerous practitioners (e.g., Bates & Townsend, 2007; Danielson, 1999; Moir, 2005) have suggested that mentoring programs might be used to enhance reflective practice among beginning teachers. One common approach is that mentors prompt their mentees' self-assessment and reflection by posing specific questions and then providing non-judgmental feedback (Crasborn, Hennissen, Brouwer, Korthagen, & Bergen, 2010; Danielson, 1999; Korthagen, 2001; Moir, 2005; Strong & Baron, 2004). For example, after observing their mentee struggle with implementing proactive classroom management strategies, a mentor may first ask the mentee to look back and fully describe the situation. Once the mentee provides a complete depiction (and thus becomes aware of the essential aspects of teaching), the mentor can then ask guiding questions and offer feedback that assists the mentee in developing alternative future practices. Based on this reflection and discussion, the mentee might then be able to enact changes to their future classroom management practices.

While teacher reflection has been defined in more useful ways in recent years, the construct is still challenging to measure—and as a result, no quantitative research specific to reflective practice of beginning teachers has been found. One promising measure comes from Akbari, Behzadpoor, and Dadvand (2010), a team of Iranian professors who developed an instrument for measuring second language teachers' reflective practices. Noting a lack of operationalization, the authors defined a reflective teacher as “one who critically examines his/her practices, comes up with some ideas as how to improve his/her performance to enhance students' learning, and puts those ideas into practice” (p. 212). This conceptualization is based on the earlier works of Dewey (1933/1993) and Schön (1983, 1987), but extends the notion of reflection to include five components: practical, cognitive, affective, critical, and meta-cognitive.

In the time since this measure was developed, no music education investigator appears to have quantitatively investigated how mentors may promote the reflective practice of their mentees.

Teaching efficacy. Over the past 20 years, researchers have explored the capacity of mentors and induction programs to enhance mentees' teaching efficacy, a construct also referred to as personal teaching efficacy, teacher efficacy, teachers' self-efficacy, or teachers' sense of efficacy. *Teaching efficacy* is "the teacher's belief in his or her capacity to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 233). This definition aligns with Bandura's (1997) social cognitive perspective in that "perceived self-efficacy refers to beliefs in one's ability to organize and execute the courses of action required to produce given attainments" (p. 3). It must be noted that teaching efficacy does not indicate actual effectiveness of teaching; rather, teaching efficacy beliefs are judgments of one's capacities to execute specific behaviors in the classroom in order to accomplish desired outcomes (O'Donnell, Reeve, & Smith, 2012; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran et al., 1998).

As shown in Figure 1, teaching efficacy develops through a recursive process by which sources of efficacy information are reflected upon and interpreted (i.e., via cognitive processing). These information sources include mastery experiences (i.e., success within a domain or task), physiological and emotional arousal, vicarious experience (i.e., observing a skill being modeled), and social persuasion (e.g., feedback; Tschannen-Moran et al., 1998). Mastery experiences play a primary role in shaping efficacy beliefs of beginning teachers (Mulholland & Wallace, 2001); as beginning teachers experience success with various teaching tasks, they view themselves as being more competent and efficacious, invest greater effort in future teaching tasks, and demonstrate increasing teacher expertise or mastery (Tschannen-Moran et al., 1998).

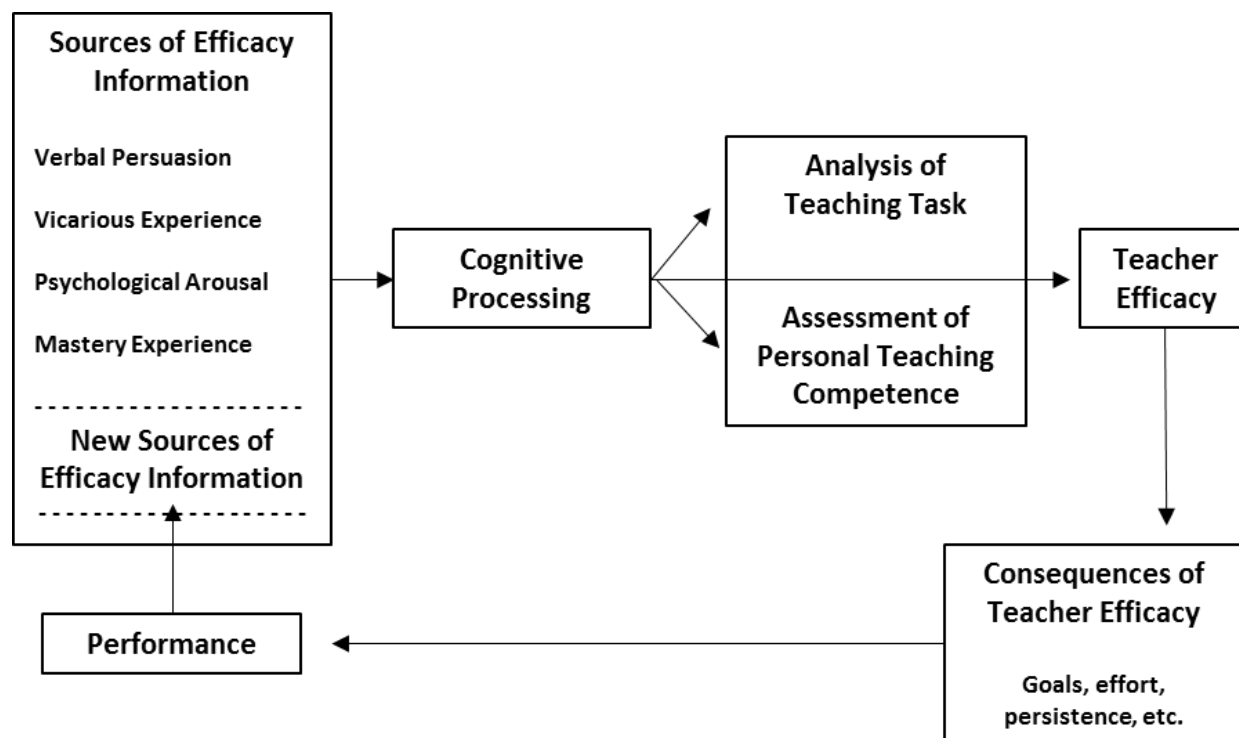


Figure 1.1. The Model of Teacher Efficacy. From Tschannen-Moran et al. (1998), p. 228.

Teaching efficacy beliefs also are associated with student performance and achievement (Brooks, 2013; Daugherty, 2005; Dembo & Gibson, 1985; Maguire, 2011; Woolfolk & Hoy, 1990) and are linked to specific teaching dispositions and actions, including learning and adopting new teaching practices, persisting despite student failures, and setting attainable goals (Ross, 1998). Higher teaching efficacy has also been reported when educators teach within their certification area (Darling-Hammond, Chung, & Frelow, 2002). Additionally, teachers with higher levels of efficacy tend to demonstrate higher levels of commitment to teaching (Coladarci, 1992) and enthusiasm for teaching (Guskey, 1984). Reflective practice also plays an important role in teaching efficacy development (Braun & Crumpler, 2004; Noormohammadi, 2014), as reflection promotes a more dynamic self-assessment of classroom successes and failures

(Tschannen-Moran et al., 1998). Chan, Lau, Nie, Lim, and Hogan (2008) further posit that reflective practice “empowers teachers and hence builds their self-efficacy, leading to greater commitment” (p. 624).

As noted above, teaching “efficacy is a future-oriented judgment that has to do with perceptions of competence rather than actual level of competence” (Woolfolk Hoy & Spero, 2005, p. 344). Beginning teachers tend to self-report lower teaching efficacy than teachers with more experience (Darling-Hammond et al., 2002; Daugherty, 2005; Wolters & Daugherty, 2007). In fact, teaching efficacy tends to be lower in the first year of teaching than during the student teaching semester (Woolfolk Hoy & Spero, 2005).

Fortunately, a growing body of empirical evidence indicates that the teaching efficacy of beginning teachers can be enhanced. Such gains have been found within comprehensive induction programs that place great emphasis on instructional support (Wechsler, Caspary, Humphrey, & Matsko, 2010). Additionally, beginning teaching efficacy is correlated with the level of support received from mentors, colleagues, administrators, parents, and other members of the community (Woolfolk Hoy & Spero, 2005). While mentees who report high levels of trust with their mentor tend to exhibit greater levels of teaching efficacy (Celano & Mitchell, 2014), less is known about the impacts of mentoring program participation on teaching efficacy or the specific roles of mentors in building and protecting mentees’ teaching efficacy.

A construct closely related to teaching efficacy—professional commitment—may also be influenced by mentoring program participation. In the next sections, I will overview teacher retention and commitment and discuss the role of mentoring programs in developing professional commitment.

Teacher retention. In addition to strengthening beginning teachers’ practices and shaping their development, mentoring programs may also minimize teacher turnover. One reason beginning teachers need such supports pertains to the teacher attrition phenomenon. For instance, Kaiser (2011) used data from the 2007-08 Beginning Teacher Longitudinal Study (BTLS) to track teacher turnover across time. According to the report, attrition rates of beginning teachers assigned a mentor were 8 percent after the first year and 10 percent after the second year. Attrition rates among beginning teachers *without* an assigned mentor were twice as pronounced—16 and 23 percent after years one and two, respectively. Follow-up analysis of the BLTS data by Gray and Taie (2015) tracked teacher attrition based on beginning teachers’ participation in a one-year mentoring program. Four years after entering the teaching profession, nearly 86% of beginning teachers who received first-year mentor support remained in the field, while only 71% of those without mentor support remained (Table 1.1). Moreover, there was a sharp first-year attrition rate (16%) for teachers not receiving mentor support that exceeded the 4-year attrition rate for teachers who were assigned mentors (14%).

In addition to benefiting individual teachers, mentoring programs may also strengthen the education profession by minimizing the collective impact of ongoing teacher attrition and

Table 1.1

Percentages of Beginning Teachers Still Teaching, by Experience and Mentor Support Status

	First-Year Mentor	No First-Year Mentor
2 nd Year (2008-2009)	91.6%	83.6%
3 rd Year (2009-10)	90.5%	77.0%
4 th Year (2010-11)	88.0%	72.8%
5 th Year (2011-12)	85.5%	71.4%

migration (i.e., moving from one school or district to another). By one estimate, teacher attrition and migration has a resultant annual cost of \$2.2 billion, with approximately 13% of American teachers changing positions or leaving the profession each year (Haynes, Maddock, & Goldrick, 2014). For at least two decades, high rates of teacher turnover have produced staffing shortages within K-12 schools (Ingersoll, 2001). Beginning teachers who participate in comprehensive induction programs (which includes having an assigned school mentor) are less likely to depart the teaching profession than those who receive no mentoring support (Ingersoll, 2003; Smith & Ingersoll, 2004), especially if beginning teachers value their meetings and conversations with their mentors (Burke, Aubusson, Schuck, Buchanan, & Prescott, 2015).

It has been suggested that schools provide beginning teachers with a mentor from the same subject area as a means of further reducing teacher turnover, namely migration (e.g., moving to another school) and attrition (Smith & Ingersoll, 2004). After analyzing data from the 1999-2000 Schools and Staffing Survey (SASS), Smith and Ingersoll (2004) concluded that beginning teachers who received mentoring from an experienced teacher within the same discipline were less likely to migrate between schools or leave the profession altogether. While it is plausible that being assigned a mentor from the same subject area may strengthen the mentor-mentee relationship, contextualize pedagogical advice, and afford some other efficiencies related to the mentoring process, there is some research evidence suggesting that mentees may also benefit from being paired with mentors from similar or different subject areas (Conway, 2015b; Jonson, 2002; Kaufmann, 2007).

Professional commitment. Within the research literature, teacher commitment refers to either a teacher's commitment to the profession (Chan et al., 2008; Ebmeier, 2003) or their commitment to a specific school (Reyes, 1990). Although these facets of commitment have been

shown to be distinct (e.g., Ebmeier, 2003; Somech & Bogler, 2002), for this investigation, *professional commitment* exclusively refers to one's commitment to the teaching profession, thus echoing Coladarci's (1992) definition of commitment as the "degree of psychological attachment to the teaching profession" (p. 323).

Education researchers have collected professional commitment data from three perspectives: teacher attrition, teacher's planned retention (e.g., how long they envision remaining within the profession), and whether teachers would select the profession again if they had the choice (Coladarci, 1992; Riehl & Sipple, 1996). Perhaps not surprisingly, teachers' perceptions of workplace conditions are related to career choice commitment and planned retention (Sclan, 1993; Weiss, 1999), as is job satisfaction (Fresko, Kfir, & Nasser, 1997).

Ingersoll and Strong (2011) have suggested that beginning teacher supports associated with mentoring and induction positively impact professional commitment. More specifically, professional commitment is linked to the *perceived effectiveness* of beginning teacher supports; merely offering a mentoring program is not as important as how beginning teachers perceive the quality of the assistance offered (Ingersoll, 1997). It appears that mentoring programs have the potential to reduce beginning teacher turnover (Ingersoll, 1997; Smith & Ingersoll, 2004) while also increasing teaching efficacy and professional commitment. Furthermore, professional commitment may be strengthened as teachers become more reflective and efficacious (Chan et al., 2008).

Funding of Mentoring and Induction Programs

Mentoring and induction programs ordinarily are designed to support beginning teachers during their initial professional experiences. Adequate support is associated with enhanced instructional practices and student learning outcomes. Beginning teachers themselves may

benefit by becoming more reflective, efficacious, and committed to the profession—resulting in lower rates of teacher turnover. Yet, despite the empirical evidence that demonstrates how students, teachers, and the larger profession may advance from investments in mentoring and induction programs, lack of funding is a common constrain and concern. The U.S. Department of Education recently reported that 92% of public education funding comes from non-Federal (i.e., state, local, private) sources (“The Federal Role in Education,” 2016). Although Federal funding for state public education is only 8%, this funding has increased from \$50 billion to \$68 billion, or 36%, since 2002 (Camera, 2016). In a recent effort to reduce education spending by \$9 billion, however, the Trump administration has proposed a budget that would eliminate funding for Title II, Part A, also known as the Supporting Effective Instruction program (Camera, 2017).

States fund the largest portion of public education expenses. Given this financial and constitutional authority therein, states exert tremendous influence over education policies and practices. For instance, 52% of Federally-granted Title II funds were used for “professional development” (which includes mentoring and induction) during the 2015-16 academic year (Klein, 2017), but only 16 states currently allocate support for induction programs (Goldrick, 2016) despite the availability of Title II funds. According to Klein (2017), Title II, Part A funds allocated in 2015-16 were used to reduce class sizes (25%), or support quality teaching efforts (6%), the Rural Education Achievement Program (1%), or other efforts (16%). Perhaps more concerning are instances in which states authorize funding for induction supports and require such supports but do not appropriate the funding (10 states; Goldrick, 2016). For example, beginning teachers in California are required to enroll in district induction programs for two years (Goldrick, 2016) to receive advanced licensure. Districts, however, were not required to

fund or provide such programs, and as a result, beginning teachers were expected to pay as much as \$2,500 to receive induction support (Moir, 2015). Recognizing this concern, California lawmakers proposed and approved Assembly Bill 141, a law that prohibits schools from charging any induction-related expenses to beginning teachers (Teacher Credentialing, 2015).

Despite ongoing partisan debates regarding Federal spending and the recent Federal education budget reduction proposed by the Trump administration, mentoring and induction supports may provide a financial return on investment to school districts. In the only known study of its kind, Villar and Strong (2007) used mentor evaluation, student achievement, and teacher retention data from a medium-sized district in California to conduct a cost-benefit analysis of mentoring and induction programs. The authors concluded that students, teachers, districts, and the state all benefited financially from investments in the district's induction program. Through induction participation, beginning teachers' effectiveness ratings increased to a level similar to their more experienced colleagues. Additionally, every \$1.00 invested in the induction program produced a return of \$1.66 after five years, and the financial benefits associated with increased teacher effectiveness surpassed district and state teacher attrition costs. Villar and Strong (2007) further stated:

By measuring the full range of benefit streams accruing to induction, we were able to demonstrate that induction returns extend far beyond mere retention questions. The influence on new teacher practice is by far the most important benefit and potentially extends farther if we consider the benefits to children assigned to effective teachers over the course of their K-12 careers (p. 14).

It appears that in addition to the financial benefits to students, districts, and the state, comprehensive induction and mentoring supports can rapidly increase beginning teachers'

effectiveness, and in turn, yield positive impacts on student achievement. Much less is known about the benefits and viability of under-funded mentoring and induction programs.

Comprehensive Induction Supports and Mentoring Programs

Mentoring, a complex and ongoing relationship between an experienced and beginning teacher, serves as the core of all induction supports. Formalized mentoring typically occurs within a broader induction program, but induction programs can only be considered *comprehensive* when both beginning teachers and their mentors are provided a wide range of supports (Saphier, Freedman, & Aschheim, 2007). For instance, nominal induction supports might include school and district orientation sessions before the start of the academic year (Danielson, 1999; Dunne & Villani, 2007; Glazerman et al., 2010; NTC, 2016b). In programs that are considered more comprehensive, beginning teachers receive school-wide professional development (i.e., involving all teachers) and sessions that are specific to beginning teachers (Dunne & Villani, 2007; Smith & Ingersoll, 2004). Other markers of comprehensive induction include regular classroom observations (Dunne & Villani, 2007; Glazerman et al., 2010), collaborative planning time (Smith & Ingersoll, 2004), mentor compensation (e.g., monetary, status, release time, professional credit) (Danielson, 1999), and in some cases, reduced teaching loads (i.e., compressed teaching schedule and fewer preparations) (Glazerman et al., 2010; Smith & Ingersoll, 2004) or an assigned classroom aide (Ingersoll, 2012).

Comprehensive induction programs tend to be most successful when they draw on the expertise of experienced and trained mentors, supportive principals, and strong induction program leaders, and provide clear program expectations and allow for regular program evaluation (Danielson, 1999; Dunne & Villani, 2007; Glazerman et al., 2010; NTC, 2016b; Saphier et al., 2007). Ideally, an induction program “engages teachers in self-assessment,

reflection on practice, and formative assessment—the same ingredients found to enhance learning by students” (Danielson, 1999, p. 255).

Mentoring advocates envision numerous critical components within comprehensive and effective programs. Such programs are comprised of a thorough process for mentor selection (Dunne & Villani, 2007), extensive mentor training (Danielson, 1999; Saphier et al., 2007), deliberate mentor-mentee pairings (Dunne & Villani, 2007), and weekly meetings between the mentor and mentee (Goldrick et al., 2012). Despite these specific recommendations, many school districts have relied on intuition and trial and error to develop mentoring programs (Moir et al., 2009). The fact that there are no comprehensive mentoring program standards also is problematic (Gold, 1996; Mullen, 2012), as practices within the United States differ extensively across states, and across districts within states. Key features of successful mentoring programs, as commonly described in the literature, will be discussed in the following sections.

Program goals. Mentoring program goals are often multifaceted in nature. Due to the challenging nature of their work, beginning teachers need both instructional and psychological supports. Numerous mentoring researchers and practitioners have emphasized the importance of providing classroom-instructional supports and developing beginning teachers’ instructional practices (e.g., Feiman-Nemser, 2001b; Fletcher, 2000; Jonson, 2002, Moir et al., 2009). While most mentoring programs center on instructional practices, too often, little to no focus is given to emotional or psychological supports, despite their centrality to many mentoring conceptualizations (e.g., Ballantyne, Hansford, & Packer, 1995; Lindgren, 2005; Little, 1990).

Although the practice of providing supports for beginning teachers’ emotional needs has been documented within the mentoring and induction literature (e.g., Ballantyne et al., 1995; Lindgren, 2005; Kershner, 2014), scholars and researchers disagree as to its importance. Feiman-

Nemser (2001a) criticized induction programs that focus largely on emotional needs rather than on developing beginning teachers' practices:

While supporting new teachers is a humane response to the very real challenges of beginning teaching, it does not provide an adequate rationale. Unless we take new teachers seriously as learners and frame induction around a vision of good teaching and compelling standards for student learning, we will end up with induction programs that reduce stress and address immediate problems without promoting teacher development and improving the quality of teaching and learning (p. 1031).

In a later article, Feiman-Nemser (2003) added that “providing emotional support is not as valuable as helping new teachers learn to create safe classroom environments, engage all students in worthwhile learning, work effectively with parents, and base instructional decisions on assessment data” (p. 28).

While mentoring programs should promote instructional development, the importance of mentors addressing the emotional needs of mentees through psychological supports (e.g., encouraging, reassuring, relating, demonstrating empathy) has been voiced extensively in the literature (e.g., Gold, 1996; Richter, Kunter, Lüdtke, Klusmann, Anders, & Baumert, 2013). After reviewing education and organizational psychology literature and the prior work of Gold (1996), Richter and colleagues (2013) proposed a comprehensive conceptualization of mentoring program goals. This conceptualization includes instructional support, psychological support, and role modeling. According to the authors, instructional support “fosters the development of the knowledge and skills needed to succeed in the classroom” (p. 167) and can include components such as lesson planning, classroom management advice, and assessment strategies. Psychological support extends beyond mere “vent sessions,” as it involves “building confidence,

encouraging self-esteem, listening, and enhancing self-reliance” (p. 167). Regarding emotions, Gold (1996) stated:

The inability to handle the pressures of the profession is a major factor in both unsuccessful teaching as well as in decisions to drop out from the profession. To learn how to handle the pressures and manage stress, new teachers must be given the knowledge, skills, and support from others that will assist them throughout this difficult phase of teaching (p. 562).

Role modeling occurs when novice teachers observe and emulate their mentor teachers. By drawing upon the accrued professional knowledge and experiences of their mentors during post-observation reflections (i.e., as they “analyze teaching from an external perspective” [Richter et al., 2013, p. 167]), mentees become socialized into their school context and the larger profession. This is a primary goal of induction as described by Feiman-Nemser and colleagues (1999).

Structures and sustainability. Mentoring programs tend to be more distinct than similar. For example, mentoring programs “can vary from a single meeting between mentor and mentee at the beginning of a school year, to a highly structured program involving frequent meetings over a couple of years between mentors and mentees who are provided with release time from their normal teaching schedules” (Ingersoll, 2009, p. x). Similarly, Strong (2009) noted that beginning teachers typically receive supports in the form of an assigned mentor, belonging to a professional network, or being allotted release time to observe more experienced teachers or to attend professional meetings.

While there is no normative practice as to the length and intensity of mentoring programs (Ingersoll & Strong, 2011), many scholars propose that mentoring efforts must be sustained over several years for beginning teachers to directly benefit (e.g., Feiman-Nemser, 2001a; Glazerman

et al., 2010; Jacobs, 2008). Feiman-Nemser (2001a) stated that multiyear programs may assist beginning teachers “with immediate concern and also move them toward more sophisticated understandings and practices over time” (p. 1035). Several authors (e.g., Glazerman et al., 2010; Moir et al., 2009; Odell & Huling, 2000; Portner, 2008) recommend that mentoring programs last for a minimum of two years, primarily because novice teachers appear to refine their instructional practices during years two and three of teaching (Kaufmann, 2007). This recommendation is supported by a federally funded investigation (Glazerman et al., 2010) in which novice teachers receiving comprehensive mentoring did not make a significant impact on student achievement until their third year of teaching. Mentoring programs that are more longitudinal may extend beyond serving merely as “a first-year survival program” (Conway, 2006, p. 58) by providing a sustained focus on strategies for improving student achievement, instructional delivery, and teacher satisfaction.

Markers of comprehensive mentoring programs. In addition to multifaceted goals addressed over extended periods of time, comprehensive mentoring programs exhibit other vital characteristics. These include weekly meetings lasting more than an hour, frequent observations by the mentor, and mentor-mentee meetings before and after observations.

Comprehensive mentoring experiences allow mentors and beginning teachers to meet at least weekly (Glazerman et al., 2010; Goldrick et al., 2012; NTC, 2016). According to the 2011-12 SASS, 74% of all first-year public school teacher respondents reported that they worked closely with a mentor teacher. Of these beginning teachers, a majority (58%) met with their assigned mentor at least once a week, while fewer met with their mentor once or twice a month (29%), a few times a year (12%), or not at all (1%).

In addition to advocating for mentor-mentee interactions to occur during allotted release time, researchers (Glazerman et al., 2010) and policy makers (Goldrick et al., 2012; NTC, 2016) have recently recommended that mentors and mentees be provided a minimum of 85-90 minutes (Glazerman et al., 2010; NTC, 2016) for weekly meetings. In fact, 150 minutes of protected time is the typical allocation in some states (Goldrick et al., 2012). The New Teacher Center (2016) states that “mentors and beginning teachers should have 1.25-2.5 hours per week to allow for the most rigorous mentoring activities. That time should be protected by teachers and administrators” (p. 2).

Mentors must also be provided frequent opportunities to observe their mentee. Several authors (Glazerman et al., 2010; Goldrick et al., 2012; Portner, 2008) recommend that mentor observations of the mentee occur more than three times per year. According to Goldrick and colleagues (2012), “A sustained cycle of repeated observations, feedback and discussion is a necessary induction component if the intent is to advance beginning teacher development” (p. 19). Critical to this observation cycle are conferences that occur both before and after the mentor observes the beginning teacher (Glazerman et al., 2010; Goldrick et al., 2012; Moir, 2005; Portner, 2008). During the pre-observation conference, the mentor asks open-ended probing questions intended to allow the mentee to clarify learning outcomes and instructional practices. The mentor uses similar questions during the post-observation conference, which also provides an opportunity to foster reflection and then provide feedback (Portner, 2008).

Developing high quality mentoring programs. To better help policymakers and school administrators develop impactful mentoring programs, Moir and colleagues (2009) outline six principles of high-quality mentoring. These include: (1) recruiting, selecting, training, and supporting highly skilled mentors; (2) providing release time for mentor-mentee interactions; (3)

focusing instructional interactions on student and classroom outcomes; (4) engaging stakeholders and aligning mentoring with instructional standards; (5) collecting, analyzing, and communicating mentoring program data; and (6) working with schools, cross-district leadership, and teacher associations to create supportive environments. For such programs to benefit beginning teachers, the authors propose that “members of the education community push back on the norms that characterized their own individual experiences in schools and rethink and reshape the critical strategies that matter for children” (p. 49). The first two of Moir and colleagues’ high-quality mentoring program characteristics will be detailed in the following sections.

Recruiting, selecting, and training mentors. When school districts create mentoring programs—particularly programs that include full-time mentors—district leaders may need to first educate all stakeholders regarding the rigor and value of such a program (Moir et al., 2009). Once this is accomplished, district HR personnel can then identify and seek the most dedicated classroom teachers, as these teachers often make the best mentors (Moir et al., 2009).

Mentors are commonly selected from the ranks of more experienced or qualified teachers; 29 states require potential mentors to possess teaching experience and/or an advanced (i.e., not initial) teaching certificate (Goldrick et al., 2012). Examples of “requisite” teaching experience lengths include: three-to-five years (Goldrick et al., 2012); a minimum of five years (Moir et al., 2009); or “teachers at midcareer or at middle adult stages” (Casey & Claunch, 2005, p. 101). Other common selection criteria include possessing thorough understanding of effective and diverse instructional and assessment practices (Moir et al., 2009; Jonson, 2002), knowledge of professional development practices (Moir et al., 2009), demonstration of ongoing development (Jonson, 2002), and experiences working with adult learners (Moir et al., 2009). Additionally, Fletcher (2000) recommends that potential mentors carefully consider the requisite

skills they may possess as well as their motives for becoming a mentor. Questions such as these could perhaps be provided to mentor candidates during stakeholder education and mentor identification, the two recruitment approaches posed by Moir et al. (2009).

Once selected for their important role, mentors must receive thorough and ongoing training (Danielson, 1999; Glazerman et al., 2010; Moir, 2005; New Teacher Center, 2016a). As Jonson (2002) stated, “Good teachers of children are not necessarily good teachers of adults” (p. 17), highlighting that intuition and prior teaching experiences alone do not provide mentors with the requisite abilities needed to be effective mentors or role models (Gold, 1996; Richter et al., 2013). Mentors should be provided with training that develops their interpersonal skills, especially in being able to communicate with adult learners (Fletcher, 2000) and listening to the mentee (Harrison, Dymoke, & Pell, 2006). The importance of professional development for the mentor cannot be understated:

Access to professional development opportunities to build mentors’ knowledge, expertise, *and* an understanding of how the multiple components and the role of colleagues interact to support the induction and mentoring process, is inherent to the improvement of new teacher learning (Langdon, Alexander, Ryde, & Baggetta, 2014, p. 103).

Without such training, mentors may use the “tell them what I know” strategy, which is not effective in aiding beginning teachers’ individual improvement (Moir et al., 2009). Knowing this, school administrators and other personnel that oversee beginning teacher mentoring programs must actively ensure that new mentors do not perpetuate the “sink or swim” inception phase that plagues so many beginning teachers.

Release time. In examining the successes of mentoring programs, several researchers (e.g., Hobson, Ashby, Malderez, & Tomlinson, 2009; Lee & Feng, 2007; Robinson & Robinson, 1999) have noted that mentoring effectiveness increases when mentors are given preparation time (i.e., release time). Similarly, researchers (e.g., Bullough, 2005) and practitioners (e.g., Moir et al., 2009) have suggested that providing time during the school day allows for more successful mentor-mentee interactions.

Mentors

In the previous section, I primarily addressed mentoring program goals, logistical concerns (e.g., recruiting, selecting, training mentors), and program comprehensiveness. To provide additional insight as to how mentors develop and support beginning teachers, mentors' approaches and practices will be summarized in the paragraphs that follow.

Approaches. Regarding the roles and tensions facing beginning teacher mentors, Lieberman, Hanson, and Gless (2012) stated that "perhaps the most difficult job of all is helping novice teachers improve so that they can feel and actually facilitate success with students" (p. 2). According to Jonson (2002), mentors should primarily help novice teachers in developing: competence (e.g., effective teaching skills and knowledge); self-confidence; self-direction (e.g., taking charge of personal and/or professional development); and professionalism. While Jonson's list primarily focuses on affective and instructional roles, Portner (2008) proposed that mentors develop mentees' professionalism and practices through: relating (i.e., allowing mentees to honestly reflect and share thoughts); assessing (i.e., determining mentees' abilities, needs); coaching (i.e., developing mentees' self-reliance); and guiding (i.e., stimulating critical thinking, encouraging informed risk-taking).

Feiman-Nemser (2001b) prefers the phrase *educative mentoring* to help move mentors beyond traditional approaches that consist of merely offering emotional support and giving technical advice. Instead, educative mentoring promotes effective teaching and teacher development by: (a) attending to novice teachers' needs, concerns, purposes, and questions; (b) fostering these novices' inquiry and reflective thinking; and (c) using expertise to "create opportunities and conditions that support meaningful teacher learning in the service of student learning" (p. 18). According to Feiman-Nemser, "educative mentoring rests on an explicit vision of good teaching and an understanding of teacher learning" (p. 18), a belief that has been similarly expressed by other mentoring pedagogues (e.g., Fletcher, 2000; Jonson, 2002). Examples of educative mentoring were also found in a two-year multiple case study investigation by Norman and Feiman-Nemser (2005). The authors observed two mentors that "demonstrated a sense of shared responsibility for student learning" and "enabled new teachers to do with help what they were not ready to do on their own" (p. 17).

Practices. An implicit need of any mentor-mentee relationship is the establishment of trust (Jonson, 2002; O'Neil, 1981; Portner, 2008). Whenever the mentee trusts their mentor, the mentee "is more likely to express their emotional difficulties to the mentor; and sensitive mentors ... will respond with the emotional support their protégés need" (Ackley & Gall, 1992, p. 8). Trust must be built before the mentor can effectively encourage, focus on specific instructional abilities or skills, or demonstrate concern for professional teaching and learning standards (O'Neil, 1981). Jonson (2002) identified a range of strategies mentors might use to establish trusting relationships with mentees. While some recommendations may appear to reflect interpersonal acumen, others (e.g., discussing and clarifying expectations, delegating, ensuring confidentiality) may aid novice mentors in facilitating meaningful and effective

Table 1.2

Alignment of Mentor Approaches, Attributes, and Practices with the Mentoring Framework (Gold, 1996; Richter et al., 2013)

Competence (Jonson, 2002)
Educative Mentoring (Feiman-Nemser, 2001b)
Guiding (Portner, 2008)
INSTRUCTIONAL SUPPORT
Sharing Instructional Resources/Supplies (Certo, 2002)
Assessment of Mentees' Practices (Moir et al., 2009)
Using Student Work to Inform Decision-Making (Kershen, 2014)
Task- and Problem-Related Assistance and Advice (Ballantyne et al., 1995)
Relating (Portner, 2008)
Self-Confidence (Jonson, 2002)
Self-Direction (Jonson, 2002)
Assessing (Portner, 2008)
Reassuring (Certo, 2002)
Positive, Consistent Source of Help, Encouraging, Empathic, Supportive (Harrison, Dymoke, & Pell, 2006)
Emotional and Institutional Supports (Kershen, 2014)
Personal and/or Emotional Support (Ballantyne et al., 1995)
Personal/Emotional (Lindgren, 2005)
Discussing Experiences with other Beginning Teachers (i.e., emotional support; Good & Bennett, 2005)
PSYCHOLOGICAL SUPPORT
Mentee Observes a Veteran Teacher in the Classroom (Feiman-Nemser & Buchmann, 1987)
ROLE MODEL
Modeling Daily Professional Actions/Activities (Harrison et al., 2006; Jonson, 2002)

relationships. Additional examples of trust building actions and behaviors outlined by Jonson include: discussing and clarifying expectations; delegating; ensuring confidentiality; demonstrating openness and honesty; being candid; and listening.

An analysis and comparison of various mentor texts, qualitative investigations, and quantitative surveys—using the mentoring framework articulated by Richter et al. (2013) and Gold (1996)—has illuminated some common themes with regard to effective mentors' characteristics and roles. Mentor functions and attributes as described in the extant literature are presented in Table 1.2.

Conceptual Framework

As I have suggested previously, comprehensive induction programs—which include high-quality mentoring—have tremendous potential to directly influence the reflective practice, teaching efficacy (Wechsler et al., 2010; Woolfolk Hoy & Spero, 2005), and professional commitment (Ingersoll & Strong, 2011) of beginning teachers. Teachers with higher levels of teaching efficacy tend to demonstrate greater levels of professional commitment (Bogler & Somech, 2004; Chan et al., 2008; Coladarci, 1992; Ebmeier, 2003) and are more likely to remain in the profession (Burley, Hall, Villeme, & Brockmeier, 1991). Teaching efficacy also is positively related with reflective practice (Braun & Crumpler, 2004; Noormohammadi, 2014). Reflective practice can also influence teaching efficacy, which in turn may increase professional commitment (Chan et al., 2008). Although multidirectional relationships likely underlie important facets of the beginning teacher mindset (reflective practice, teaching efficacy, professional commitment), very little is known about the direct impact of mentoring on these

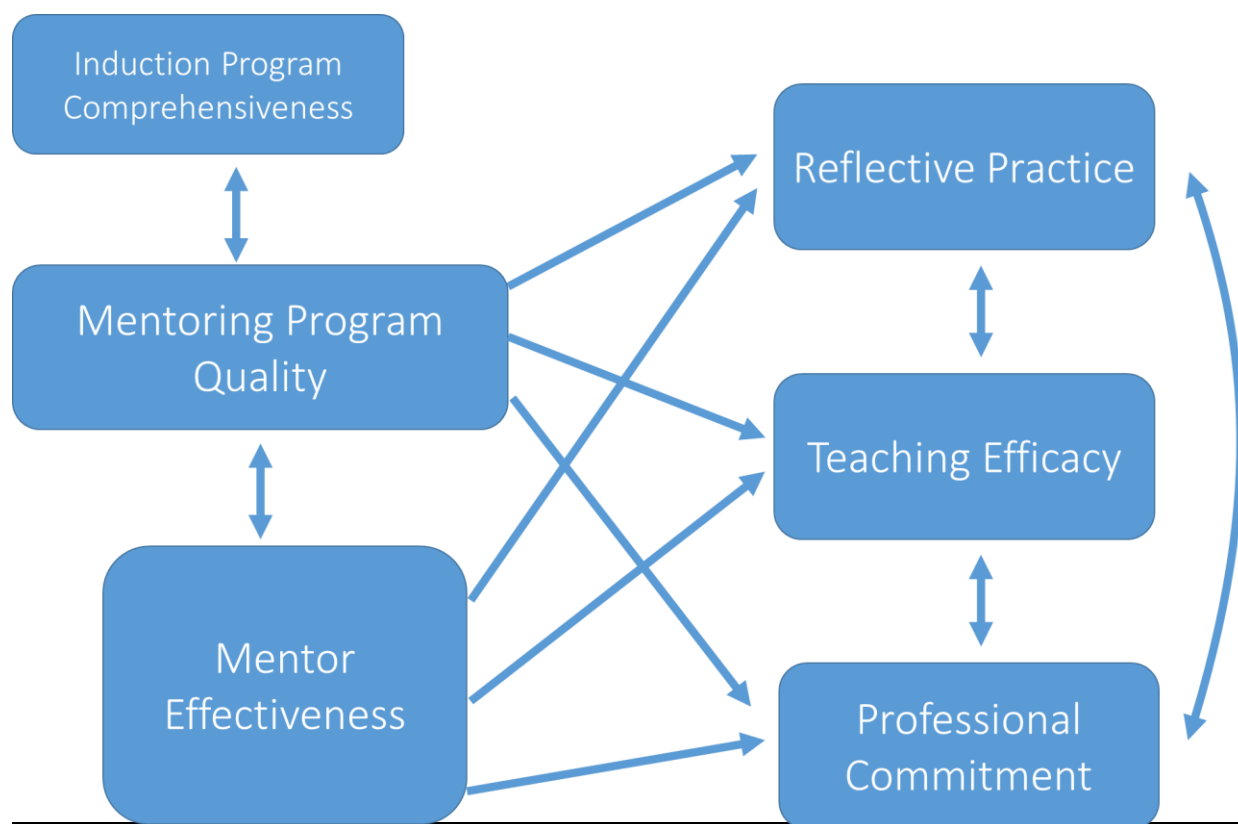


Figure 1.2. Preliminary conceptual framework.

three constructs when viewed in the aggregate.

In theorizing about the critical components of quality mentoring programs, mentor effectiveness, and beginning teacher mindset, I inductively created a conceptual model/framework based on their presumed relationships (Punch, 2014). This model was the result of my synthesis of existing literature, empirical evidence, and posited theories and benefits (Imenda, 2014; Tashakkori & Teddlie, 2003). As Cole and Maxwell (2003) state, “begin with a model in which every latent variable is simply allowed to correlate with every other latent variable. The structural part of this model is completely saturated (i.e., the structural part of this model has zero degrees of freedom; it is just-identified)” (p. 570). A preliminary conceptual framework illustrating potentially testable relationships is represented in Figure 1.2.

Mentoring in Music Education

Access to mentoring programs is inconsistent across states, despite some evidence suggesting that beginning teachers can benefit from mentoring program participation, particularly when mentors are well trained and programs are comprehensive in nature. Additionally, very few states have clearly defined mentor training guidelines or requirements (Goldrick, 2016; Goldrick et al., 2012). Specific to music teachers, of the 38 state departments or boards of education that require some level of mentoring or induction for new teachers to secure advanced licensure, only 24 states offer optional music-specific mentoring programs through their state music education association (Baumgartner et al., 2015). In the following sections, I address music mentoring (or the lack thereof) at the local, state, and national levels.

Music mentoring, local level. Within music education, the level of support that novice teachers and their mentors receive appears inconsistent at best. For example, Conway (2003a) noted that among diverse school districts within Michigan that were included in her study, all suburban districts trained and paid mentors, yet only four of seven rural districts paid and trained mentors, and in two urban districts mentors were neither trained nor paid. In a later investigation, Conway (2006) found that “many school districts are simply unable to provide appropriate support for new music teachers” (p. 56). To help combat this lack of support and advance their expertise as educators, Conway recommended that beginning music teachers engage in regular professional development experiences (e.g., state conferences or workshops).

Music mentoring, state level. Recently, the *Embracing the New Music Educator* mentoring program has been promoted on the National Association for Music Education (NAfME) website (“Embracing and Mentoring,” 2015). *Embracing the New Music Educator* is a “grassroots program” (“Embracing and Mentoring,” 2015) offered in collaboration between the

Massachusetts Music Educators Association (MEA), MMEA's Northeastern District, and Gordon College ("Embracing the New Music Educator," n.d.). With thirty professionals serving as mentors, *Embracing the New Music Educator* allows recent music education graduates to receive "onsite classroom observations, onsite rehearsal clinics, mentoring via phone or email, and video or audio review" ("Embracing the New Music Educator," n.d.).

Music education researchers involved with the Society of Music Teacher Education's Supporting Beginning Music Teachers Area for Strategic Planning and Action (ASPA) have investigated the status of beginning music teacher mentoring programs. As of September 2015, only 24 states had music-specific mentoring programs that were led by their state MEAs (Baumgartner et al., 2015). This implies that even if novice music teachers attend state MEA-sponsored professional development conferences, they may not receive mentoring support due to the absence of "a tight network of information and resources" ("NAfME's Structure, 2015). Perhaps leaders within music education professional organizations (e.g., NAfME) or universities can assist MEAs in creating and implementing an organizational structure that results in enhanced professional practices of beginning music teachers.

In the time since Baumgartner and colleagues' presentation, I have extensively reviewed states' mentoring or induction program requirements and the presence of music mentoring programs as provided by state MEA organizations. As of July 2016, 28 states require districts to provide mentoring or induction program supports for first-year teachers. I have determined that 16 state MEAs currently offer optional mentoring programs; these mentoring programs are in conjunction with required district-level programming in 10 states and in lieu of district-level programming in six additional states. These numbers differ from those previously reported by Baumgartner and colleagues (2015) because some programs are currently in development, have

Table 1.3

Status of State Mentoring Programs and State MEA Mentoring Programs

States that require district-level mentoring programs		States that do NOT require district-level mentoring programs	
... but do NOT offer an MEA mentoring program	... AND offer an MEA mentoring program	... and do NOT offer an MEA mentoring program	... but OFFER an MEA mentoring program
Arkansas Colorado Connecticut Delaware Hawaii Iowa ** Kentucky Louisiana Maine Maryland Michigan New Jersey New Mexico New York Rhode Island Virginia West Virginia Wisconsin ***	California Kansas Massachusetts Missouri North Carolina Ohio Oklahoma Pennsylvania South Carolina Utah	Alabama Alaska Florida Georgia Idaho Illinois Indiana * Minnesota Nebraska Nevada New Hampshire North Dakota Oregon Tennessee Vermont Wyoming	Arizona Mississippi Montana South Dakota Texas Washington
18	10	16	6

Note: This was determined using Goldrick’s (2016) report, conducting internet searches, and in some cases, directly contacting MEA representatives to confirm accuracy. Although some states encourage or allocate funding for optional mentoring or induction programs, only states that require mentoring or induction supports are presented. Some state MEA programs are currently in development (i.e., Delaware, Louisiana, Michigan, Nebraska).

* Prior to each school year, Indiana offers a “mini conference” for beginning music teachers, but does not pair mentors with mentees (Koerner et al., 2016).

** The Iowa MEA supports the Iowa Alliance for Arts Education’s Arts Educator Mentor Program, but does not appear to offer an MEA mentoring program.

*** The Wisconsin MEA does not pair mentors with mentees; rather, the organization offers a two-day workshop devoted to satisfying advanced licensure requirements (i.e., Professional Development Plan) at its annual conference (Koerner et al., 2016).

since been discontinued, or only serve as an online forum. (Additional details regarding my analysis is included in Chapter Three.) The status of state mentor programs and MEA programs is presented in Table 1.3.

Music mentoring, national level. In 1984, the Music Educators National Conference (now called the National Association for Music Education, or NAFME) and Yamaha Music Products sponsored The Task Force on Music Teacher Education (Olson et al., 1987). Task force members produced a report in which they addressed “four issues that are fundamental to the preparation and development of music educators” (Olson et al., 1987, p. 19): identifying prospective music educators, teacher preparation programs, professional development, and improving college teaching. As part of the professional development section, the report authors address induction, which “is perceived to be a natural outgrowth of certification programs that focus upon the process of becoming good teachers, and it is seen as a potential antidote to professional burnout and dropout by school music educators” (Olson et al., 1987, p. 15). There is also an emphasis on developing teachers’ personal, intellectual, musical, and instructional abilities, as such a program “offers teachers an opportunity to enlist the guidance of various members of the partnership in planning and evaluating short- and long-term professional objectives on a regular basis” (Olson et al., 1987, p. 15). Although portions of the task force’s report were published in the February 1987 *Music Educators Journal*, no additional practitioner articles and only two research studies (Vallo, 1991; Smith, 1994) have used portions of the Task Force’s growth framework.

The website for the American Choral Directors Association (ACDA; “ACDA Mentoring,” n.d.) indicates that mentoring has become a recent priority. ACDA members can complete an online profile and request a mentor from an existing database (“Program Overview,”

n.d.). “Once accepted into the program, mentees select and request the mentor from our online database who best matches their career and personal needs. The ACDA Mentoring Program does not match mentees with mentors” (“Program Overview,” n.d.). Once paired, the two establish goals and expectations (“Mentoring Agreement,” 2013). Although the website lists four “important aspects” of mentoring relationships (i.e., setting goals, listening to each other, willingness to learn, frequent contact) and provides initial discussion items, the extent of mentor training is unknown.

The National Band Association (NBA) has developed the NBA Mentor Project to “retain and contribute to the success of novice band directors” (“Need a Mentor?,” n.d.). This is accomplished by providing “veteran teachers an opportunity to share their experiences, counsel the inexperienced, thereby improving the way band is taught in America” (“Need a Mentor?,” n.d.). On the NBA website, a beginning band teacher can request a mentor. Experienced band teachers can volunteer as a mentor so long as they agree to regularly contact the mentee “to discuss any aspect of teaching,” share and provide materials and resources that will aid the mentee, and either observe their mentee or share a video of themselves teaching.

The American String Teachers Association (ASTA) recently launched the ASTA Mentor Program, a national-level program (“Mentoring Program,” n.d.). According to the website, “ASTA recognizes that young teachers in their first five years of teaching would benefit from a well-designed mentoring program with highly qualified string specialists” (“Mentoring Program,” n.d.). Separate mentee and mentor application forms are available on the ASTA “Mentoring Program” website. Mentees that seek a mentor are asked to provide contact information, to describe teaching skills and experiences, and to indicate their areas of desired assistance (e.g., classroom management, lesson planning, program administration). As part of

the mentor application, string music educators indicate their teaching experience, mentoring interests, mentoring experience, and mentoring qualifications. Mentor training occurred at the 2016 ASTA National Conference, as mentors learned “the teacher development continuum; mentoring styles; and communication strategies” (“Mentoring Program,” n.d.). The Mentorship Task Force recruited mentees and then matched beginning music teachers with mentors trained at the 2016 session (“Mentoring Program,” n.d.).

Although there are distinct and perhaps complementary efforts to address beginning music teacher mentoring needs through district-level, state-level (i.e., MEA), or national-level programming, empirical research that substantiates the impact of these efforts is critical yet lacking.

The Research Problem

Beginning music teachers typically encounter challenges similar to those of their non-music colleagues (e.g., classroom management, honing pedagogical practices), but because of the unique nature of music programs and music instruction in schools (e.g., large ensemble classes, lack of sufficient resources, co-curricular status, public evaluation of student and teacher performance, itinerant teaching schedules), these challenges are often heightened. Depending on school context, there may be only one music teacher in a school building, or in some cases, only one music teacher within the district. As a result, beginning music teachers in these positions may feel isolated from their non-music colleagues or from other music teachers (Krueger, 1999; Sindberg & Lipscomb, 2005). Fortunately, mentoring programs and mentors may reduce these feelings of isolation (Conway, 2003a; Jacobs, 2007) while also assisting beginning music teachers in increasing their reflective practice, teaching efficacy, and professional commitment (Ingersoll & Strong, 2011; Jonson, 2002; Moir, 2005; Wechsler et al., 2010).

Need for the Study

Beginning music teachers' experiences in mentoring programs have been documented in several studies (e.g., Conway, 2002, 2003b; Jacobs, 2007; Schmidt, 2008; Schmidt & Canser, 2006) primarily through the use of qualitative methodologies. This approach has allowed researchers to provide rich descriptions of beginning music teachers' first-year experiences (e.g., mentor-mentee dynamics and relationships, mentoring experiences) and to describe these teachers' needs and challenges. However, the limited sampling creates issues with transferability (i.e., generalizability) to broader contexts as well as the formulation of policy recommendations specific to mentoring programs.

In her literature review of music education and general education research on beginning teachers, Conway (2001b) stated:

Other descriptive methodologies, such as questionnaires and surveys, could provide more generalizable results and add to the knowledge base of new teachers. Experimental and correlational studies that examine the effects of differing induction programs would help the profession in designing appropriate new teacher programs (p. 19).

I have identified only three quantitative studies of mentoring in music education (i.e., DeLorenzo, 1992; Smith, 1994; Turner, 2002), and of these only one (i.e., Turner, 2002) has explored music teacher mentoring within the past 15 years. Turner conducted a regional descriptive survey of beginning music teachers' opinions about their mentoring program experiences. No music education researcher has designed a multi-state, multi-region survey of district- and state-level mentoring programs, explored beginning music teachers' perceptions of their mentors and mentoring experiences using psychometrically sound multi-item rating scales, or attempted to assess the impact of mentoring experiences on important psychological

constructs such as reflective practice, teaching efficacy, or professional commitment through the use of multivariate statistical techniques.

Study Purpose and Research Questions

The purpose of this study was to investigate the status of mentoring and induction programs and their impacts on beginning music teachers. More specifically, I measured mentoring program comprehensiveness, along with mentor functions and attributes, mentor support practices, and mentor effectiveness as perceived by mentees. I also explored the effects of mentee status, perceived mentor effectiveness, and mentor content area on reflective practice, teaching efficacy, and professional commitment. In this study, I addressed the following questions:

1. *To what extent are beginning music teachers accessing and engaged in experiences characteristic of comprehensive mentoring and induction programs? Do beginning music teachers consider their school-assigned mentors to be effective?*
2. *Can beginning music teachers' reflective practice, teaching efficacy, and professional commitment be measured in a valid and reliable manner? Do beginning music teachers demonstrate growth in reflective practice, teaching efficacy, and professional commitment over time? Is any such growth connected to mentor content area or mentor effectiveness?*
3. *Can a conceptual model that includes beginning music teacher characteristics, mentoring program characteristics, and mentor effectiveness account for variance in beginning music teacher growth with respect to reflective practice, teaching efficacy,*

and professional commitment? Which variables exert indirect effects (through mediating variables) or direct effects on beginning music teacher growth? Which measurement model provides the best theory-data fit?

Definitions

1. *Beginning music teachers* are teachers in years 1–4 of their careers. Although some researchers have defined beginning teachers as those in years 1–3 (e.g., Ganser, 1999; Moir et al., 2009; Odell & Huling, 2000; Portner, 2008), gains from mentoring program participation may not be evident until the 4th year of teaching (Glazerman et al., 2010; Kaufmann, 2007). Similar terms within the literature include “novice teacher” and “newly qualified teachers” (NQTs).
2. *Induction* refers to formal programs that numerous states require districts to provide to beginning teachers. These programs typically are offered for one to three years (Feiman-Nemser et al., 1999). Comprehensive induction programs provide supports in the form of orientation sessions, professional development that is specific to the beginning teacher, classroom observations, and the use of formative assessments (Glazerman et al., 2010).
3. *Mentoring* is a “professional practice that occurs in the context of teaching whenever an experienced teacher supports, challenges, and guides novice teachers in their teaching practice” (Odell & Huling, 2000, p. xv). In this study, the *mentor* is the experienced teacher who formally provides support to the beginning music teacher.
4. A *mentee* refers to the beginning teacher that receives mentor-led assistance through a formal mentoring program. The terms protégé and apprentice also appear within the

literature.

5. *Reflective practice* refers to how a teacher examines their instructional practices, develops methods to improve these practices, and then implements the improvements (Akbari et al., 2010). This conceptualization reflects the earlier writings of Dewey (1933/1993) and Schön (1983, 1987). Reflective practice was examined through both of Schön's perspectives: *reflection-in-action* and *reflective-on-action* (i.e., posteriori). The terms reflection, reflective practice, reflective thinking, and reflective judgment often appear in research literature pertaining to teacher education and professional development (Tse, 2007).
6. *Teaching efficacy* is "the teacher's belief in his or her capacity to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran et al., 1998, p. 233). Synonyms include personal teaching efficacy, teacher efficacy, teachers' sense of efficacy, or teachers' self-efficacy. Note that in this conceptualization, efficacy does not refer to actual effectiveness.
7. *Professional commitment* refers to one's commitment to the teaching profession, which echoes Coladarci's (1992) definition as the "degree of psychological attachment to the teaching profession" (p. 323). Although other conceptualizations include commitment to the school organization (e.g., Reyes, 1990), for this investigation, professional commitment will focus exclusively on beginning music teachers' commitment to the profession (Chan et al., 2008).

Delimitations

Study participants included beginning music teachers in years 1–4 of their careers within 10 focus states that required districts to provide mentoring programs for beginning teachers. This delimitation ensured that mentoring program influence on beginning music teachers' reflective practice, teaching efficacy, and professional commitment could be investigated. Some states require districts to provide mentoring programs for teachers through year 2 (i.e., California, Iowa, Maine) or year 3 (i.e., Massachusetts, North Carolina), suggesting that teachers in year 4 may be able to accurately recall their recent mentoring experiences. Beginning music teachers employed by public, private, and charter schools were invited to participate.

Despite the fact that mentoring is purported to positively impact mentees' instructional practices (e.g., Moir et al., 2009) without there being adequate objective evidence (Glazerman et al., 2010), I did not attempt to measure teacher performance or effectiveness as mentoring program outcomes. This decision was made due to both psychometric and practical concerns. Education researchers have previously solicited teacher self-report data to examine the effects of mentoring or induction programs on teaching performance, but without empirically and directly observing these teachers longitudinally, these claims cannot be fully substantiated. Such investigations may also be susceptible to low reliability and high bias (Strong, 2009). Additionally, I did not examine the impact of mentoring program comprehensiveness on student achievement. Although education researchers have recently explored these effects by utilizing a longitudinal quantitative methodology (e.g., Maulana, Helms-Lorenz, & van de Grift, 2015), such research lies beyond the scope of the present thesis.

CHAPTER II

Review of Related Literature

Since the 1980s, formalized teacher mentoring programs have been instituted to develop beginning teachers' instructional practices (Odell, Huling, & Sweeny, 2000; Reiman, Head, & Thies-Sprinthall, 1992) and stem teacher turnover. Within a comprehensive mentoring program structure, mentors are envisioned as role models who provide mentees with both instructional support and psychological support (Richter et al., 2013). Three psychological constructs commonly connected to mentoring are reflective practice, teaching efficacy, and professional commitment. Yet, there is little or no empirical evidence substantiating how mentor and mentee characteristics, mentoring program elements, or mentoring activities and experiences might alter the mindset of beginning music teachers. Moreover, no comprehensive survey studies of music teacher mentoring experiences and practices have been conducted in the past 15 years. The purpose of this study was to investigate the status of mentoring and induction programs in 10 focus states, and explore how specific facets of mentor-mentee relationships and mentoring experiences affect beginning music teachers.

In Chapter One, I reviewed the historical development of teacher mentoring programs, explored various conceptualizations of mentoring and educational policies associated with teacher mentoring, described exemplar mentoring program structures and effective mentor practices, introduced theories and research specific to teacher mentoring program implementation, and summarized current music organization mentoring efforts. In this Chapter, I will further illustrate the challenges that beginning music teachers face, explore common goals

and approaches adopted by music teacher mentoring programs, and provide a more detailed review of research specific to music teacher mentoring.

Music education literature reviewed in this chapter is arranged in three sections: (1) the challenges and needs of beginning music teachers and the necessity for mentoring; (2) beginning music teachers' access to mentoring experiences; and (3) effective mentoring programs and outcomes.

Challenges and Needs of Beginning Music Teachers and the Necessity for Mentoring

Mentors play a crucial role in beginning teacher development, as teachers have challenges that usually are unanticipated during their preservice preparations (Feiman-Nemser, 2003). When faced with such challenges, beginning teachers often experience “praxis shock” (Kelchtermans & Ballet, 2002), a conflict between preconceptions of inservice teaching and the realities of teaching. Praxis shock, which is informed by beginning teacher challenges, could potentially be reduced through effective mentoring by an experienced teacher (Glazerman et al., 2010; Moir et al., 2009; Fletcher, 2001; Portner, 2008).

As demonstrated in Chapter One, an extensive body of education literature supports Jonson's (2002) succinct assertion that “teachers need assistance and guidance, especially during their early years in the profession” (p. 4). While beginning teachers undoubtedly have numerous professional and personal needs, the issue and conceptualization of “needs” varies, as noted by Ko, Lo, and Lee (2012):

The only feature common to the different forms of mentoring is the main purpose of mentoring—to support novice teachers in accordance with their perceived needs—although the understanding of such needs may vary across systems (e.g., emotional support, meeting standards, professional growth) (p. 309).

Pedagogues (e.g., Jonson, 2002; Moir, 2005; Portner, 2008; Wilkinson, 1994) recommend that mentoring address beginning teachers' developmental needs, a sentiment that has been echoed within music education. As noted in Chapter One, these may include providing instructional, psychological, and role modeling supports (Gold, 1996; Richter et al., 2013).

Beginning music teachers' needs oftentimes are context-specific, reflecting the unique nature of their discipline, positions, and responsibilities (Ballantyne & Packer, 2004; Conway, 2012; Roulston, Legette, & Womack, 2005). Compared to teachers in the non-arts disciplines, music teachers tend to experience heightened demands and pressures associated with class scheduling (less frequent class meetings or instructional time making it difficult to achieve learning goals), instructional delivery and classroom management (active learning orientations and wide ranging student abilities requiring frequent differentiation and adaptation), administrative tasks and extra-curricular commitments (exacerbating already challenging workloads), physical or professional isolation (impeding access to communities of practice), and evaluative processes and public performance expectations (elevating emotional states and general anxiety) (Conway, 2001a, 2003b; DeLorenzo, 1992; Krueger, 1996).

Music teachers with less experience may also be at an increased risk for attrition (Hancock, 2010), further highlighting the potential vulnerability of beginning music teachers. Researchers have previously suggested that mentoring may help reduce teacher turnover (Gray & Taie, 2015; Ingersoll & Strong, 2011; Smith & Ingersoll, 2004). Within music education, however, Hancock (2008) concluded that beginning music teacher attrition or migration could not be predicted based on mentoring support, which may be partially attributed to mentor program variations.

Table 2.1

Challenges and Needs of Beginning Music Teachers Documented within Music Education Literature

	Administrative Tasks	Conway, 2002, 2003a; Barnes, 2010; DeLorenzo, 1992; Jacobs, 2007
	Instruction	Blair, 2008; Conway & Zerman, 2004; Schmidt, 2008; Schmidt & Canser, 2006; Smith, 1994
	Pacing	Fallin & Royle, 1994
	Planning and Assessment	Schmidt, 2008; Smith, 1994
	Interacting with Parents	Barnes, 2010; Conway, 2003a
	Classroom Management	Barnes, 2010; Blair, 2008; Conway, 2003a; DeLorenzo, 1992; Fallin & Royle, 1994; Krueger, 1996; Roulston, Legette, & Womack, 2005; Schmidt, 2008; Smith, 1994
	Teacher Evaluations	Blair, 2008; Schmidt, 2008
	Continued Musical Growth	DeLorenzo, 1992
	Selecting Appropriate Music	Barnes, 2010; DeLorenzo, 1992; Fallin & Royle, 1994; Jacobs, 2007; Roulston et al., 2005
INSTRUCTIONAL SUPPORT		
PSYCHOLOGICAL SUPPORT		
	Isolation	Conway, 2003a; Conway & Christensen, 2006; Conway & Zerman, 2004; Jacobs, 2007; Jones, 1977; Krueger, 1999
	Personal Issues or Needs	Conway, 2003a; Stevanson, 2005
	Emotional Challenges	Benson, 2008; Conway & Zerman, 2004
ROLE MODEL		
	Observations of or by Experienced Music Teachers	DeLorenzo, 1992

In designing mentoring programs for beginning music teachers, it is important to consider the unique characteristics of music teaching contexts, as “ill-fitting mandated mentoring programs frequently do not combat the feelings of isolation or address the lack of emotional support often expressed by new music teachers” (Benson, 2008, p. 42). Mentoring programs are generally perceived as beneficial by beginning music teachers to the extent that they provide support for and effectively address music-specific teaching challenges through adaptable implementation structures. In Table 2.1, I identify varied facets of work that music teachers commonly view as challenging or reflecting mentoring needs, and then illustrate how those challenges and needs might be addressed through mentor role modeling, instructional support, or psychological support.

In one of the earliest investigations of beginning music teachers, DeLorenzo (1992) used a researcher-developed questionnaire to survey first-year music teachers in New Jersey and Pennsylvania ($N = 221$) on perceived problems and usefulness of professional supports (e.g., administrators, mentors). The grade levels represented by respondents encompassed elementary and secondary levels, but information regarding specialty areas (e.g., general, choral, instrumental) was not reported. Respondents indicated that continuing their musical growth, preparing a budget, accommodating lessons for special needs students, and classroom management were the most difficult areas encountered during their first year of teaching.

Fallin and Royse (1994) videotaped recent graduates from their music teacher preparation program ($N = 7$) to identify common beginning music teacher problems and provide feedback. This research was inspired by the authors’ previous use of video feedback during the student teaching semester to address “problem areas in their teaching” (p. 14). After many recent graduates requested this type of feedback during their initial inservice years, the researchers

eventually offered video feedback to first-year teachers. These teachers—who taught elementary general, middle and high school band, and high school choral music—worked in districts where non-music specialist building administrators observed their teaching. The most common challenges experienced by these novice music teachers, as documented by Fallin and Royse, included pacing and transitions, classroom management and organization, selecting appropriate music and learning activities, and problem-solving abilities.

Blair (2008) volunteered her time to offer “a professional development program that provided a mentoring group” (p. 101) for beginning elementary general music teachers ($N = 5$; four in their first year, one in the second year) in a Midwest school district. This voluntary, researcher-organized mentoring program was intended to supplement other district-required mentoring and induction meetings while also allowing Blair to conduct a narrative inquiry investigation. Classroom management was an issue for these beginning teachers early in the fall semester, but these concerns abated with time; the teachers’ confidence while teaching and when leading public performances was observably greater as the mentoring program came to a close. Teachers gained confidence in managing the classroom, despite the fact that their evaluator (the district’s fine arts administrator) provided feedback that was largely negative following observations that typically were unannounced and unexpected. Interestingly, only three of the beginning music teachers remained in this voluntary mentoring program for the full year.

Roulston and colleagues (2005) presented first phase findings of a mixed methods investigation (i.e., qualitative interviews of nine first- and second-year music teachers). Participants included three middle school strings teachers, four elementary general music teachers, and two high school vocal music teachers. Except for two teachers who worked in urban school contexts, the remaining participants were situated in suburban schools. Following

analysis, the authors noted four major themes: preservice practicum experiences that were “hands-on” were valuable; informal and formal mentors were important; the first year was “difficult yet rewarding” (p. 67); and professional needs were determined by school setting. All participants stated that they had received “assistance from others” (p. 70)—which included formal (i.e., school-assigned) and informal (e.g., colleagues, roommates) mentors, colleagues, friends, and family—in the form of advice, responsibility clarification, assistance with musical performances, and general problem solving.

In her investigation of five first-year instrumental (strings) music teachers, Barnes (2010) interviewed participants during their second inservice semester and analyzed the teachers’ journal entries. Frequency counts for themes found within the interview transcripts and teacher journals revealed concerns regarding students (behavior, musical learning, and personal relationships), school administrators, self-evaluations (classroom management and personal [“I” statements]), non-music teacher colleagues, school demographics, parents, and scheduling. Noting the role of school context, Barnes additionally provided suggestions for music teacher educators (i.e., varied practicum experiences) and school administrators (i.e., timely and targeted teacher assistance) to better prepare and support beginning music teachers in their first year.

Conway (2002) qualitatively explored participants’ perceptions of their Big Ten University’s (BTU) preservice music teacher preparation program. Primary participants included 14 first-year music teachers ($n = 7$ from the class of 1999, $n = 7$ from the class of 2000) representing varied music teaching responsibilities and school assignments. Secondary participants included the 14 district-assigned mentor teachers (it is unclear how many were music specialists) and the 14 principals who observed the first-year teachers. Conway noted that the primary participants’ mentors and administrators believed the first-year music teachers

needed more thorough preparation for the administrative tasks accompanying each position, but added that “I am not sure that a course in ‘administration’ would really prepare teachers for the context-specific challenges of a music education position” (p. 32). Conway also concluded (via field notes and notes within other documents) that many of these beginning teachers struggled working with beginning-level students. Conversely, the elementary general music teachers tended to struggle with planning and instructing upper-elementary students (i.e., fourth and fifth grade). Although mentors served as a data source regarding the perceptions of these beginning teachers’ preparation, the role and impact of mentors on these beginning teachers was not explored.

In a follow-up of her 2002 preservice teacher preparation article, Conway (2012) had 12 of the original 14 participants re-read the publication and past emails and transcripts, and then record their reactions to both the article and the earlier data sources. Participants largely agreed with how Conway, in the 2002 article, depicted the value of student teaching, preservice fieldwork experiences, and musicianship. Conway did not follow-up with mentors, nor did she solicit information regarding these now-experienced teachers’ reflections on their mentoring experiences. Asking these former beginning music teachers (the majority of whom have since served as cooperating teachers or practicum host teachers) about the impact of mentoring on their reflective thinking or instructional abilities may have made an important contribution to the music mentoring literature.

Section summary. Programs that refine mentees’ reflective practices, instructional abilities, and teaching efficacy are perhaps more important than first-year “survival” programs conceived narrowly as a means for reducing teacher turnover. Beginning music teachers face numerous challenges, many of which differ from those encountered by their non-music,

beginning teacher colleagues. Music-specific mentoring experiences are valued by beginning music teachers, as many of their needs are discipline-specific. Mentoring programs may be designed to assist beginning music teachers in developing effective teaching behaviors and fulfilling administrative and instructional responsibilities (instructional delivery, pacing, planning and assessment, classroom management, and selecting appropriate repertoire for ensembles or lessons). Additionally, beginning music teachers encounter feelings of isolation, emotional challenges, and other personal needs; these teachers' overall well-being may be enhanced through effective mentoring interactions.

Access to Mentoring Experiences

The literature is rife with accounts of the importance of mentoring and its potential outcomes, but states have been slow to enact policy efforts regarding beginning teacher mentoring. As noted earlier, Goldrick (2016) highlighted state mentoring and induction policy efforts by stating that “unfortunately, states have made only limited progress over the past several years” (p. ii). Perhaps even more unfortunate is the gap between recommendations found in the mentoring and induction literature and present practices. For example, Goldrick found that 29 states presently mandate mentoring and/or induction for beginning teachers, but policies in only 15 states extend this support through the first two years of teaching. Whether due to financial, political, or practical concerns, the present lack of multi-year supports directly conflicts with the views of practitioners, researchers, and policy analysts, who have adduced the need and benefits of sustained mentoring experiences (Feiman-Nemser, 2001a; Glazerman et al., 2010; Goldrick, 2016; Ingersoll & Strong, 2011; Jacobs, 2008; Moir et al., 2009; Portner, 2008).

Implementing mentoring programs for the sake of teacher retention, even if well intentioned, may serve as a misguided “silver bullet” masking a more important outcome:

beginning teacher development. Illustrating this concern are mentoring experiences that serve as first-year survival programs, which likely “will not encourage the growth into reflective teaching practice that is so desperately needed” (Conway, 2003a, p. 18). Mentors, it appears, must help mentees with their challenges (i.e., survival) while also promoting mentees’ instructional practices, reflective practice, and teaching efficacy. Despite this, many beginning music teachers accept positions within urban and rural schools that do not have financial resources to facilitate mentoring (Conway, 2010).

Music education researchers have documented beginning music teachers’ access (or lack thereof) to mentoring experiences (Table 2.2). In the accompanying section, I will summarize access issues pertaining to mentoring supports for beginning music teachers.

Krueger (1999) interviewed 20 first-year teachers in Washington during the last month of the school year. Participants, who represented varied school settings and teaching assignments, were asked to describe any assistance they received and indicate how helpful they believed this assistance was. Several participants were not provided a school-assigned mentor, and only four of the 20 participants had an experienced music teacher as their assigned mentor. The 16 teachers assigned a non-music mentor or no mentor cited isolation as a primary challenge for most of their first year. Conversely, the four beginning teachers who were mentored by master teachers within their discipline did not express feelings of isolation; rather, “they described situations that helped them to form networks with other teachers” (p. 10). A small number of the beginning music teachers were provided release time by their school district, which allowed them to observe, foster connections, and gain new instructional strategies from experienced music teachers. The beginning music teachers also indicated that hearing about other beginning teachers’ challenges and experiences (i.e., in new teacher meetings) and being informally

Table 2.2

Music Education Investigations on Mentoring or Induction Supports

Investigation	Program Studied	Method	Participants	Teaching Assignments
Barnes (2010)	First Year Experiences	Qualitative	5 beginning music teachers	Instrumental (strings); elementary, MS, HS
Blair (2008)	Mentoring	Qualitative	3 beginning music teachers	Elementary music, elementary band
Conway (2001a)	Induction	Qualitative	7 first-year music teachers, their mentors, and their administrators	ES band / MS band / HS band, elementary general music, MS band, 5-12 band
Conway (2002)	First Year Experiences, Mentoring	Qualitative	14 beginning music teachers, 14 mentor teachers, 14 principals	Elementary music, middle school band, middle school strings, high school band, high school choral, high school strings
Conway (2003a)	Mentoring	Qualitative	13 beginning music teachers	Elementary music, middle school band, middle school strings, high school band, high school choral
DeLorenzo (1992)	First Year Challenges, Mentoring	Quantitative	221 beginning and veteran music teachers	Elementary through secondary music
Jacobs (2007)	Mentoring	Qualitative	5 first-year band directors, their mentors	High school band directors
Krueger (1999)	Mentoring	Qualitative	20 first-year music teachers	Variety of school contexts and teaching assignments
Montague (2000)	Mentoring	Qualitative	4 first-year music teachers and their mentors (3 total)	Middle school band, HS/MS/ES orchestra, MS orchestra, middle school band
Raschdorf (2015)	Mentoring (informal)	Qualitative	3 beginning music teachers	General music
Roulston, Legette, and Womack (2005)	First Year Experiences, Mentoring	Qualitative	9 first- and second-year music teachers	Elementary general music, middle school strings, high school music
Schmidt and Canser (2006)	Mentoring	Qualitative	1 beginning music teacher (primary participant), 6 others (to corroborate)	Instrumental (strings); elementary
Schmidt (2008)	Mentoring	Qualitative	1 beginning music teacher (primary participant), 4 others (to corroborate)	Instrumental (strings); elementary
Smith (1994)	Mentoring	Quantitative	14 first- or second-year music educators, 7 music mentors	Unspecified
Stevanson (2005)	Mentoring	Qualitative	3 beginning music teachers, 1 experienced music teacher (mentor)	Elementary general music
Turner (2002)	Mentoring	Quantitative	110 beginning music teachers in AK, ID, MT, OR, WA, and WY	Varied specialty areas and grade levels

observed by experienced music teachers were helpful components of the school mentoring programs.

Conway (2001a) investigated seven first-year music teachers in Michigan and the induction supports they received (or didn't receive). Participants' teaching assignments were diverse (e.g., elementary general music, middle and high school band, high school choir). Although Michigan required induction supports for first-year teachers, only four of the seven participants received such support. Building principals attributed this inconsistency to insufficient funding. The three participants who did receive induction support were displeased with the programs' content, namely because of the difficulty associated with transferring examples of instruction and classroom management practices to the ensemble classroom.

In a later qualitative study, Conway (2003a) explored the mentoring experiences of 13 beginning music teachers in 13 Michigan school districts (two large/urban, four large/suburban, two medium/rural, five small/rural). While all were assigned an experienced mentor, just over half of these beginning music teachers (the two in the large/urban district, two in the large/suburban district, one in the medium/rural district, and one in a small/rural district) received a music-specific mentor. The other six beginning music teachers were assigned a mentor from a non-music discipline (e.g., middle school English teacher) or someone from a separate building role (e.g., librarian). One participant, Allison, was initially assigned to a building custodian, who according to the principal, played "drum set in a band so I thought he could be a real help to Allison" (p. 13).

Beginning music teachers assigned a non-music mentor seldom talked about music curriculum or instruction with their mentors. As Brian, one participant, noted, "She does not know anything about music, so it was not even something I thought about talking about" (p. 18).

It appears that the beginning music teachers and their non-music mentors could not find common ground in discussing basic teaching tasks that apply to all subject areas. Given this finding, it is perhaps not surprising that the beginning music teachers who were assigned a music-specific mentor perceived their interactions as more satisfactory.

Section summary. Beginning music teachers' access (or lack thereof) to mentoring experiences have been well documented within the literature, as have these teachers' preferences (e.g., mentor subject area, mentor functions and attributes, professional goals). Despite these additions to the knowledge base, state policy efforts have lagged.

Effective Mentoring Programs and Outcomes

Mentoring programs have the potential to ease the transition of beginning teachers into the profession by improving their confidence and instructional practices (Coladarci, 1992; Ebmeier, 2003; Fletcher, 2000; Jonson, 2002; Richter et al., 2013; Sweeny, 2005). To provide beginning music teachers with music-specific support, several states have designed and implemented MEA-sponsored mentoring programs. In the next section, I will briefly describe these state-level mentoring programs designed for music teachers, including those that exist within and outside of MEAs, then I will extensively review school-based mentoring program outcomes.

Music teacher mentoring program structures. As I described in Chapter One, comprehensive mentoring programs provide multi-year supports that include professional development specific to beginning teachers, numerous observations by the mentor, structured feedback following observations, and frequent mentor-mentee interactions. Music education researchers and pedagogues have voiced the importance of observations, especially when mentors compare mentee's observed teaching behaviors with their expressed thoughts and

reflections (Conway & Hodgman, 2006; Schmidt, 2008). Furthermore, both music mentors and mentees perceive the relationship to be more valuable whenever their interactions (whether they be informal or formal) occur frequently (Conway, 2010).

Jacobs (2007) qualitatively described the mentoring experiences of five beginning music teachers (i.e., high school band directors) in Florida. Mentors were members of the Florida Bandmasters Association (FBA) but did not receive any mentor training. Rather, as one participant recalled, “They [the mentor] basically did a rundown of the year” (p. 68). The mentees largely perceived their mentor-mentee interactions as “a means of surviving their first year of teaching and meeting various school, district, and state deadlines” (p. 61), suggesting that the FBA mentor focused on providing “how-to” information rather than developing instructional abilities and reflective practices.

To determine MEA mentoring programs’ common structural, logistical, and financial practices, a team of SMTE members (Koerner et al., 2016) surveyed MEA mentoring chairs within the 24 states that were determined to offer MEA mentoring programs (Baumgartner et al., 2015). Koerner and colleagues invited these same 24 chairpersons to participate in the 2016 study, of which only 10 completed the survey. The team found that five MEA mentoring programs allow any music teacher to participate (i.e., not just beginning music teachers). In most cases, state MEA mentoring chairpersons matched mentees with mentors, while three states reported that local music teachers (i.e., regional chairpersons) made the pairings. The basis for these pairings included specialty area (band, choir, strings, elementary general), geographical proximity, and sometimes personality. Only two states (i.e., Indiana, Iowa) allocate MEA funding for their MEA mentoring programs, which is used to provide mentors with a mileage

reimbursement. Overall, state MEA mentoring chairs desired mentor training and greater beginning music teacher participation—especially in smaller or isolated districts.

Extending the work of Koerner and colleagues (2016), additional members of the Supporting Beginning Music Teachers ASPA (Greene, Koerner, & Wilson, 2017) interviewed MEA programing chairpersons, mentors, and mentees within four states to describe common program characteristics and determine program successes (as perceived by these individuals). With the exception of North Carolina, the three other states (California, Iowa, Massachusetts) did not provide mentor training. Funded MEA programs (Iowa, North Carolina) resulted in increased participation and allowed for in-person observations (through paying for mentors' substitute teachers and mileage), but chairpersons leading unfunded MEA programs believed the hard-working nature of their volunteers resulted in productive mentor-mentee interactions. Several mentees were initially concerned that participating in the MEA program would be similar to being a student teacher, but eventually believed their participation provided opportunities for networking, collegiality, and discussing contemporary research and pedagogical trends. Furthermore, mentees valued instructional supports (e.g., "Having someone to bounce ideas off of"), role modeling supports (e.g., the mentor teaching the mentee's students), and trusting and proactive relationships. Interestingly, mentors stated they more frequently provided psychological and emotional support (e.g. "cheerleader") than instructional assistance.

Music mentoring beyond schools and MEAs. Two music education investigators have explored music mentoring situations that occur outside of any organization (i.e., MEAs, school districts). In his dissertation, Smith (1994) described a two-year, researcher-developed mentoring program in which 14 beginning teachers (in either their first or second year of

teaching) and seven mentors participated. Seven meetings occurred in the form of monthly-scheduled dinners, which typically were organized to allow for informal interactions, structured activities (based on expressed needs of the beginning music teachers), and time for mentor-mentee pairs to plan upcoming meetings. Results indicated that the program aided the beginning teachers in classroom management, pedagogy, instruction and planning, accommodating individual learners, implementing music technology, accommodating students with special needs, and becoming aware of administrative and political structures within their schools.

Noting that beginning music teachers sometimes self-select music teacher mentors, Raschdorf (2015) qualitatively investigated three beginning (i.e., 1-4 years of experience) general music teachers and their informal, supplemental music teacher mentors. The beginning music teachers were purposefully selected, yet had a previous relationship with the researcher (Raschdorf previously served as either their course instructor or their university supervisor). These beginning music teachers had school-assigned mentors, but these mentors were not investigated; rather, Raschdorf explored beginning music teachers' self-selected informal mentors, which she described as:

A more experienced elementary music teacher that was chosen by the novice music teacher to act as a mentor. This person does not take the place of a designated mentor (e.g. building mentor, district mentor), rather is another source of support (p. 26).

Raschdorf determined that effective mentoring (as perceived by the participants) occurred because these novices had a choice in selecting their informal mentor. In fact, two of the three studied beginning music teachers—Kristen and Suzanne—selected their former cooperating teachers to serve as their informal mentors.

Each resultant informal mentee-mentor relationship—built on similar teaching philosophies and experiences—had trust. Furthermore, these informal mentor-mentee pairs established a reciprocating relationship, with novices being able to “‘give back’ to their mentors by means of new ideas, resources, friendship, and support” (p. iii). Raschdorf notes that offering beginning teachers the choice to self-select their mentor “does not guarantee that mentoring practices will be more effective than mentoring relationships that are not self-selected” (p. 239), which perhaps is due to the informal nature of these relationships. In future investigations, researchers might study and compare the mentoring practices of both the assigned and informal mentors, which may provide a more comprehensive understanding of the various mentors’ practices, roles, and relationships. More research is also needed to ascertain the presence of informal mentors and the process by which these relationships organically form.

In their *Handbook for the Beginning Music Teacher*, Conway and Hodgman (2006) state that beginning music teachers may benefit from having varied music mentors. For example, a first-year middle school band teacher with both a high school band director and a middle school choir teacher as mentors could learn band-specific pedagogy, age-specific strategies or developmental knowledge from diverse perspectives. However, beginning music teachers may not receive a music specialist as their mentor. Conway and Hodgman suggest that “beginning music teachers must learn how to use the non-music mentor in a valuable way, and if no music mentor is assigned, the teacher must seek a music content-area mentor on his or her own. The more mentors the beginning teacher has, the better” (p. 201). Investigations that explore the effects of multiple mentors (both formal and informal) have been reviewed (Raschdorf, 2015), but there is limited understanding as to how multiple mentors may produce additive benefits.

Mentor content area. The advantages of matching mentors and mentees according to disciplinary specialization have been illustrated by the responses of participants in the 2011-12 SASS. First-year music and arts teachers who were paired with a music or arts mentor, respectively, believed that their same subject-area mentors were more effective at improving their instructional abilities than did music and arts teachers with non-music or arts mentors. For example, 52% of the first-year teachers assigned a mentor from a different subject area believed that their mentor improved their instruction “to a small extent,” whereas same-subject mentors’ abilities were rated at “a moderate extent” (36%) or “to a great extent” (43%). Without direct evaluations of classroom performance, however, these data only represent teacher preferences and perceptions, and not any effects of mentor subject area on teacher instructional skills.

Conway and Hodgman (2006) suggest that beginning music teachers ask their building principals for a music-specific mentor. According to the authors, this would preferably occur before the first day of school, as many music teachers begin preparations or teaching in the summer (e.g., band camp). This guidance, in turn, may help ensure successful parental and student interactions. The potential benefits of being assigned and meeting with a mentor prior to the start of the school year was also voiced in a qualitative investigation (i.e., Conway & Garlock, 2002). Mandi, a beginning elementary general music teacher who was a single case study participant in Conway and Garlock (2002), recommended that beginning music teachers “Find a mentor ASAP. If the one assigned by the school isn’t helpful, then find a good one on your own” (p. 18). While plausible, the ability of beginning music teachers to independently locate an effective mentor may be limited by isolation, ignorance, or hubris.

Because of practical or logistical realities, beginning music teachers are sometimes assigned a formal mentor from a non-arts discipline (Conway, 2003a). A mentoring policy brief

from the New Teacher Center recommends that state education policymakers “require programs to ensure that mentor assignments ... attend to, but not be overly restrictive with regard to subject area” (Goldrick et al., 2012, p. 16), as mentees can benefit from mentors outside of their subject areas (Jonson, 2002; Kaufmann, 2007). In fact, mentor-mentee pairings may be more effective if they are determined by professional goals, learning needs, and interpersonal dynamics rather than grade level or subject area (Bartell, 2005; Daresh, 2003). Such deliberate pairings may minimize “forced marriage” relationships, which are less likely to be successful (Hobson et al., 2009). While beginning music teachers may benefit from interactions with a non-music mentor (Conway, 2015a), additional benefits are likely to accrue if these music teachers also have a music-specific mentor (Conway & Hodgman, 2006). Given the importance of mentors and the mentor-mentee pairing, music mentor selection will be addressed in the section that follows.

Mentor-mentee matching. Beginning music teachers who participate in a school-provided mentoring program benefit from having a mentor, but carefully matching mentors and mentees may further impact beginning music teachers. Montague (2000) concluded that beneficial mentor-mentee matching occurs when administrators or mentor program facilitators align philosophical and pedagogical beliefs, school structures, and teacher schedules (e.g., teaching half of a day and attending a school mentoring program for half of a day). After careful matching, “the mentors with whom the first-year teachers were paired seemed to function not merely as mediators or facilitators, but as vital, participatory agents who sought to activate, invigorate, and enable—with varying degrees of efficacy—their novice teacher’s transfer and application of amassed knowledge and expertise from one community of practice (music teacher preparation) to another (teaching music in the public schools)” (p. 163).

Similarly, Conway, Krueger, Robinson, Haack, and Smith (2002) briefly described beginning music teacher supports in five states (i.e., Connecticut, Illinois, Michigan, Minnesota, Washington). After their state analysis, the authors determined that music teacher mentoring programs are most effective when early matching of mentors with mentees occurs (e.g., before summer camps). Mentors who received training, compensation, and release time also were considered most successful.

Desired characteristics of mentors. There is an extensive list of characteristics associated with effective music teacher mentors that is based on case studies (Montague, 2000; Schmidt, 2008), reviews of education literature (Zaffini, 2015), advice from pedagogues (Conway & Hodgman, 2006), and beginning music teachers' preferences (Conway, 2010; Haack & Smith, 2000). While many of the proposed characteristics reflect social skills (e.g., being nurturing, supportive, affirming), these alone may not advance beginning music teachers' instructional abilities or reflective practice. Although these mentor characteristics lie beyond the scope of my investigation, briefly addressing them seems pertinent to understanding comprehensive mentoring. The desired characteristics of mentors—as outlined by music education pedagogues and researchers—are summarized in Table 2.3.

Mentoring program outcomes. Music mentoring programs and desired music mentor characteristics have periodically been explored and documented, but future investigations must extend beyond descriptive research. As Richter and colleagues (2013) state:

It is not sufficient to examine whether mentoring is available to beginning teachers.

Rather, we need to investigate the quality and quantity of interactions between mentor and beginning teachers and to examine which factors predict professional growth in the first years of teaching (p. 168).

Table 2.3

Desired Mentor Characteristics as Noted within Music Research and Practitioners Literature

Professional Skills	Excellent musicianship	Conway, 2010; Conway and Hodgman, 2006
	Thorough content knowledge	Conway, 2010; Conway and Hodgman, 2006; Zaffini, 2015
	Exemplary teaching	Conway, 2010; Conway and Hodgman, 2006
	Similar teaching philosophies	Conway, 2010; Conway and Hodgman, 2006; Montague, 2000
	Proactive communication	Conway and Hodgman, 2006
	Expertise	Haack and Smith, 2000
	Organization	Conway, 2010; Conway and Hodgman, 2006
	Knowledge of school or district procedures and policies	Conway, 2010; Conway and Hodgman, 2006
	Reflective skills	Zaffini, 2015
	A role model	Smith, 2003
Personal / Professional	Respectful	Zaffini, 2015
	Personable yet professional	Conway, 2010; Conway and Hodgman, 2006
	Effective listener	Conway, 2010; Conway and Hodgman, 2006; Schmidt, 2008
Personal Skills	Nurturing	Smith, 2003
	Insightful	Smith, 2003
	Supportive	Haack and Smith, 2000; Smith, 2003
	Affirming	Smith, 2003
	Empathy	Haack and Smith, 2000; Zaffini, 2015
	Availability	Haack and Smith, 2000
	Patience	Zaffini, 2015
	Trusting	Zaffini, 2015
	Flexibility	Zaffini, 2015
	Intentional	Smith, 2003
Proactive in fostering the mentee-mentor relationship	Conway, 2010	

Three potential outcomes of effective mentoring programs—reflective practice, teaching efficacy, and professional commitment—will be reviewed in the sections that follow.

Reflective practice. An important component of beginning teacher professional development is reflective practice (Feiman-Nemser, 2001b; Ferraro, 2000). In his widely-quoted definition, Dewey (1933) described reflection as a process based on “the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it” (p. 9), which typically is motivated by the need to overcome or solve a problem. More specifically, “reflection involves not simply a sequence of ideas, but a *con*-sequence—a consecutive ordering in such a way that each determines the next as its proper outcome, while each outcome in turn leans back on, or refers to, its predecessors” (p. 4).

While Dewey’s description of reflection outlined a methodical process, Schön (1983) conceptualized reflection as a more intuitive process in which the practitioner “can surface and criticize the tacit understandings that have grown up around the repetitive experiences of a specialized practice, and can make new sense of the situations of uncertainty or uniqueness which he may allow himself to experience” (p. 61). Schön’s views on teacher reflection emerged during the early 1970s, a period during which critics voiced an increased skepticism regarding professions and professional competence. This marked a divergence between Technical Rationality—a Positivist epistemological belief that “professional activity consists in instrumental problem solving made rigorous by the application of scientific theory and technique” (Schön, 1983, p. 21)—and the role of artistry in reflection.

Despite these contrasting epistemological stances, both Dewey and Schön described two timeframes in which reflective thinking occurs: the present or the past. Schön (1983, 1987) labeled this in-the-moment process *reflection-in-action*, where the practitioner reflects in real-

time (i.e., in the moment). The past describes either the very recent past—such as Schön’s (1983) *reflection-on-action*—or a time somewhat further in the past (i.e., Dewey’s reflective deliberation). Within education, an example of *reflection-in-action* is how a classroom teacher confronts a problem or situation *while* in the act of teaching (i.e., “our thinking serves to reshape what we are doing while we are doing it” [Schön, 1987, p. 26]). Teachers also tend to reflect and learn after an experience or events, a process Schön (1983, 1987) labeled *reflection-on-action*, where practitioners think “back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome” (Schön, 1987, p. 26). Reflection-on-action appears to be the primary reflective practice for preservice teachers (Ferraro, 2000) and beginning teachers (Musthafa, 1995; Shoffner, 2011).

In a piece intended to challenge administrators, teachers, parents, scholars, and legislators to improve overall educational quality via reflection, Osterman (1990) summarized Schön’s earlier works to provide a concise definition of reflective practice:

Reflective practice is a challenging, focused, and critical assessment of one’s own behavior as a means towards developing one’s own craftsmanship. While reflection is certainly essential to the process, reflective practice is a dialectic process in which thought is integrally linked with action (p. 134).

As such, reflective practice allows teachers to become more skilled and effective.

Since Schön proposed his conceptualization of reflective practice, teacher education programs in the United States and elsewhere have increasingly focused on developing teachers’ reflective practices (Ferraro, 2000; Griffiths, 2000; Osterman, 1990). Regardless, varied definitions of the term “reflection” have created confusion among teacher education, which may hamper efforts to promote reflective thinking (Griffiths, 2000). No operationalized definition of

teachers' reflective practice, nor a measurement for capturing the reflective practice construct, existed before the work of Akbari and colleagues (2010).

Measuring reflective practice. Reflective practice is an important component of beginning teachers' development, yet few researchers have developed an instrument that measures this construct. In the past fifteen years, authors of two education dissertations have explored reflective thinking of preservice and beginning teachers (Russback, 2010) or the reflective practices of Master's students (Gilbert, 2001).

In the earlier of these two studies, Gilbert (2001) surveyed Master of Education graduate students ($N = 18$) enrolled in a required summer course ("The Teacher as a Reflective Practitioner"). These participants were all full-time inservice teachers with an average of 3.2 years of experience. Due to the nature of the course (i.e., during the summer), participants could not directly reflect on their teaching. To capture teachers' level of reflective thinking, Gilbert developed the Student MI Assessment Reporting Instrument-Reflection (SMART-R), an 11-item Likert-type instrument modified from Smith, Odhiambo, and El Khateeb's (2000) existing Student MI Assessment Reporting Instrument (SMART), an instrument that evaluates various intelligences students use in core courses. A panel of professors and graduate students assisted the researcher in determining content validity (i.e., identifying which items from Smith et al.'s measure "demonstrate reflective thought" [p. 40]). Additionally, Gilbert surveyed the teachers' attitudes toward reflection. Factor analysis results indicated that two reflection factors—metacognitive and empathetic—were present, but the author also compared reflective thinking scores before and after the training period. Gilbert concluded that the participants who taught elementary grade levels believed the training allowed them to become more metacognitively reflective as opposed to their secondary colleagues.

More recently, Russback (2010) sought to determine preservice and beginning teachers' perceived value of reflective thinking. She developed (based on existing literature and instruments), pilot tested, and implemented the *Perceived Value of Reflective Thinking Survey* to determine the degree to which preservice ($n = 261$) and beginning ($n = 345$) elementary and secondary teachers in Missouri valued reflective thinking. This questionnaire has a reported internal consistency of .77 (as estimated by Cronbach's alpha). The vast majority of preservice (94.5%) and beginning (84%) teachers indicated that during their teacher education programs, they had been taught to value and practice reflective thinking. Participants also rated the frequency of reflective thinking practices, with both preservice and beginning teachers indicating that they thought reflectively daily (48% and 61%, respectively) or at least weekly (28% and 23%, respectively). Both categories of teachers indicated that scheduling time for personal reflection was least valued when compared to other reflective practices. Additionally, beginning teachers rated the usefulness of discussing personal reflections at a statistically significant higher level than preservice teachers. Unfortunately, only 4% of the beginning teachers indicated that they collaborated with their mentors to reflect, develop lesson plans, and make instructional adjustments.

A team of Iranian second language teaching professors (Akbari et al., 2010) noted that "not much has been done to operationalize the construct of reflection, and this is largely due to a lack of consensus as to what reflection actually entails" (p. 213). Following a review of the literature, Akbari et al. determined that more than 600 reflective categories and behaviors had previously been documented. The authors' conceptualization of reflection was based largely on the earlier writings of Dewey (1933/1993) and Schön (1983, 1987). Following a refining process (i.e., to remove overlapping or repeated categories and behaviors), the authors grouped items

according to themes. This resulted in six reflective components: practical, cognitive, learner, metacognitive, critical, and moral. The authors then developed and validated the English Language Teaching Reflective Inventory (ELTRI), which was originally a 42-item instrument that constituted a 6-factor model. However, through descriptive analysis and exploratory and confirmatory factor analysis, the authors concluded that a 29-item measure best captured second language (L2) teachers' reflective practice within five components (i.e., practical, cognitive, affective, meta-cognitive, and critical). (One factor, morality, was omitted after confirmatory factor analysis, despite partial affirmation during exploratory factor analysis. Additional items within the five factors were also removed due to poor factor loading.) Akbari and colleagues concluded that "replication studies are encouraged since they can help to better operationalize teacher reflection and refine the model's factor structure" (p. 223).

Since 2010, international researchers within English language teaching have utilized the measure (e.g., Noormohammadi, 2014; Yeşilbursa, 2013), but no researchers within any education discipline in the United States have followed suit. Despite this, the ELTRI has demonstrated high internal consistency within its five factors: Practical (using different resources to aid reflection; 6 items; $\alpha = .73$), Cognitive (consciously seeking professional development activities; 5 items; $\alpha = .84$), Affective (learning about students' learning styles; 3 items; $\alpha = .78$), Meta-Cognitive (teachers' definitions of teaching and learning; 7 items; $\alpha = .82$), and Critical (socio-political aspects of teaching; 7 items; $\alpha = .82$).

Reflective practice in music education. Reflective practice has become embedded within music teacher preparation programs, as preservice teachers typically are guided to reflect on practicum and peer teaching experiences through journaling, class-wide and individual discussions with professors, and the student teaching internship (Raiber, 2000). Music education

researchers have explored the use of video-cases (West, 2013), electronic journals (Conkling, 2003) or electronic portfolios (Bauer & Dunn, 2003; Berg & Lind, 2003) as a means of fostering preservice music educators' reflective practice.

Although the reflective practices of preservice music teachers have been documented, investigators rarely have explored these practices among inservice music teachers (Reynolds & Beitler, 2007). Findings from qualitative investigations of inservice music teachers indicate that veteran music teachers who evaluate beginning music teachers' portfolios tend to increase their reflective practices (Robinson, 2005). Reynolds and Beitler (2007) documented the reflective practices of one veteran music teacher (i.e., Beitler herself), which primarily consisted of maintaining a professional journal and analyzing 6th-grade students' responses to weekly questions. The authors also noted that allotting time and devoting energy for reflective thinking, while ultimately beneficial, served as "consistent obstacles" (p. 65).

Despite these efforts, only one researcher has used a measure of beginning music teachers' reflective practice as part of a quantitative investigation. In his dissertation, Raiber (2001) found that years of teaching experience and reflective aptitude served as a significant predictor of teacher effectiveness. To measure reflective aptitude and reflective practice engagement, Raiber utilized LaBoskey's (1994) Survey of Unassisted Reflectivity and the Reflective Teaching Instrument (Kirby, 1987), respectively, to survey instrumental music teachers ($N = 50$) of varied experience. Raiber concluded that "more effective novice teachers possess a greater aptitude for reflection" (p. 164), which he attributed to the predominance of reflective practice within music teacher education programs (Raiber, 2000). He further warned that schools do not foster a professional environment that is conducive for reflective practice, as

evidenced by the negative correlation between reflective aptitude and teaching effectiveness as teaching experience increases.

Teaching efficacy. Broadly, teaching efficacy refers to “The teacher’s belief in his or her capacity to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran et al., 1998, p. 233). As stated in Chapter One, teaching efficacy is positively connected with professional commitment (Coladarci, 1992; Ebmeier, 2003; Tschannen-Moran & Woolfolk Hoy, 2001) and with reflective practice (Braun & Crumpler, 2004; Noormohammadi, 2014). Additionally, teaching efficacy can influence teachers’ instructional practices and students’ achievement and self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001). Although first-year inservice educators tend to report lower teaching efficacy (Wolters & Daugherty, 2007; Woolfolk Hoy & Spero, 2005) than their more experienced colleagues, mentoring programs that focus primarily on instructional supports may promote teaching efficacy (Wechsler et al., 2010).

Teaching efficacy was first introduced as a psychological construct within educational research in the mid-1970s, but its measurement was initially limited. To measure teachers’ perceived level of control in reinforcing their actions (i.e., external or internal control of reinforcement), Armor and colleagues (1976) asked teachers just two items: one pertaining to the influence of the home environment on student motivation, and the other regarding perceived ability to motivate challenging students. These items—one external and one internal, respectively—were based on Rotter’s (1966) locus of control construct. Bandura (1977) urged, however, that psychologists and education researchers recognize efficacy beliefs and locus of causality beliefs as separate. He then described an efficacy expectation as “the conviction that one can successfully execute the behavior required to produce the outcomes” (p. 193). (Bandura

later provided a concise definition of self-efficacy in 1997, some 20 years after he first overviewed the construct: “Beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” [p. 3].) According to Bandura (1977), efficacy expectations stem from four factors: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. (Shortly thereafter, Bandura (1986) proposed his Social Cognitive Theory, which posits that efficacy beliefs are developed through four factors: mastery experiences, vicarious experiences, social persuasion, and physiological and emotional arousal.)

Noting the potential importance of teaching efficacy and citing researchers’ unsuccessful attempts to create instruments greater than two items in length, Gibson and Dembo (1984) developed, piloted, and refined a 30-item teaching efficacy instrument (i.e., the Teacher Efficacy Scale; TES). The TES was based on Bandura’s (1977) self-efficacy theoretical framework. Following analysis, Gibson and Dembo proposed a two-factor model for measuring teaching efficacy: teachers’ sense of personal teaching efficacy (one’s belief in possessing the requisite abilities or skills to positively impact student achievement) and teachers’ sense of teaching efficacy (one’s belief that enacting change is determined by external influences).

In subsequent research, however, teaching efficacy has been considered a multidimensional construct. Tschannen-Moran and Woolfolk Hoy (2001) stated that previous measures (i.e., Armor et al., 1976; Gibson & Dembo, 1984) lacked “assessments of teaching in support of student thinking, effectiveness with capable students, creativity in teaching, and the flexible application of alternative assessment and teaching strategies” (p. 801). The authors further proposed that teaching efficacy consists of three factors: efficacy for student engagement, efficacy for classroom management, and efficacy for instructional strategies. This conceptualization and its accompanying instrument, the Teachers’ Sense of Efficacy Scale—

which is rooted in Bandura's (1986) Social Cognitive Theory—has extended teaching efficacy beyond internal or external influences. The TSES (its psychometric qualities and construction are more fully detailed in Chapter Three) has been used in numerous investigations of beginning teachers' teaching efficacy (e.g., Ackermann, 2012; Fives & Buehl, 2010; Wolters & Daugherty, 2007), and its factor structure is considered appropriate for measuring beginning teachers' teaching efficacy (Fives & Buehl, 2010; Woolfolk Hoy & Spero, 2005).

Teaching efficacy in music education. Teaching efficacy has been explored by very few music education researchers, despite having received increased attention in the past four decades by education researchers in other disciplines. String music teachers' efficacy has been linked to next-year career plans, thus suggesting that efficacy beliefs can impact teacher attrition, retention, and migration (Russell, 2008). Similarly, Hancock (2008) determined that the music teachers who were less at risk for attrition or migration were those teachers who self-reported greater levels of classroom and school efficacy, a finding he derived after creating school efficacy indices from the 1999-2000 SASS data. Efficacy appears to be an important component of teacher turnover and retention.

Australian researchers have explored the efficacy of inservice and preservice generalist teachers in teaching the arts (Garvis & Pendergast, 2010; Garvis & Lemon, 2013; Kane, 2005), but these surveyed teachers mostly reported neutral efficacy for teaching music despite reporting positive arts experiences. Similarly, Saygili, Işık, and Tehneldere (2015) found that Turkish generalist teachers reported moderate efficacy for student engagement, instructional strategies, and classroom management, but strongly believed that music specialists should deliver music instruction. More recently (and more specifically to this thesis), teaching efficacy has been measured for precollegiate music teachers (Austin & Miksza, 2012; Miksza, 2013), preservice

music teachers (Barnes, 1998; Bergee, 2002; Bergee & Grashel, 2002; Prichard, 2013), and experienced inservice band teachers (Regier, 2016). Surprisingly, no music education researchers appear to have measured the teaching efficacy of beginning music teachers.

Of precollegiate music teachers. The effects of a precollegiate music teaching experience on the motivation, efficacy, commitment, and music teacher identity of high school students have been investigated (Austin & Miksza, 2012; Miksza, 2013). Within these related studies, the authors also explored relationships among psychological factors. *Trying on Teaching*, a 12-week program, provided high school juniors with opportunities to prepare and teach sectional lessons in a structured setting that allows for teaching responsibilities to gradually increase. The high school students' ensemble directors nominated them for participation based on the students' interest and qualifications; the students were later selected for participation after a formal review of applications. These students were then paired with undergraduate mentors (i.e., music education majors), who debriefed with the high school students after each weekly teaching episode and also conversed via email (i.e., to plan lessons, provide feedback). Additionally, the high school and undergraduate students attended two professional development sessions that focused on effective teacher behaviors (e.g., lesson planning, instructional delivery). To measure the high school participants' music teaching efficacy, the authors adapted instructional strategy efficacy and classroom management efficacy items from the TSES (Tschannen-Moran and Woolfolk Hoy, 2001).

In the first of these two studies, Austin and Miksza, (2012) determined that the high school participants ($N = 21$) believed they were moderately efficacious as music teachers, reported moderate commitment to a music teaching career, and indicated a high level of intrinsic motivation regarding music teaching. Across time, statistically significant increases were found

for classroom management efficacy, teacher identity, and social motivation for teaching.

Although teaching strategy efficacy increased over time, this was not a statistically significant increase. Additionally, career commitment remained stable.

Miksza (2013) extended and replicated his previous coauthored study (Austin & Miksza, 2012) by studying a new cohort of high school students ($N = 9$) who participated in the *Trying on Teaching* program. Unlike the earlier study, Miksza found that the participants reported slight decreases in music teaching efficacy (i.e., efficacy for instructional strategy and classroom management), indicated statistically significant increases in career commitment, and that teacher identity scores remained stable. Despite these differences across the two studies, intrinsic motivation and social motivation to pursue a career teaching music increased, a finding in congruence with the previous investigation. Miksza attributed the differences between his replication and the previous study to a lack of statistical power (due to the small sample size).

Of preservice music teachers. Although preservice music teachers may report lower levels of teaching efficacy when compared to inservice teachers (Parkes, 2007), practical teaching experiences (either from university-led instruction or teaching school students) tend to increase their teaching efficacy (Barnes, 1998; Bergee, 2002). It seems vital that music teacher preparation programs develop the various facets of efficacy (Bergee & Grashel, 2002).

Changes in the teaching efficacy of preservice string music educators ($N = 18$) teaching in a community lab experience (i.e., the University of South Carolina String Project) were assessed by Barnes (1998). Teaching efficacy data were collected via the TES (authored by Gibson & Dembo, 1984; adapted by Guskey & Passaro, 1994), which was administered three times (i.e., fall, winter, spring) across the two-semester community lab experience. Barnes then compared teaching efficacy scores with self-ratings of teaching episodes and teaching effectiveness ratings

provided by expert evaluators. Participant teachers' sense of teaching efficacy increased, yet their personal teaching efficacy (i.e., the ability to shape classroom events) slightly declined. Despite this decline, teaching effectiveness improved, a finding that Barnes attributed to self-efficacy levels that may have been inflated initially.

Bergee (2002) compared and examined the effects of two treatment conditions on preservice music teachers' efficacy for classroom management. The three comparison groups included direct (i.e., small group discussion with trial rehearsals), mediated (i.e., small group discussions with video analysis of inservice teachers' rehearsals), and control (i.e., no training) experiences. Bergee then developed the Preservice Music Teachers' Classroom Management Self-Efficacy Scale based on existing measures. (Bergee cited Gibson and Dembo's measure as an influence, but not Tschannen-Moran and Woolfolk Hoy's TSES, which was published just one year before his manuscript was published.) Participants in both the mediated and direct experience groups made substantial efficacy gains, yet Bergee noted that facilitating the direct experience sessions required more effort and time than did the mediated experiences. Although possibly being more practical for a music teacher educator, the mediated experiences offer one potential developmental drawback: preservice music teachers in the direct experiences group appeared to retain higher efficacy levels when compared to the mediated experiences participants.

Bergee and Grashel (2002) surveyed preservice music education majors ($N = 231$) at seven universities to explore the relationships between measures of generalized self-efficacy, career decisiveness, teaching efficacy (as measured by the TES), and music teaching efficacy (the latter measure was created by the researchers). Generalized self-efficacy, career decisiveness, and teaching efficacy scores significantly predicted music teaching efficacy, but the authors

urged future researchers to examine other potential music teaching efficacy influences. Similar to Barnes (1998), the authors believed that undergraduate preservice teaching experiences may foster higher self-efficacy perceptions, but further noted that these increases were only modest.

Parkes (2007) electronically surveyed the teaching efficacy beliefs of 191 undergraduate music education majors using the short form of the TSES. The majority (63%) of participants were college juniors or seniors. Parkes found a three-factor structure in alignment with the short form of the TSES, but the alpha levels for Engagement ($\alpha = 0.73$), Instruction ($\alpha = 0.66$), and Classroom Management ($\alpha = 0.69$) were weaker than those reported by Tschannen-Moran and Woolfolk Hoy (2001); the overall alpha level ($\alpha = 0.87$), however, was quite consistent with that of the short form of the TSES ($\alpha = 0.90$). Mean scores were mostly stable for each grade (there were no statistically significant differences found between any grade levels). Although the participants were predominantly upperclassmen, Parkes attributed the lower alpha levels of the three factors to a lack of practicum teaching experiences, which may have prevented the students from being able to “answer what they might be able to do in the situation put forward in the TSES instrument” (p. 165). Perhaps this is partially the result of utilization of the TSES, which previously has shown an unclear factor structure when utilized with preservice teacher populations (Fives & Buehl, 2010). While it is true that these undergraduate students may not have mastered their classroom management, student engagement, or instructional practices, the participants’ response mean (6.94 out of a maximum of 9) is nearly identical to efficacy levels previously reported for preservice teachers outside of music ($M = 7.10$) (Fives & Buehl, 2010).

In her mixed methods dissertation, Prichard (2013) investigated the teaching efficacy beliefs of 684 preservice music education students enrolled in introductory music education courses. Prichard adapted previous teaching efficacy measures (i.e., Austin & Miksza, 2012;

Bandura, 2006; Gibson & Dembo, 1984; Woolfolk Hoy, 2000) and developed the Preservice Music Teacher Efficacy Scale. After data collection and analysis, Prichard concluded that these introductory music education students demonstrated two-dimensions of teaching efficacy that were distinct yet highly correlated: classroom management efficacy beliefs and personal music teaching efficacy beliefs. These music teaching efficacy beliefs were found to be impacted by field experiences, peer teaching, and mentoring (as formal course requirements or as informal, non-curricular conversations).

Of inservice music teachers. Few researchers (i.e., Regier, 2016; Wagoner, 2011) have quantitatively measured inservice music educators' teaching efficacy. Clearly this is an area of research meriting greater focus within music education, as education researchers from other disciplines have noted that experienced educators' teaching efficacy is positively correlated with professional commitment and instructional practices, as well as with student achievement and motivation.

Regier (2016) examined Oklahoma high school band directors' teaching efficacy beliefs (he labeled the construct "self-efficacy" toward teaching) for concert, marching, and jazz bands pedagogy. This was accomplished using a researcher-adapted instrument based on a measure of students' music performance efficacy beliefs (Zelenak, 2015), which was modified from an investigation targeting math student efficacy beliefs (i.e., Usher & Pajares, 2009) (e.g., "I do well teaching ..."). Regier found that participants rated their efficacy for teaching concert ensembles higher than for marching or jazz ensembles, respectively. Despite a majority (70%) of participants indicating they taught jazz ensembles, only a fraction (7%) studied jazz in college. Perhaps not surprisingly, the band directors with extensive collegiate jazz performance experience (i.e., 5 or more semesters in an ensemble) reported significantly higher efficacy

beliefs than those without college jazz ensemble experiences. Citing research indicating that efficacy beliefs are formed during preservice preparations, Regier suggested that music teacher educators include jazz pedagogy or performance within curricular requirements.

In her dissertation, Wagoner (2011) explored inservice music teacher identity, which she conceptualized as having five components: music teacher self-efficacy, commitment, agency, collectivity (i.e., group efficacy), and comprehensiveness, which was defined as “the broadness or narrowness with which one see’s [*sic*] one’s self [*sic*] as a musician, and as a teacher” (p. 87). Using a researcher-designed instrument, she surveyed music educators of varied career stages to measure two underlying constructs (but not all five aforementioned components) of music teacher identity: music teacher commitment (11 items) and music teacher self-efficacy (12 items). The music teacher self-efficacy measure demonstrated high overall reliability ($\alpha = .87$), but music teacher commitment measure ($\alpha = .67$) exhibited less than satisfactory reliability (Cicchetti et al., 1992); responses reflecting the two constructs were moderately correlated ($r = .53$). There was a statistically significant gender difference for music teacher commitment, with women reporting greater commitment than men. Teaching efficacy means were beyond the scale midpoint for all teaching experience categories (e.g., 1-5 years, 6-10 years) and increased slightly with experience, whereas commitment remained relatively stable.

Although gains in teaching efficacy may improve beginning teachers’ instructional practices, this is not always the case. Jelani, the primary participant in two qualitative investigations (Schmidt, 2008; Schmidt & Canser, 2006) when he was a beginning elementary strings teacher, demonstrated high levels of efficacy (as determined by Schmidt), yet his difficulties “were more pronounced because his confused pedagogical knowledge affected so many aspects of his teaching that it was difficult to know how to begin to help him progress”

(Schmidt & Canser, 2006, p. 65). His efficacy gains were not translated into improved pedagogy, instructional effectiveness, or student learning gains. Researchers may wish to longitudinally explore how mentoring experiences impact first-year music teachers' levels of efficacy in related to demonstrated competence. Perhaps beginning music teachers who exhibit a procedural deficit, despite reporting adequate efficacy, can only improve their instructional abilities to a certain extent, regardless of mentoring program comprehensiveness.

Professional commitment. Professional commitment is a complex, multifaceted construct. As stated in Chapter One, professional commitment can describe either an individual's commitment to the teaching profession or their commitment to a particular school organization. The former conceptualization is predominant within education literature; thus, professional commitment has traditionally been described as a measure of psychological attachment to the profession (Coladarci, 1992). Researchers (e.g., Weiss, 1999) have also explored "career choice commitment" by asking beginning teachers if they would still decide to teach, should they be able to return to college and again select their career path.

In a *commitment to the profession* sense, teachers who receive support from their administrators, instructional support from their colleagues, and believe their students behave positively tend to demonstrate greater professional commitment (Riehl & Sipple, 1996). Similarly, Ingersoll (1997) found that teachers who reported greater levels of instructional autonomy, influence in creating school-wide policies, comprehensive beginning teacher supports, and end-of-career salaries—four aspects of professionalization—demonstrated greater professional commitment. Ingersoll was careful to indicate that these statistical associations did not necessarily reflect causal outcomes. After an extensive review of education commitment literature, Sinclair (2008) proposed eight factors that can either reduce or increase career

commitment (from the perspective of retention). Factors that appear salient to the present investigation include student factors (e.g., classroom management), professional factors (e.g., professional development, perceived support), and the nature of teaching work (e.g., social collegiality, isolation).

In addition to conducting studies that represent broad explorations of professional commitment and career choice commitment, education researchers have also explored associations between commitment and attrition, migration, and retention. School work environments that are perceived as collaborative may increase commitment and morale, thus suggesting that workplace conditions can impact career commitment and planned retention (Sclan, 1993; Weiss, 1999). Ingersoll and Strong (2011), after reviewing 15 studies on outcomes related to beginning teacher supports, suggest that beginning teachers who received supports (regardless of comprehensiveness) reported higher overall levels of professional commitment, satisfaction, and planned retention.

Professional commitment in music education. Specific to music education, there is not much literature pertaining to music educators' commitment (Austin & Miksza, 2012). Music education researchers have explored the commitment of prospective music education majors (i.e., teaching career commitment; Austin & Miksza, 2012), college music majors (i.e., music career commitment; Austin, Isbell, & Russell, 2010), and inservice strings teachers with varying levels of teaching experience (i.e., teacher commitment; Russell, 2008, 2012). Professional commitment commonly appears within studies investigating music teacher retention and attrition (e.g., Russell, 2008, 2012), but no researchers appear to have specifically explored the career commitment of beginning music teachers. To understand how professional commitment and satisfaction are influenced during beginning music teachers' initial years (i.e., the induction

phase), empirical investigations that explore the role of mentoring programs in influencing professional commitment are needed.

After analyzing data from the 1999-2000 SASS and 2000-2001 TFS, Gardner (2010) found that music teachers tended to migrate due to either workplace environment dissatisfaction or for better positions, despite being satisfied with most job responsibilities (e.g., instructional autonomy, curricular decision-making). These music teachers were less likely to remain in their present position (82.2%) when compared to non-music teachers (87.9%). One finding indicated how teachers' perceived support from administrators can influence commitment and satisfaction. To combat music teacher migration and attrition, Gardner proposed that "improving communication among teachers, supervisors, and administrators could be an excellent first step in enhancing music teachers' commitment to their positions" (p. 119). The roles of mentors or music department chairpersons in mediating teacher-administrator communications, thereby increasing professional commitment, merits additional study. Unfortunately, Gardner did not report or analyze scores from the two career choice commitment items that are included on the SASS questionnaire. For these items—61a and 61b— teachers are asked "If you could go back to your college days and start over again, would you become a teacher or not?" and "How long do you plan to remain in teaching?"

Hancock (2008) also analyzed 1999-2000 SASS data, but reported what seems to be a counterintuitive finding: music teachers who spend more time on teaching-related activities outside of contracted hours were at a lesser risk for migration or attrition. He speculated that "spending extracurricular time on work is the norm in most music programs ... and perhaps participation in activities that include additional time demands is an indicator of commitment to the profession" (p. 140). Despite this, he noted the need for additional research to explore links

between time demands and attrition and migration. Similar to Gardner (2010), Hancock did not analyze music teachers' career choice commitment responses for the 1999-2000 SASS (i.e., Items 61a and 61b).

Austin and colleagues (2010) broadly explored how secondary socialization experiences and occupational identity predicted music career commitment within undergraduate music majors, but not professional commitment specifically. The authors determined that teacher and musician identities, as well as music classroom and campus influences, best predicted the music career commitment of the 454 surveyed undergraduate music majors (i.e., music performance, music education, combined, liberal arts degrees) at three institutions.

To explore inservice strings teachers' anticipated career plans and the factors that relate to these plans, Russell (2008) surveyed K-12 string music educators who belonged to ASTA. Respondents ($N = 304$) indicated that their immediate career plans (i.e., in the next year) were influenced by psychological factors (i.e., self-efficacy, enjoyment of teaching, teacher commitment), work culture, socioeconomic background, and how music is perceived as an important subject area. In a separate study within this line of research, Russell (2012) proposed that music teacher preparation programs could increase "overall teacher efficacy and commitment to mitigate psychological issues leading to teacher attrition" (p. 78) as a means of reducing inservice music teacher attrition and migration.

Section summary. Both district-required and optional MEA-sponsored mentoring programs have the potential to develop beginning music teachers' reflective practice, teaching efficacy, and professional commitment. However, inadequate funding, unsound organizational structures, and faulty delivery mechanisms may be undercutting any such mentoring efforts,

thereby limiting mentoring program impacts on music teachers (e.g., reflective practice, teaching efficacy, professional commitment) and teaching (e.g., instructional effectiveness, classroom management, student achievement).

Beginning music teachers may prefer being assigned a mentor from the same content area or a specialist from a related field (e.g., art, theater), but beneficial mentor-mentee interactions can occur regardless of the mentor's subject area. When assigned a non-music mentor, beginning music teachers have been found to seek informal mentors, who can provide additional support. Additionally, desired mentor characteristics have also been documented, yet these largely reflect emotional and social aspects of the mentoring process. To date, no researcher has empirically explored the effects of specific mentor characteristics or mentoring experiences on beginning music teacher reflection, efficacy, or commitment.

Beyond describing the availability of mentoring, education researchers must now begin exploring which facets of mentoring can influence beginning teachers' development (Richter et al., 2013). Reflective practice (i.e., critically examining one's actions) is linked with future action (Osterman, 1990). In the past 25 years, teacher education programs have emphasized reflection, but researchers have only recently developed a psychometrically sound method for measuring teachers' reflective practice. Somewhat similarly, teaching efficacy was first measured in the 1970s, but its measurement and conceptualization was initially limited. The writings of Bandura (1977, 1986) have influenced the subsequent development of teaching efficacy measures, with two such instruments (Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001) having been utilized in studies of music teacher populations. The professional commitment of beginning music teachers, which can either refer to one's commitment to the teaching profession or to their school, may be influenced by administrative

support, workplace environment, mentoring program participation, and both reflective practice and teaching efficacy.

CHAPTER III

Method

Comprehensive mentoring and induction programs have the potential to enhance beginning teachers' reflective practice, teaching efficacy, and professional commitment. Despite these benefits, researchers within music education seldom consider the role of such experiences in developing these teacher qualities. The purpose of this study was to investigate the status of mentoring and induction programs and their impacts on beginning music teachers. More specifically, I measured mentoring program comprehensiveness, along with mentor functions and attributes, mentor support practices, and mentor effectiveness as perceived by mentees. I also explored the effects of mentee status, perceived mentor effectiveness, and mentor content area on reflective practice, teaching efficacy, and professional commitment.

Data were collected from a universe sample of beginning music teachers in years 1-4 of their career during the 2016-17 academic year within 10 states that require beginning teachers to participate in district-sponsored mentoring programs and, in some instances, also offer optional music mentoring support via the state music education association (MEA). An online survey methodology was used to collect data in Fall 2016 and again in March 2017. I distributed the Beginning Music Teacher Mentoring Questionnaire (BMTMQ) to an unknown number of beginning music teachers affiliated eight state MEAs (November 2016); however, due to a low number of responses, I compiled email addresses from two additional states and paid the National Association for Music Education (NAfME) in December 2016 to distribute the BMTMQ. This chapter begins with a discussion of the online survey methodology, then presents

issues techniques related to sampling and access, describes the development of the BMTMQ, and concludes with data collection and analysis procedures.

Rationale for Online Survey Methodology

Due to the broad availability of internet access within the United States, education researchers have increasingly utilized electronic methods (e.g., a URL to a survey website is sent via email to potential participants) for survey data collection (Fowler, 2014). Such technological gains (i.e., allowing participants to respond to questionnaire items using computers, tablets, or smartphones; Sue & Ritter, 2007) have allowed researchers to collect more information than what was previously possible with telephone interviews or mailed survey questionnaires (Ruel, Wagner, & Gillespie, 2016). Online surveys may also reduce response fatigue (Ruel et al., 2016). Despite these benefits, the use of an online survey methodology is not without potential draw backs, including limited email address sampling (Fowler, 2014), coverage error (Manfreda & Vehovar, 2008), or invalid email addresses (Manfreda & Vehovar, 2008).

Researchers may choose to select an online distribution method due to financial concerns, as such surveys are less expensive than alternative survey formats (Ruel et al., 2016). However, online surveys may produce response rates that are 10% lower than traditional mailed surveys (Fan & Yan, 2010). Utilizing two modes of data collection (e.g., emailed electronic questionnaire, mailed paper questionnaire of similar layout) may increase response rates (Groves et al., 2004), but this option was not financially viable for the present investigation.

Costs. Research funds were allocated for incentivizing participation, as providing incentives has been shown to help increase response rates of online survey questionnaires (Görizt, 2006; Heerwegh, 2006). Although this approach has been criticized for undermining social exchange dynamics (e.g., Dillman, 2000) or its potential to increase self-selection bias

(Manfreda & Vehovar, 2008), a growing body of evidence supports the use of incentives (Heerwegh, 2006), lotteries or prize draws (Bosnjak & Tuten, 2003), or some combination (Heerwegh, 2006). In fact, randomly selecting prize “winners” from the pool of completed questionnaires may be more effective at increasing response rates than not offering an incentive (Bosnjak & Tuten, 2003; Göritz, 2006; Tuten, Galesic, & Bosnjak, 2004). Additionally, the use of incentives may reduce dropout rates for survey studies in which participants are asked to provide responses over multiple points in time (Göritz, 2006). Researchers utilizing incentives or lotteries must be mindful of email spam guards or filters, as money symbols or using the words “prize” or “prizes” may result in the messages or survey questionnaire being placed in a spam folder (Ruel et al., 2016).

To incentivize participants in completing both data collection phases, I offered both incentives and one lottery winning. These incentives consisted of 100 \$5 Starbucks gift cards, which were awarded to individuals randomly selected from among all participants that completed both administrations of the questionnaire. Additionally, one participant who completed both surveys was selected to win a \$50 Visa gift card. This lottery amount was selected instead of a higher amount, as Göritz (2006) determined that \$50 and \$200 amounts resulted in similar response rates.

These gift cards were delivered to participants’ email addresses. To be eligible, beginning music teacher participants were asked to provide their email address during the initial survey administrations (i.e., November and December 2016). This allowed me to directly administer a follow-up survey in March 2017 (rather than asking state MEAs or paying NAFME to distribute another series of messages, which might have compromised longitudinal response rates).

Sampling

To understand (a) the comprehensiveness of district-sponsored mentoring and induction programs, (b) how beginning music teachers rate the effectiveness of their assigned district mentors, and (c) the impacts of mentor and induction program comprehensiveness and mentor effectiveness on beginning music teachers' reflective practice, teaching efficacy, and professional commitment, I surveyed beginning music teachers within 10 states that require mentoring supports for beginning teachers. I first delimited the target population to beginning music teachers in 28 states that require mentoring or induction supports for beginning teachers. I then identified the states with MEA leaders who were willing to facilitate or support data collection from beginning music teachers. States in which the MEA representatives were willing to support the project ("Yes") are illustrated in Table 3.1, as are the states for which there was nominal support ("Somewhat"), no support ("NO"), or no response (blank).

The accessible population, which was first surveyed in November 2016, initially consisted of eight states: Six state MEAs that were willing to forward my survey questionnaire (i.e., Iowa, Maine, Massachusetts, New Mexico, Oklahoma, Rhode Island), and two state MEAs that provided me with membership email addresses (i.e., North Carolina, California). This approach resulted in a small response rate ($n = 71$), with most states represented by five or fewer beginning music teachers. As such, I opted to add a second access method.

To produce more representative responses, reduce the margin of error, and reach the necessary statistical power threshold for factor analysis and multivariate analysis of variance (MANOVA) procedures, I considered alternative access methods that would likely increase sample size. In consultation with my advisor in December 2016, I determined that two options were most viable: adding two new focus states (i.e., Colorado, Pennsylvania) and paying the

Table 3.1
State MEA Willingness to Facilitate Survey Questionnaire Distribution

NO MEA mentoring program	NAfME Region	Willing to assist the research project?	If so: How?
Arkansas	SW		
Colorado	SW	Somewhat	Distribute via email newsletter
Connecticut	E		
Delaware	E	NO	
Hawaii	W		
Iowa	NC	Yes	Distribute emails
Kentucky	S		
Louisiana	S	NO	
Maine	E	Yes	Distribute questionnaire link
Maryland	E		
Michigan	NC	Somewhat	Offered the option of purchasing mailing addresses
New Jersey	E	Somewhat	Newsletter link
New Mexico	SW	Yes	Distribute questionnaire link
New York	E	NO	Cited privacy concerns
Rhode Island	E	Yes	Distribute questionnaire link
Virginia	S		
West Virginia	S		
Wisconsin	NC	Somewhat	Offered the option of purchasing mailing addresses

Offer an MEA mentoring program	NAfME Region	Willing to assist the research project?	If so: How?
California	W	Yes	Gathering email addresses of recent and current mentor program participants Privacy concerns
Kansas	SW	NO	
Massachusetts	E	Yes	Distribute an email
Missouri	SW	Somewhat	Post on Facebook page
North Carolina	S	Yes	Provided email address for all members
Ohio	NC	Somewhat	Post on OMEA website
Oklahoma	SW	Yes	Distribute questionnaire link
Pennsylvania	E	Somewhat	Post on PMEA website
South Carolina	S	Somewhat	Distribute via division Presidents
Utah	W		

Note: NAFME Regions are abbreviated: E = Eastern, NC = North Central, NW = Northwest, SW = Southwestern, W = Western

National Association for Music Education (NAfME) to distribute the BMTMQ to music teachers within the focus states now numbering 10. I joined the Pennsylvania MEA and harvested email address from its members-only directory; additionally, I compiled publicly-available music teacher email addresses in Colorado.

Despite my previous conjecture that (a) music teachers might be more likely to participate if communications occurred via a recognized music organization leader, and (b) that a nationally distributed, impersonalized email might negatively impact response rates and representativeness of responses, employing NAfME to distribute two emails (i.e., invitation with survey questionnaire link, one reminder) to all music teachers within the 10 focus states provided the advantage of increased access and higher response rates. Thus, the second access method in December 2016 consisted of direct contact (i.e., compiling emails of Pennsylvania and Colorado music teachers) and paying NAfME to distribute the questionnaire and send one follow-up message to all music teachers within the 10 states. See Figure 3.1 for a graphical representation of the Fall 2016 data collection procedures.

Adding two states and applying an additional distribution method required a modification to the IRB protocol and informed consent document. These modifications were submitted on December 2 and approved December 5, 2016. I copied the existing BMTMQ into Qualtrics, renamed the questionnaire, and updated the questionnaire distribution method to include both Pennsylvania and Colorado. Creating a December version of the questionnaire also allowed me to generate a new, anonymous and sharable Qualtrics link that could be included within the NAfME messages. That same day, I began harvesting and compiling Pennsylvania and Colorado music teacher email addresses. All other aspects of the questionnaire remained unchanged.

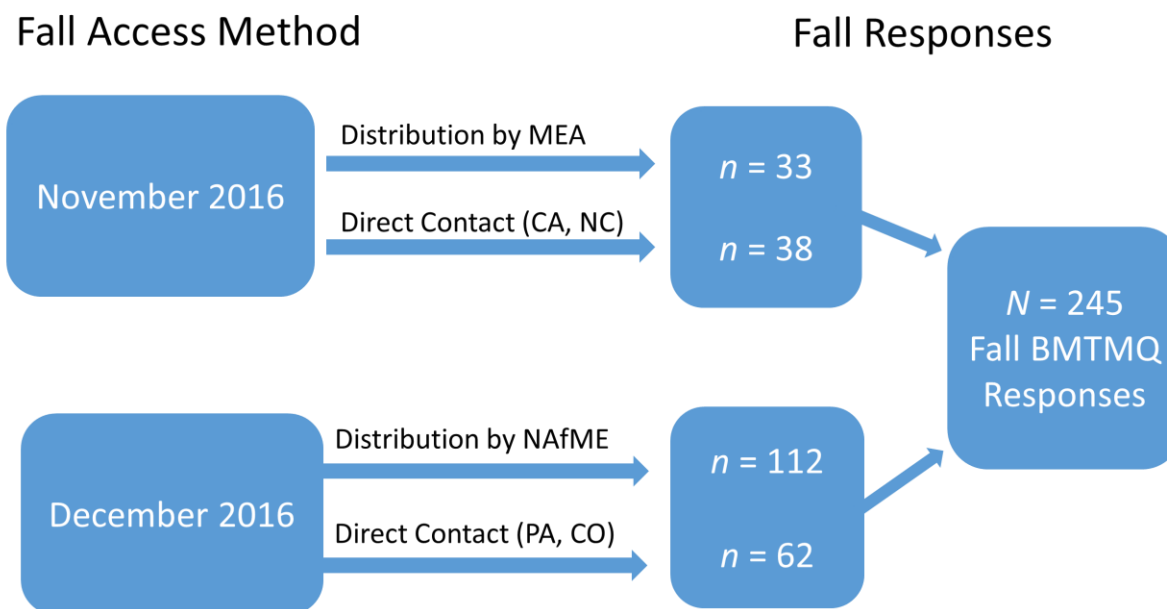


Figure 3.1. Data collection procedures and resultant responses for the Fall 2016 survey.

Power analysis and response optimization strategies. Because potential participants were directly contacted through their state MEA organization (i.e., November 2016) or by NAFME (i.e., December 2016), this study was a list-based survey of high-coverage populations (Manfreda & Vehovar, 2008), a type of probability web survey that assumes members can access the internet and that NAFME and the MEA organizations possess accurate contact information (i.e., the sampling frame). However, the size of the target population or the accessible population cannot be known. Through the use of complete enumeration (i.e., census) methods, researchers can obtain population sizes (assuming there is no measurement error), but within large populations, this approach is time-consuming, expensive, may require multiple investigators, and is plagued by nonresponse (Arnab, 2017). Suffice it to say, surveying within an unknown population size is not uncommon to survey researchers (Arnab, 2017; Smith, 2013).

Using the conservative guidelines provided by Smith (2013), I a priori calculated the necessary sample size assuming a 90% confidence level (Z-score of 1.645), standard deviation of .5, and margin of error (i.e., confidence interval) of +/- 5%. Results indicated that a sample size of 271 was needed to satisfy statistical analysis demands and ensure adequate representativeness of responses.

Data were collected from the universe sample, a decision that was driven, in part, by the reality that I would incur no additional expense by attempting to reach every beginning music teacher via an online survey questionnaire format. To ensure sufficient statistical power for path analysis techniques, I used the conservative guidelines proposed by Petraitis, Dunham, and Niewiarowski (1996): a sample size of at least 20 times the number of paths.¹ (As explained on p. 115, only 154 valid and complete follow-up responses were collected in March 2017, thus only allowing for 7 total paths.) Additionally, I computed an a priori power estimation using the G*Power (Faul, 2008) software program to determine a minimum number of participant responses necessary to ensure sufficient statistical power when utilizing two- and three-way mixed multivariate analysis of variance (MANOVA) tests. Based on these results, a two-way mixed MANOVA requires a minimum sample size of 126 to maintain sufficient power (assuming a moderate effect size [$f(v) = .25$], a power threshold of .80, 2 groups [the between-subjects IV, “mentee status”], and 2 measurements), and a three-way mixed MANOVA requires a minimum sample size of 175 to achieve sufficient power.

Given these requisite, estimated sample sizes, it was prudent to maximize responses within the 10 focus states. During the Fall 2016 administrations of the BMTMQ, I collected

¹ The authors caution that “with a small sample size, successive observations are likely to change parameter estimates merely as a result of random sampling from the underlying ‘true’ population variance-covariance structure. As a general rule of thumb, sample size should be at least five to 20 times larger than the number of estimated paths to ensure reliable results” (p. 426).

respondents' email addresses through the use of cash incentives and a lottery drawing. Although this strategy resulted in a total expense of \$550, it was deemed viable for three purposes: incentive to participate, longitudinal retention, and direct administration of the follow-up questionnaire. Incentives (e.g., gift cards) have been shown to increase completion of electronic questionnaires (Heerwegh, 2006) as well as any follow-up administrations (Göritz, 2006). At the end of the Demographics section of the Fall BMTMQ, I added this statement:

One hundred survey respondents that complete this survey and the March 2017 survey will be eligible for a \$5 Starbucks gift card, and one survey respondent that completes both surveys will receive a \$50 Visa gift card. Please provide your email address so that I can directly contact you in early March 2017. If you are randomly selected as a gift card recipient, you will be notified via this provided email address. Thank you!

On the informed consent page, respondents were notified of the optional March 2017 BMTMQ administration and about the financial incentives that were rewarded for participating twice. Although not required, I requested email addresses at the end of the questionnaire, an approach that allowed me to directly follow up with respondents in March 2017 (see Figure 3.2) without having to pay NAFME to distribute the questionnaire a second time. Additionally, this approach was methodically advantageous because it allowed me to maximize immediate and longitudinal response rates, as I worried that asking state MEA leadership to distribute another series of messages (i.e., again in March 2017) may have compromised participation altogether.

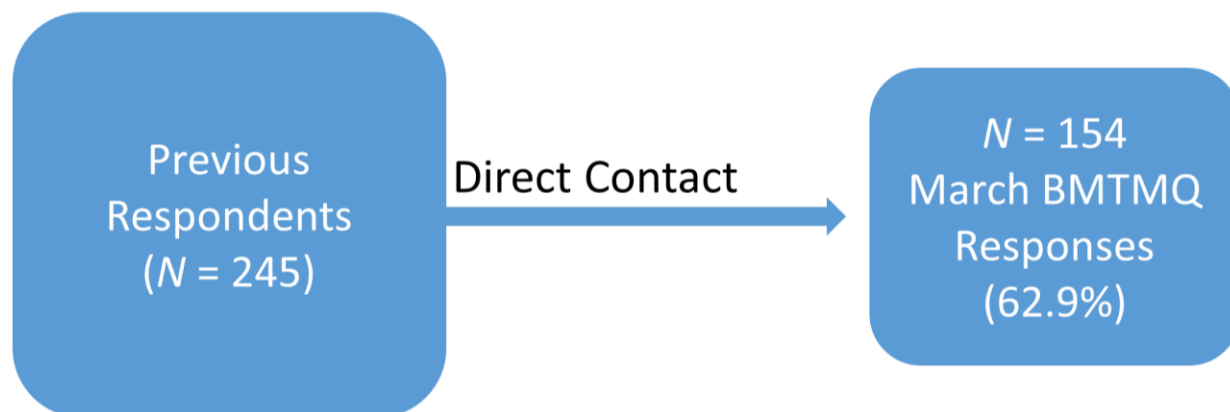


Figure 3.2. March 2017 responses, based on directly contacting earlier respondents

Access to potential participants. On August 16, 2016, I directly contacted individual MEA presidents and executive secretaries in the 28 states that required district-level mentoring support and, in some instances, offered optional music-specific mentoring through the MEA organization. In this message, I proposed the investigation, outlined potential benefits of mentoring, and requested a membership email database for all members, email addresses of recent or current MEA mentoring program participants (if applicable), or a commitment from the organization to distribute a questionnaire link on my behalf. A copy of the first recruitment email can be found in Appendix A. After two weeks, I sent follow-up emails to MEA presidents and executives in the 17 states that had not yet responded.

For states willing to facilitate distribution of my electronic survey questionnaire via three different messages (i.e., November 2016), I followed procedures similar to those recommended by Dillman (2000) and described by Manfreda and Vehovar (2008): an invitation to participate (i.e., prenotification), a message including the survey questionnaire link (i.e., main survey

invitation), and at least one reminder (i.e., follow-up contact). Asking MEA presidents to send follow-up correspondence was vital, as such messages may yield an increase in response rates between 20 and 40 percent (Dillman, 2000). Initially supplying states with three support options—providing a membership email database, providing email addresses of members who currently or recently have participated in an MEA mentoring program, or distributing unique messages—allowed MEA leadership to determine their level of project assistance while balancing time constraints and their state organization’s privacy policies.

MEA representatives from six states (i.e., Maine, New Mexico, Rhode Island, Iowa, Massachusetts, Oklahoma) agreed to send unique, stand-alone emails to their membership during the November 2016 data collection window. I provided the appropriate state contact person (either the MEA president or executive secretary) with specific messages and desired send dates, which included an announcement email (Friday, November 4), the invitation and questionnaire link sent three days later (Monday, November 7), and at least one follow-up email (requested to be sent on Monday, November 14). The pre-notification message, main survey invitation, and follow-up message can be found within Appendix B. Representatives from two states (i.e., California, North Carolina) agreed to provide me with email addresses of their membership directory so I could directly contact potential participants. It must be noted, however, that while the North Carolina MEA provided its entire membership directory ($n = 1,689$ email addresses), the California MEA only provided me with email addresses of beginning music teachers who currently were participating in the MEA mentoring program and who consented to their email address being shared. As a result, very few beginning music teachers in California ($n = 6$) were reached via the direct contact method.

By harvesting and compiling publicly available email addresses of Pennsylvania and Colorado music teachers in December 2016, I was able to use Qualtrics to employ identical procedures in directly contacting beginning music teachers within these two additional states. Although NAFME was only willing to send two emails on my behalf in December 2016 (i.e., one invitation to participate with survey questionnaire link, one follow-up contact), paying them resulted my questionnaire being distributed to thousands of music teachers (although the exact number is unknown). Experienced teachers beyond the delimited target population were encouraged to forward the invitation and survey questionnaire link to any music teachers in years 1-4 of their careers. Additionally, I requested that any beginning music teacher who had received the NAFME-provided messages and an invitation from their state MEA disregard the second invitation, as I feared duplication of responses would distort the results of the survey. The email messages distributed by NAFME can be found in Appendix C.

Research Questionnaire

Item pool development. Questionnaires previously utilized by music and general education researchers to measure reflective practice, teaching efficacy, and professional commitment were obtained during the literature review process. Items were adapted from measures included in quantitative journal articles written by Akbari and colleagues (2010), Austin and Miksza (2012), Ebmeier (2003), and Tschannen-Moran and Woolfolk Hoy (2001), as well as from the Schools and Staffing Survey (SASS) Teacher Questionnaire (NCES, 2011). The questionnaire item pool also included several researcher-developed items, namely to collect information on mentoring program comprehensiveness and beginning music teacher satisfaction with the assigned mentor. Overall, the Beginning Music Teacher Mentoring Questionnaire (BMTMQ) includes 72 items across six sections. The BMTMQ can be found in Appendix D.

To determine the comprehensiveness of the beginning music teachers' mentoring experiences, I created items based on optimal mentoring and induction practices as presented in the education literature (Feiman-Nemser, 2001b, 2003; Glazerman et al., 2010; Glickman, 1990; Jonson, 2002; Moir et al., 2009; New Teacher Center, 2016; Portner, 2008; Sweeny, 2005; Veenman, 1984) and the music education literature (Barnes, 2010; Blair, 2008; Conway, 2001a, 2002, 2003a; Conway et al., 2002; Conway & Hodgman, 2006; Haack & Smith, 2000; Krueger, 1999; Montague, 2000; Schmidt, 2008; Smith, 2005; Zaffini, 2015). Altogether, 11 components of comprehensive mentoring and induction programs were addressed by items included in the March 2017 version of the BMTMQ. (See p. 106 for information on these 11 items.)

For each comprehensive mentoring or induction item, participants indicated the response that most closely represented their experience. For example, the "How often did you formally meet with your mentor?" question included three responses: "A few times a year" (low comprehensiveness), "Once or twice a month" (moderate comprehensiveness), or "At least once a week" (high comprehensiveness). An option with a null value (e.g., "I never formally met with my mentor") also accompanied each question. Although I originally attempted to represent the composite measure of mentoring and induction program comprehensiveness as either a two- or three-level categorical variable, this later proved problematic. Instead, I descriptively report this information in Chapter Four.

I created eight items that assessed beginning music teachers' perceptions of their mentor's functions, attributes, and practices. These items, which also were derived from related literature in education and music education, use a 6-point Likert-type scale (*Strongly Disagree* to *Strongly Agree*) through which study participants rate their level of agreement. Item stems for the eight mentor functions, attributes, and support practices are:

- *My mentor positively influenced my teaching abilities.*
- *My mentor helps me to better engage my students while teaching.*
- *My mentor aides me with my classroom management practices.*
- *My mentor possesses thorough music content knowledge.*
- *My mentor is supportive.*
- *My mentor has established a trusting relationship with me.*
- *My mentor is an effective listener.*
- *My mentor demonstrates empathy.*

Additionally, respondents were asked to indicate how frequently their mentor provided instructional support, psychological support, and served as a role model. This frequency scale was anchored by 1 (*Never*) and 5 (*Always*). Participants also provided an overall rating of their mentor's effectiveness, from 1 (*Not Effective*) to 10 (*Extremely Effective*).

Music teaching efficacy items were taken from Austin and Miksza's (2012) adaptation of Tschannen-Moran and Woolfolk Hoy's (2001) Teachers' Sense of Efficacy Scale (TSES). Whereas Austin and Miksza's instrument contained 31 total items (24 from the TSES long form and 7 additional items from Chan et al., 2008), only the 12 items contained in the short form of the TSES were used in the present investigation. The short form of the TSES ($\alpha = .90$; Tschannen-Moran & Woolfolk Hoy, 2001), which has been confirmed to be appropriate for measuring inservice teachers' efficacy (Fives & Buehl, 2010), includes three factors: Instructional Strategy Efficacy (4 items; $\alpha = .86$); Classroom Management Efficacy (4 items; $\alpha = .86$); and Student Engagement Efficacy (4 items; $\alpha = .81$). Items were randomized from the original short form. To improve psychometric quality, I adopted modifications made by Austin

and Miksza, who reworded “How much can you” item stems from the original to “I can” statements. Additionally, Austin and Miksza added a 6-point Likert-type response scale (previously utilized by Gibson & Dembo, 1984) anchored by 1 (*Strongly Disagree*) and 6 (*Strongly Agree*)—instead of using the original 9-point TSES scale that ranged from 1 (*Nothing*) to 9 (*A great deal*).

Five professional commitment items were adapted or borrowed from existing measures. One item regarding planned retention (i.e., years remaining in K-12 teaching) was from a measure by Shen (1997). The original 5-point rating scale, which was anchored by 1 (*Definitely plan to leave teaching as soon as I can*) to 5 (*As long as I am able*) was unchanged. The response format for the career choice commitment—originally used in the 1990-1991 SASS and since utilized by other researchers (e.g., Shen, 1997; Weiss, 1999)—was changed from 5-point Likert-type scale (originally anchored by *Certainly would become a teacher* and *Certainly would not become a teacher*) to a 7-point level of likelihood response (1 = *Certainly would not*, 7 = *Certainly would*) previously utilized by medical researchers (Casarett, Stocking, & Siegler, 1999). Two additional commitment items created by Ebmeier (2003)—“I would leave music teaching for another profession if I could” and “This job gives me professional satisfaction”—were altered from a 5-point level of agreement (*Completely Disagree* to *Completely Agree*) to a 6-point response option (*Strongly Disagree* to *Strongly Agree*).

I had initially planned to measure reflective practice by using 25 items from Akbari and colleagues’ (2010) ELTRI: 8 items from the Practical factor, 6 items from the Cognitive factor, 8 items from the Metacognitive factor, and 3 items from the Affective factor. However, based on committee feedback during the dissertation proposal defense stage, I concluded that the ELTRI did not adequately address Schön’s (1983, 1987) concept of *reflection-in-action*. I also decided

against adopting Raiber's (2001) use of LaBoskey's (1994) open-ended items from the Survey of Unassisted Reflectivity because this measurement approach was phenomenological in nature and did not allow for adequate measurement of a priori reflective practice factors. Use of the complete Reflective Teaching Instrument (RTI) (Kirby, 1987) also did not seem appropriate; in Raiber's 2001 study, composite RTI scores demonstrated marginally accepted reliability ($\alpha = .70$), but reliability estimates for the three underlying factors were unsatisfactory to varying degrees (.47, .60, .69). Despite this, two items from the RTI that address reflection-in-action were considered particularly salient to the present study (i.e., "I sometimes find myself changing instructional strategies in the middle of a class session," "If I can't get through to a particular student, I experiment with different approaches"). To allow for valid and reliable measurement of reflective practice, I created 17 additional items, 12 of which were adapted from the work of Akbari and colleagues (2010) and five original to this study, focused on *reflection-on-action*. Beginning music teachers were asked to indicate how frequently they engaged in specific reflective activities. These 17 items represent both Dewey and Schön's conceptualizations of reflective practice, as teachers who reflect-on-actions actively think back to specific classroom situations to make sense of these past happenings and better prepare themselves for future instances.

Beginning Music Teacher Mentoring Questionnaire. The BMTMQ was organized in six distinct sections. Section One pertained entirely to beginning music teachers' career status. When completing the initial section of the questionnaire, participants indicated their total years of full-time K-12 music teaching experience (including the 2016-17 year). Response options (adapted from the 2011-12 SASS) included 1 year, 2 years, 3 years, 4 years, 5-19 years, and 20 or more years, which were intended to classify beginning music teachers' career status. A

response of either “5-19 years” or “20 or more years” navigated the participant to the end of the online survey questionnaire, as these individuals were beyond the scope of the investigation.

Participants were also asked “Do you currently participate in a required school mentoring program?” Based on their “Yes” or “No” response, participants were guided to mentoring program comprehensiveness items that were worded in the present or past tense, respectively. After analyzing Fall 2016 responses, I determined that it may have been possible for respondents in years 2, 3, or 4 of their careers to have taught in states that did not offer mentoring or induction supports, or that they may have taught in states that required such supports but in fact did not receive these supports. To clarify this, March 2017 respondents that selected “No” to currently receiving mentoring supports were again provided with items in past tense, but I also included response options designed to clarify lack of mentoring or induction supports (i.e., “I did not have an assigned mentor,” “I was never observed by my mentor,” “I did not participate in a school mentoring program,” “I did not participate in professional development experiences,” “I was not required to participate in a school mentoring program”).

The remainder of Section One included 11 items intended to define the comprehensiveness of participants’ school-required mentoring and induction experiences. Participants selected the responses that best represented their mentoring experiences. The 11 questions pertained to evaluations from the mentor, frequency of observations by their mentor, the mentor’s use of feedback after observations, frequency of observing the mentor teaching in their classroom (if applicable), frequency of observations of experienced teachers, frequency and average duration of weekly meetings, reduced teaching load, professional development experiences, length of required participation in the mentoring program, and their mentor’s subject area. Unless asked to provide a number (e.g., “What is the average length of formal

meetings with your mentor? [Please type the number of minutes]), each question contained four possible responses; each response represented varied levels of comprehensiveness. For instance, the item pertaining to mentor-mentee meeting frequency (i.e., “How often do you formally meet with your school-assigned mentor?”) had responses of *A few times a year* (1), *Once or twice a month* (2), *At least once a week* (3), or *I never formally met with my mentor* (0). This response format, which addresses frequency in a non-equal interval manner, was borrowed from the 2011-12 SASS.

In Section Two, respondents provided information regarding perceptions of their mentor’s functions, attributes, and practices, as well as an overall rating of their mentor’s effectiveness. After reading the eight statements (presented as a matrix table), respondents indicate their level of agreement using a 6-point Likert-type scale anchored by 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). These eight items—which were developed after reviewing research and practitioner’s literature and utilizing Gold’s (1996) and Richter and colleagues’ (2013) mentoring program goals—pertained to the mentors’ effectiveness at developing mentees’ instructional skills, student engagement skills, and classroom management skills; their music content area expertise; and their abilities to provide support, establish trust, listen effectively, and demonstrate empathy. Participants were also asked to indicate how frequently their mentor provided them with instructional support or psychological support and served as a role model by responding to a 5-point frequency scale ranging from 1 (*Never*) to 5 (*Always*). Lastly, respondents globally rated their mentor’s effectiveness using a scale anchored by 1 (*Not Effective*) to 10 (*Extremely Effective*). Responses for the 11 items addressing mentor functions, attributes, and practices were later analyzed using exploratory factor analysis techniques to determine if a smaller set of latent variables were present (Leech, Barrett, & Morgan, 2011).

Music teaching efficacy was the focus of Section Three. Twelve “I can” statements representing three facets of music teaching efficacy (i.e., instructional strategy, classroom management, student engagement) were randomly displayed as a matrix table. For example, after reading each statement (e.g., “I can craft good questions that stimulate critical thinking”), respondents rated their level of agreement by selecting their response (1 = *Strongly Disagree*, 6 = *Strongly Agree*) on the matrix table.

Professional commitment was the focus of Section Four, which contained five total items. For the first item (i.e., planned retention; from Shen, 1997) which read “I plan on remaining a music teacher”, participants selected one response option (*Definitely plan to leave teaching as soon as I can* = 1, *Will probably continue unless something better comes along* = 2, *Undecided at this time* = 3, *Until I am eligible for retirement* = 4, *As long as I am able* = 5). For the second item (i.e., career choice commitment; adapted from the 1990-1991 SASS), which read “If you could go back to your college days and start over again, would you still become a music teacher?”, responses were anchored by the scale endpoints *Certainly would not become a teacher* (1) and *Certainly would become a teacher* (7). The final two items (i.e., commitment to teaching; from Ebmeier, 2003) stated “I would leave teaching for another profession if I could” and “This job gives me professional satisfaction”; participants indicated their level of agreement by utilizing a 6-point Likert-type response (*Strongly Disagree* = 1, *Strongly Agree* = 6). The former of these two statements is negatively phrased, so the response was reverse scored (e.g., a response of *Strongly Disagree* received a score of 6; a *Strongly Agree* response was scored as a 1). When developmentally appropriate, the use of negatively phrased items typically will minimize any response bias and/or acquiescence bias. Lastly, respondents were asked to indicate how many years they planned to remain a music teacher.

In Section Five, I measured beginning music teachers' reflective practice. As reported earlier, I created 17 reflective practice items, with 5 items measuring beginning music teachers' *reflection-in-action*, and 12 measuring *reflection-on-action* (engaging in reflection after teaching has occurred). These items—which were based on the works of Akbari and colleagues (2010) and Schön (1983, 1987)—addressed salient aspects of reflective practice. Respondents indicated how frequently they engaged in each reflective practice; frequency scale responses were anchored by *Never* (1) and *Always* (5).

Section Six items were used to collect participant demographic information (sex, gender, race/ethnicity, marital status, age, highest level of education, grade levels taught, primary specialty area, school setting, school type, employment status, school district size, and state). These items were not part of the March 2017 questionnaire administration; responses regarding school district size, state (as a veracity check), and MEA mentoring program participation (i.e., if respondents participated and for how long, if applicable) were solicited in both Nov./Dec. 2016 and March 2017. School district size response options (see Appendix C) were adapted from a white paper published by a business-focused education policy organization (BEST NC, 2015).

Timeline and questionnaire design. The BMTMQ was sent electronically to beginning music teachers at two points in time: early November 2016 and early March 2017. The first date was selected due to requisite planning, securing necessary approvals, and practical concerns. Examples of these requisite actions included securing state MEA agreement to distribute the survey questionnaire, receiving dissertation committee approval, and garnering IRB consent (see the Pre-data collection section below for more information). On a practical level, I hypothesized that by early November, the potential beginning music teacher participants may have felt more inclined to complete the questionnaire, as the busiest, first weeks of the school year had already

passed. Additionally, I believed that this passage of time would allow for initial mentor-mentee interactions to occur. (As noted on p. 91, the BMTMQ was also sent to beginning teachers in early December 2016 to increase the number of responses.) This alternative window still allowed for responses to be collected prior to winter ensemble performances and before the commencement of winter break. The second survey questionnaire administration in early March 2017 occurred a few weeks after the spring semester had commenced and, in most states, after the state MEA conference had taken place.

The content of the BMTMQ differed slightly across the two data collection phases. In the hopes of minimizing respondent fatigue (Ruel et al., 2016), I administered a slightly shorter version of the BMTMQ during November-December 2016. As shown in Table 3.2, the mentor program comprehensiveness section was abbreviated (information regarding comprehensiveness of induction supports was only collected in March 2017). Similarly, during March 2017 I only collected demographic information on school district size, state, and MEA mentoring program participation, if applicable.

Although I did not utilize advanced online survey features such as question randomization (Manfreda & Vehovar, 2008), the use of Qualtrics allowed for conditional branching based on participants' responses to three questions: agreeing to participate, level of teaching experience, and whether they currently or previously participated in their school-provided mentoring program. This latter question allowed respondents who once participated in their school mentoring program to respond to items in past tense, whereas those currently in a mentoring program selected responses that best reflected their mentoring experiences as of

Table 3.2

Questionnaire Content for Fall 2016 and March 2017 Administrations of the BMTMQ

BMTMQ Section	Fall 2016	Mar. 2017	Rationale
One (Comprehensiveness)	Abbrev.	Y	First-year BMTs were only able to describe induction experiences after they had occurred more frequently.
Two (Mentor Functions and Attributes; Mentor Effectiveness)	Y	Y	BMTs were only be able to rate their mentor's functions and attributes and their overall effectiveness once they had met on several occasions.
Three (Teaching Efficacy)	Y	Y	Was collected both times to allow for comparisons across time.
Four (Commitment)	Y	Y	Was collected both times to allow for comparisons across time.
Five (Reflection)	Y	Y	Was collected both times to allow for comparisons across time.
Six (Demographics)	Y	Abbrev.	Collected at the end of the first administration. Participants were asked to provide their email address so I could send the March 2017 questionnaire directly.

November-December 2016 and March 2017. All participants were again asked to complete mentoring program comprehensiveness questions in the March 2017 version of the BMTMQ, both to ensure accuracy of previous responses and because items pertaining to induction supports—questions not present in the Fall 2016 administrations—were added.

Pilot testing. Both versions of the BMTMQ were entered into an online survey platform (www.qualtrics.com) in August 2016. In mid-September 2016, survey questionnaire links were emailed to graduate music education teaching assistants ($N = 11$) at two large, public research universities. Five of the graduate students were asked to complete the survey questionnaire as if they were a beginning music teacher (three completed the November-December version, two

completed the March version), while the other six reviewed the instruments to critique content and design. Average completion time was between 5–8 minutes ($M = 6.33$, $SD = 1.53$) for the November-December 2016 version, and exactly 7 minutes for both respondents that completed the March version. As such, I informed prospective participants that the estimated completion time for the Fall 2016 survey administration was approximately 5–8 minutes, and was approximately 6–8 minutes for the March 2017 version.

The six graduate students that reviewed the content and design provided me with vital feedback, including the need for providing an operationalized definition of a “mentor,” clarifying certain item stems, and capturing gender and sex information. To ensure validity of responses, I defined a mentor as “an experienced, school-assigned teacher or full-time mentor who either currently provides or once provided you with formal support.” This was to prevent participants from describing or rating the actions of any informal mentors (e.g., colleagues, other teachers, former cooperating teachers). Furthermore, I described mentors as being “school-assigned mentor” throughout both questionnaires.

Items stems intended to capture years of full-time teaching experience and observations of experienced teachers were slightly modified to aid readability. Response options for five mentoring program comprehensiveness items (i.e., mentoring program experiences, first-year professional development experiences, mentor evaluations, mentor subject area, mentor feedback) and two reflective practice items (i.e., small-scale research activities, crafting questions that stimulate students’ critical thinking) also were slightly modified. Additionally, I altered the 10-point mentor effectiveness item from a text response to a sliding scale option.

Two reviewers encouraged me to update the existing Gender demographic item, which only existed as a binary response option (i.e., Male, Female). Although this approach has

previously been used in federally-funded surveys (e.g., SASS) and by music education researchers completing their dissertation projects (e.g., Martin, 2014; Russell, 2007), sociologists have recently conceptualized gender and sex as related but distinct concepts (Westbrook & Saperstein, 2015). Furthermore, the American Psychological Association (2012) has stated that *sex* refers to an individual's biological status, and has defined *gender* as "the attitudes, feelings, and behaviors that a given culture associates with a person's biological sex" (p. 11). Thus, *male* and *female* describes one's sex, and *man* and *woman* describes one's gender. As Westbrook and Saperstein state, "asking separate questions about sex and gender and offering more than two answer options are important steps toward better aligning survey research practice with gender theory and lived experience" (p. 538). To accomplish this, I included two separate questions: "My sex at birth" (Male, Female), and "I currently identify my gender as" (Man, Woman, A gender not listed here [open response option]).

Procedures

Pre-data collection. The preliminary proposal document was sent to members of the dissertation committee on September 21, 2016. After securing committee approval on October 18, 2016, I submitted an Institution Review Board (IRB) protocol the following day. After receiving IRB approval on October 25, I provided email messages and "send" dates to the six states that initially elected to distribute these messages. On November 6, I sent the prenotification email to music teachers in North Carolina and California. The next day, I sent the first of three direct emails to beginning music teachers in North Carolina and California via the Qualtrics platform. As mentioned earlier, I provided the CU IRB office with a protocol modification on December 2, 2016; the modifications were approved 3 days later. Additionally,

I directly contacted music teachers in Colorado and Pennsylvania on December 8, 2016, and NAFME distributed my invitation message the next day.

Data collection. As noted previously in Chapter Three, the first phase of data collection occurred in early November-December 2016. Utilizing the previously-described contact procedures, participants completed the portions of the BMTMQ as represented in the “Fall 2016” column of Table 3.2. An abbreviated portion of the mentoring program comprehensiveness questions were included in the November and December BMTMQs, but items measuring reflective practice, teaching efficacy, professional commitment, and demographic information were presented in their entirety. At the end of the questionnaire, participants were asked to provide their email address to (a) be eligible for the incentives and lottery drawing, and (b) allow me to directly contact them for the March 2017 BMTMQ data collection phase.

I paid NAFME \$400 on December 7 to have the invitation and follow-up emails distributed to inservice music teachers within the 10 focus states. Due to end-of-semester time constraints placed on potential participants and the fact that other research “blasts” were being sent on the following two Mondays, I authorized NAFME to distribute the invitation email on Friday, December 9 and scheduled the reminder email to be sent on Friday, December 16.

On December 8, I sent prenotification email messages to music teachers in the two additional focus states (i.e., Colorado, Pennsylvania). I also created an email message template with piped text and contact lists within Qualtrics to distribute individualized survey questionnaire invitations to music teachers within these states. This message was timed to go out early the morning of Monday, December 12 in the hopes of being visible at the top of potential respondents’ email inboxes. Although I added a clause within this invitation as an attempt to discourage duplicate responses, I nonetheless worried that Pennsylvania and Colorado music

teachers could have access to both a unique Qualtrics link (i.e., direct contact) and the anonymous link distributed by NAFME, which could have potentially resulted in duplicate responses—even if unintentional—and thus distorted the results. As such, on December 11, I removed email addresses from those who had completed the questionnaire via the NAFME distribution ($n = 26$) as well as those participants who opted out ($n = 16$) or whose email addresses were invalid ($n = 40$). Data collection ended on December 22, 2016, at 11:59 PM.

Because I solicited respondents' email addresses during the November and December versions of the BMTMQ, I was able to directly contact each respondent again in early March 2017. Following the contact procedures utilized in the fall administration, I sent the previous respondents ($N = 245$) a prenotification message on Thursday, March 2, 2017. Participants were reminded of the 100 \$5 Starbucks gift cards as well as the \$50 Visa gift card lottery incentive. I then used Qualtrics to send the personalized invitation message early on March 6. To maximize response rates, I sent three total follow-up email requests. Despite the incentives and numerous follow-up messages, fewer beginning music teachers ($n = 154$, or 61.6% of the Fall respondents) completed the March 2017 version of the BMTMQ. Fifteen respondents began but did not complete the March questionnaire or only provided minimal responses, and nine respondents completed the questionnaire but indicated they never participated in a school mentoring program; these 24 cases were excluded from all data analysis (i.e., 178 responses were collected but only 154 were considered usable).

Data set. During the last week of December 2016, I created a preliminary data file using the IBM Statistical Package for the Social Sciences (SPSS) version 23.0 software package. When screening and verifying the SPSS file, I removed numerous cases, including: those who elected to not participate ($n = 38$); teachers exceeding four years of experience ($n = 383$); largely

incomplete responses ($n = 86$); and instances in which music teachers completed the survey questionnaire in its entirety but did not provide their email address ($n = 10$). Two additional cases—one music teacher in North Dakota and one music teacher at an international school—were beyond the 10 delimited focus states and thus removed.

Since questionnaire distribution methods included direct contact (i.e., 4 states), state-distributed anonymous distribution (i.e., 6 states), and a later national-level, anonymous distribution (i.e., NAfME “blast” in all 10 focus states), it was possible that potential participants may have completed the questionnaire two times. Despite my request to avoid multiple responses (i.e., “If you have already completed this survey after being contacted through your state music education association, please disregard this message”), four participants completed the survey questionnaire twice. (I determined this using the conditional formatting feature in Microsoft Excel.) Since their responses were not identical, I used their initial response instead of averaging their responses. Thus, the number of valid responses from the fall survey questionnaire administration totaled 245. Responses from the March 2017 follow-up administration of the BMTMQ ($n = 154$), once screened for duplicate or incomplete responses, were added to the existing SPSS file.

Data analysis. Data collected during the two questionnaire administrations were downloaded from Qualtrics, entered into SPSS, labeled as either categorical or continuous variables, and then descriptively analyzed. I then utilized the exploratory data analysis procedures as outlined by Morgan, Leech, Gloeckner, and Barrett (2013). This process consists of analyzing data for outliers, non-normal distributions, missing values, and/or errors from data input through the use of histograms, frequency tables, boxplots, and descriptive statistics (i.e., mean, standard deviation, skewness, kurtosis, minimum and maximum values). Descriptive

statistics for all demographic and measured variables were then reported, as this analysis helped me to determine whether the data were normally or approximately normally distributed and if assumptions for statistical tests were met (Morgan et al., 2013).

To determine the extent of beginning music teachers' access to and engagement in comprehensive mentoring and induction experiences, I descriptively analyzed data for questionnaire items measuring induction supports, mentoring experiences, mentor functions, attributes, and practices, and mentor effectiveness. Descriptive statistics also were compiled for reflective practice, teaching efficacy, and professional commitment items. I then conducted exploratory factor analyses (EFAs) and reliability analyses separately for data from each data collection window to condense the multi-item variables into smaller, latent factor structures. EFA within the confirmatory factor analysis framework—a process referred to as E/CFA (Brown, 2015; Muthén & Muthén, 2012)—was used to corroborate factor structures as determined by EFA. Subscale scores were then created for the reflective practice, teaching efficacy, professional commitment, and mentor functions and attributes measures, and reliability estimates (internal consistency as determined by Cronbach's alpha) were obtained for these major subscales.²

I explored whether beginning music teachers' growth in reflective practice, teaching efficacy, and professional commitment over time was connected to mentor content area or mentor effectiveness (as perceived by the mentee) through use of multivariate inferential statistics. A mixed MANOVA design, with one within-subjects factor (i.e., time; scores in Fall 2016, March 2017) and two between-subjects factors (mentor effectiveness, mentor content

² Subscale scores, which are also sometimes labeled "factor scores" or "sum scores by factor," were created by adding all of respondents' scores for items that loaded within each factor (DiStefano, Zhu, & Mîndrilă, 2009; Field, 2013; Suhr & Shay, 2009).

area), was used to examine the impacts of perceived mentor effectiveness and mentor content area on reflective practice, teaching efficacy, and professional commitment.

Finally, I used path analysis techniques to explore relations among mentor and mentee characteristics, beginning music teacher perceptions of mentor functions and effectiveness, and beginning music teacher's self-reports of reflective practice, teaching efficacy, and professional commitment. This regression-based analysis allowed me to estimate the causal impacts of variables and ultimately represent causality as a visual network (Arnold, 2015).

CHAPTER IV

Results

The purpose of this study was to investigate the status of mentoring and induction programs and their impacts on beginning music teachers. More specifically, I measured mentoring program comprehensiveness, along with mentor functions and attributes, mentor support practices, and mentor effectiveness as perceived by mentees. I also explored the effects of mentee status, perceived mentor effectiveness, and mentor content area on reflective practice, teaching efficacy, and professional commitment.

During November 2016, the Beginning Music Teacher Mentoring Questionnaire (BMTMQ) was distributed to an unknown number of beginning music teachers affiliated with eight state music education associations (MEAs). Due to the low number of valid responses ($n = 71$), in December 2016 I added two focus states (i.e., Colorado, Pennsylvania) to the original eight focus states and paid NAFME to distribute the BMTMQ within all 10 focus states; an additional 174 valid responses were collected. I determined that three participants had completed both the November and December versions of the BMTMQ; instead of averaging their response values, I used their first responses.

Data obtained from the participants in Fall 2016 ($N = 245$) and March 2017 ($n = 154$) were analyzed using SPSS version 23.0. After importing the dataset from Qualtrics and organizing its layout, I first engaged in exploratory data analysis (Morgan et al., 2013) procedures to examine the data for missing, erroneous, or incomplete values and for psychometric properties. Then I computed descriptive statistics for all variables (i.e., induction

supports, comprehensive mentoring experiences, mentor functions, attributes, and practices, mentor effectiveness, teaching efficacy, reflective practice, professional commitment).

To reduce the overall number of dependent variables (i.e., multiple items used to measure reflective practice, teaching efficacy, professional commitment) into a smaller group of underlying, unobserved (i.e., latent) variables, exploratory factor analyses (EFAs) were computed. Following the recommendations of Field (2013) and Brown (2009), I first explored factor solutions using orthogonal (i.e., uncorrelated) rotations, then compared these factor solutions to those generated using oblique (i.e., correlated) rotation. Although I hypothesized the factors for reflective practice and teaching efficacy would correlate—and thus could have only computed oblique rotations (Field, 2013)—I nonetheless compared factor structures from the initial orthogonal rotation to the later oblique rotation. Because factors were correlated and because the results of the orthogonal and oblique rotations were comparable, I only report findings from the oblique rotations in the EFA sections that follow. (See pp. 144–145, 149–152, 153–154, and 155 below.) After I had determined and compared the underlying factor structures for the Fall 2016 and March 2017 responses, I engaged in EFA within a confirmatory factor analysis framework (i.e., E/CFA) through the use of Amos Graphics 24.0 software.

After using E/CFA to corroborate the factor structures, I computed subscale scores by summing responses for all items that loaded within each factor. These Fall semester subscale scores were then compared across the November and December data collection windows to ensure that responses did not statistically differ; once I was confident that the participant access and data collection windows did not bias responses to these major variables, I combined all Fall 2016 responses. Multivariate statistical procedures were used to explore the effects of mentee status, as well as the effects of perceived mentor effectiveness and mentor content area on

beginning music teachers' reflective practice, teaching efficacy, and professional commitment. Lastly, I used path analysis techniques to explore whether mentee status, mentor effectiveness, mentor content area, or years of teaching experience were directly or indirectly related to reflective practice, teaching efficacy, and professional commitment.

Basic descriptive analyses are presented in the next section, with results arranged by major variables and their organization within the BMTMQ. Demographic information (sex, gender, race/ethnicity, marital status, age, years of teaching experience, highest level education, state) is presented first, followed by school and position characteristics (school setting and type, grade levels taught, primary teaching area). Data regarding induction supports, mentor program comprehensiveness, and mentor functions, attributes, and effectiveness follow. The section concludes with data for reflective practice, teaching efficacy, and professional commitment.

Exploratory Data Analysis

Before computing any descriptive and inferential statistics, I engaged in the exploratory data analysis procedures as outlined by Morgan and colleagues (2013). During this process, I analyzed data for outliers, determined if the scaled variables exhibited approximately normal distributions, noted any missing values, and determined if any data entry errors were present. This was accomplished through descriptive statistics (i.e., frequencies, means, standard deviations, skewness indices, minimum and maximum values) and through visual representations (i.e., histograms, frequency tables, boxplots).

Some social scientists regard Likert-type response data as ordinal (e.g., Clark-Carter, 2004; O'Connell, 2006), but "there is considerable disagreement between the purists and the pragmatists" (Blaikie, 2003, p. 115). Simply put, "purists" do not consider Likert-type responses to represent equal gradations along a conceptual continuum and regard this level of measurement

as ordinal—and thus prevent the researcher from utilizing data in multivariate statistics. Contrastingly, “pragmatists” utilize Likert-type responses within multivariate statistics whenever the variables are approximately normal (i.e., no extreme outliers). After summarizing these arguments and comparing parametric and nonparametric procedures, Harris (2001) concluded that it is more important to consider whether scores display an approximately normal distribution. Similarly, Morgan and colleagues (2013) note that “an assumption of most parametric statistics is that the variables be approximately normally distributed, not whether they have equal intervals between levels” (p. 42), as this approach can provide meaningful information irrespective of equal interval differences (Warner, 2008). Thus, I analyzed Likert-type responses as scaled data rather than ordinal. These variables are described in the next section.

Scaled variables. All Likert-type scaled responses collected during the Fall 2016 and March 2017 data collection windows were within the minimum and maximum ranges. (Recall from Chapter Three that both level-of-agreement and level-of-frequency response options were used. This chapter contains notes addressing the presence of scaled response options that differ from the 6-point level-of-agreement response option that was most commonly employed.) There were six Fall 2016 response items and eight March 2017 response items with skewness values beyond $|1.00|$, but since these items were later merged into multi-item subscales that demonstrated adequate normality, I left these values in their original, non-transformed state (Morgan et al., 2013). Thirty-one total instances of missing values (or 0.12% of all responses) were noted across both data collection windows. After computing initial E/CFA models with missing values, I used the maximum likelihood (ML) imputation method (Harrington, 2009) to

estimate responses, as randomly missing data or nonresponse prevents the generation of model fit indices from being computed in E/CFA.

I utilized identical exploratory data analysis procedures (Morgan et al., 2013) to analyze the Fall 2016 ratio variables; no missing values were found, but four variables (i.e., number of observations by the mentor, number of times observing experienced teachers [not their mentor], average meeting length, number of times observing the mentor [if applicable]) were highly skewed, which reflects the beginning music teachers' lack of access to these comprehensive mentoring and induction program components. (This is addressed within the mentor program section below.) Responses to the first three aforementioned variables exhibited slightly lower skewness values in March 2017, but they were nonetheless highly and positively skewed.

Descriptive Analyses

Participant demographics, Fall 2016. A total of 264 beginning music teachers completed the Fall 2016 administration of the BMTMQ, but 19 respondents were excluded after I determined they never participated in a school mentoring program. Of these valid respondents ($N = 245$), 64.8% identified their gender as female and 35.2% as male. Participants were overwhelmingly white (90.6%), with other participant races and ethnicities including Hispanic or Latino (2.9%), Black or African American (2.4%), Asian (1.6%), American Indian or Alaska Native (0.8%), or Other (1.6%). Open text responses for the "Other" category included Biracial Black/White, Multi-Ethnic White/Asian, White and Asian, and White and Hispanic. Given teacher race/ethnicity data available from the 2011-12 Schools and Staffing Survey (SASS), it appears that White respondents were overrepresented, and Hispanic or Latino and Black or African-American respondents were underrepresented.

Most participants were single (61.6%), while others were married (33.9%), in domestic partnerships (3.7%), or divorced or separated (0.8%). Not surprisingly, ages of the beginning music teachers were quite positively skewed, with their average age at 27.04 years ($SD = 6.09$; range: 22-58 years; median = 25 years). The wide age range suggests that there are at least some nontraditional teachers (e.g., those who enter the profession as a second career) in this beginning music teacher sample. Regarding professional experiences, there was a balanced representation of teaching experience, with 27.3% in their first year, 28.6% in their second year, 22.9% in their third year, and 21.2% in their fourth year. Most participants had received a Bachelor's degree (78.8%), while fewer had completed Master's (20.8%) or doctoral (0.4%) degrees.

Participant demographics, March 2017. Collecting email addresses during the Fall 2016 administration of the BMTMQ allowed me to directly contact respondents and invite them to complete the March 2017 BMTMQ. A total of 163 follow-up responses were collected in March 2017, but 9 respondents indicated they had never participated in a school mentoring program. Their responses were excluded from all subsequent analyses, thus resulting in 154 valid cases. Demographic characteristics of the March 2017 follow-up respondents (Table 4.1) were virtually identical to those of the Fall 2016 respondents. Although fewer beginning music teachers completed the March 2017 BMTMQ ($n = 154$), these respondents were nonetheless proportionally equivalent to the Fall 2016 respondents ($n = 245$), as statistically confirmed by chi-square and Fisher's exact tests (i.e., all p -values greater than .86). Fall 2016 and March 2017 respondent demographics are reported in Table 4.1.

Table 4.1

Comparison of Fall 2016 and March 2017 BMTMQ Respondents' Demographics

	Fall 2016 (N = 245)		March 2017 (n = 154)	
	Frequency (n)	Percent	Frequency (n)	Percent
Gender				
Female	158	64.8%	102	66.2%
Male	86	35.2%	52	33.8%
Race / Ethnicity				
White	222	90.6%	141	91.6%
Hispanic or Latino	7	2.9%	6	3.9%
Black or African American	6	2.4%	0	0.0%
Asian	4	1.6%	3	1.9%
American Indian or Alaska Native	2	0.8%	0	0.0%
Other	4	1.6%	4	2.6%
Marital Status				
Single	151	61.6%	96	62.3%
Married	83	33.9%	50	32.5%
Domestic Partnership	9	3.7%	8	5.2%
Divorced or Separated	2	0.8%	0	0.0%
Years of Teaching Experience				
1	67	27.3%	45	29.2%
2	70	28.6%	41	26.6%
3	56	22.9%	38	24.7%
4	52	21.2%	30	19.5%
Level of Education				
Bachelor's	193	78.8%	125	81.2%
Master's	51	20.8%	29	18.8%
Doctorate	1	0.4%	0	0.0%

School and position characteristics, Fall 2016. School types were overwhelmingly public (89.4%), with private/parochial (7.8%) and charter schools (2.9%) also represented. Because teachers within private/parochial and charter schools indicated they received formalized mentoring supports, their responses were included in all analyses. Higher percentages of suburban and urban music teachers completed the December version of the BMTMQ, whereas November was marked by a higher proportion of rural music teacher participants. The overall

distribution of participants' school settings was mostly rural (49%), followed by suburban (41%) and urban (10%). With regard to teaching status, Fall 2016 respondents were primarily full-time music teachers (90.6%), but some (9.4%) were part-time teachers. Information regarding percentage of full time employment (FTE) was not collected. Primary teaching responsibilities were mostly band (39.2%) or general music/non-performance classes (32.7%), but choir (19.2%) and orchestra (9.0%) teachers were also represented. Respondents' grade levels taught consisted of K-5 (21.2%), 6-8 (16.7%), 9-12 (20.4%), and various combinations (41.7%) including K-8 (13.9%), K-12 (12.7%), 6-12 (13.5%), and 9-12 with some K-5 responsibilities (1.6%).

Table 4.2

Fall 2016 and March 2017 BMTMQ Respondents' School and Position Characteristics.

	Fall 2016 (N = 245)		March 2017 (n = 154)	
	Frequency (n)	Percent	Frequency (n)	Percent
School Type				
Public	219	89.4%	138	89.6%
Private / Parochial	7	7.8%	11	7.1%
Charter	19	2.9%	5	3.2%
School Setting				
Rural	119	48.6%	75	48.7%
Suburban	101	41.2%	62	40.3%
Urban	25	10.2%	17	11.0%
Primary Teaching Responsibility				
Band	96	39.2%	64	41.6%
General Music / Non-Performance	80	32.7%	51	33.1%
Choir	47	19.2%	23	14.9%
Orchestra	22	9.0%	16	10.4%
Grade Levels Taught				
K-5	52	21.2%	34	22.1%
6-8	41	16.7%	29	18.8%
9-12	50	20.4%	29	18.8%
Various Combinations	102	41.6%	62	40.3%

School and position characteristics, March 2017. Chi-square and Fisher's exact tests statistically confirmed that school and position characteristics were proportionally similar (i.e., all p -values greater than .91). Information regarding school and position characteristics across both data collection windows is presented in Table 4.2 above.

School district size. March 2017 survey respondents reported their school district's size in terms of number of students enrolled. (This item was not included in the Fall 2016 administration due to concerns over respondent fatigue; see pp. 109–110 in Chapter Three.) Most respondents (29.2%) taught in districts serving between 1,000 and 4,999 students, but an even greater number (50.6%) taught in larger districts (17.5% in 5,000 – 9,999; 15.6% in 10,000 – 24,999; 10.4% in 25,000 – 49,999; 7.1% in 50,000+). Fewer respondents taught in small districts (10.4% in 500 – 999; 3.2% in districts smaller than 500 students), and 6.5% of respondents indicated that they did not teach within a school district. Since these charter and private / parochial teacher respondents indicated they received formalized mentoring supports, I elected to retain them for all subsequent analyses.

Responses by state, Fall 2016. Beginning music teachers in 8 states (i.e., the initial accessible population) were invited to participate in November 2016. Despite MEA leaders distributing participation invitations and at least one reminder notification to members (IA, ME, MA, NM, OK, RI) or providing me with member email addresses to allow for direct contact (CA, NC), few responses ($n = 71$) were collected. Adding a second access method in December 2016 increased representation from five to 10 states and drastically increased the number of responses (Table 4.3). Figure 4.1 illustrates the national representativeness of responses for Fall 2016.

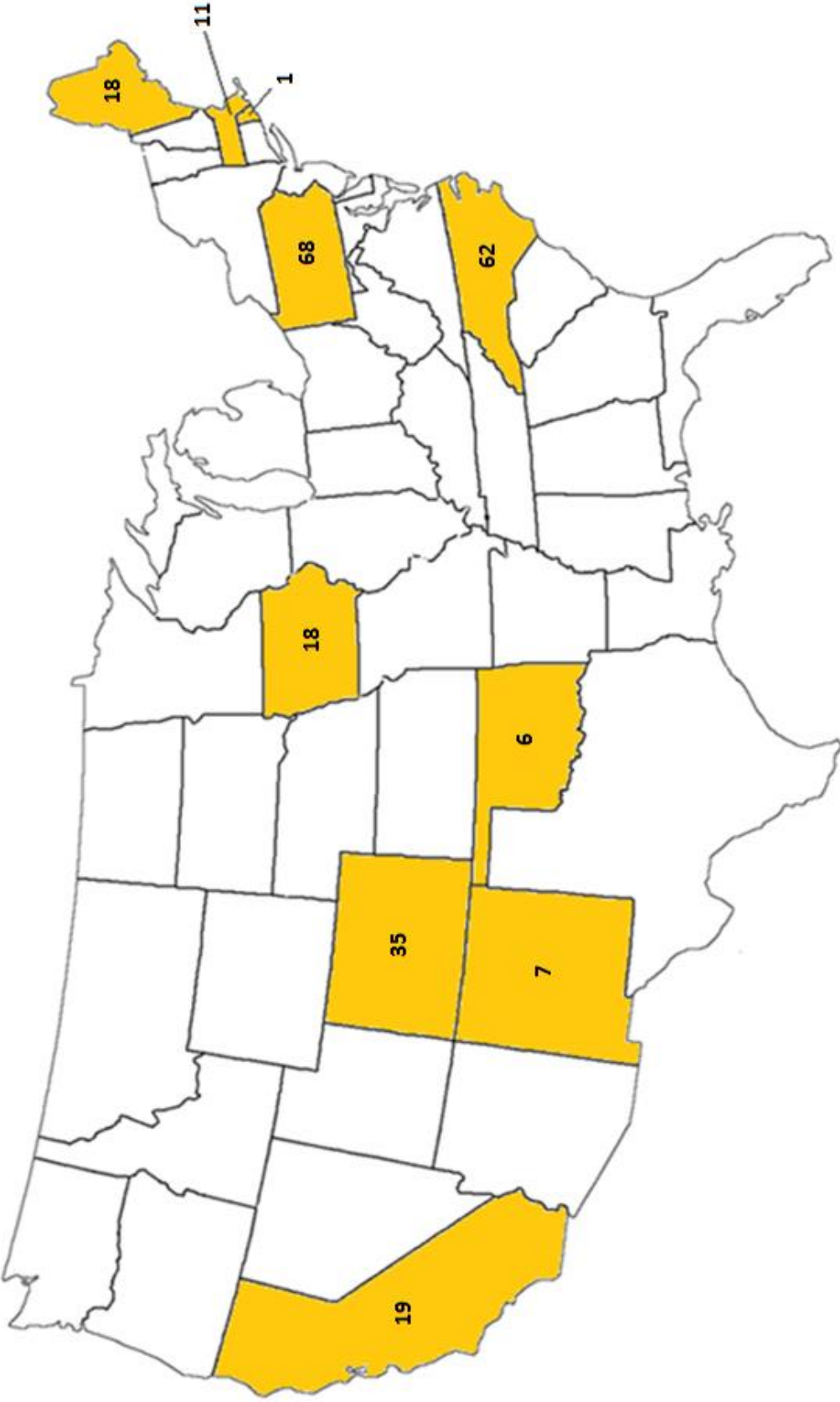


Figure 4.1. Fall 2016 BMTMQ responses within the 10 focus states that require district-level mentoring supports.

Table 4.3

Fall 2016 Responses by State with Relative Teacher Workforce (from 2011-12 SASS)

	Total Teacher Workforce in State	Estimated Beginning Music Teacher Workforce in State	Fall BMTMQ Responses in:		Total Fall 2016 Responses	Responses Expected by State, Fall 2016	Total March 2017 Responses	Responses Expected by State, March 2017
			Nov.	Dec.				
CA	260,806	1,458 (27.5%)	3	16	19 (7.8%)	67.5	10 (6.5%)	42.5
CO	48,543	378 (7.1%)	N/A	35	35 (14.3%)	17.3	27 (17.5%)	10.9
IA	34,642	246 (4.6%)	11	7	18 (7.3%)	11.4	10 (6.5%)	7.2
ME	15,384	95 (1.8%)	17	1	18 (7.3%)	4.4	14 (9.1%)	2.8
MA	68,754	638 (12.1%)	0	11	11 (4.5%)	29.5	7 (4.5%)	18.6
NM	22,437	170 (3.2%)	0	7	7 (2.9%)	7.9	1 (0.6%)	4.9
NC	98,257	853 (16.1%)	37	25	62 (25.3%)	39.5	38 (24.7%)	24.8
OK	41,278	364 (6.9%)	3	3	6 (2.4%)	16.9	4 (2.6%)	10.6
PA	129,911	1,019 (19.2%)	N/A	68	68 (27.8%)	47.2	43 (27.9%)	29.7
RI	11,212	73 (1.4%)	0	1	1 (0.4%)	3.4	0 (0.0%)	2.1
	731,224	5,294	71	174	245	(245)	154	(154)

Note: Three Fall 2016 respondents completed the survey questionnaire twice, the result of receiving the survey questionnaire invitation from NAFME (December) and by being contacted by either their state MEA (November) or directly from me (December). I used their first response instead of averaging responses.

I then estimated the expected number of beginning music teacher respondents for each state (Table 4.3 above). This was accomplished by using data from the 2011-12 SASS (Gray et al., 2013), including: the number of full-time teachers in each state; the percentage of teachers with 4 years or less of teaching experience; and the percentage of music specialists (3.5%) within the overall teacher workforce. By using these numbers and percentages—which likely provides a liberal estimate of the beginning music teacher population—I was able to estimate the size of the overall target population as well as the number of beginning music teachers within each state. Located next to responses for each data collection window are the proportional number of responses expected for each state. However, since not all beginning music teachers in a given state belong to their state MEA and because these organizations do not collect information as to years of teaching experience, these numbers can only be used to approximate the target population. Response rates were largest in states in which some sort of direct contact procedure was utilized.

Responses by state, March 2017. With regard to state affiliation, respondents in March 2017 ($n = 154$) are proportionally representative of the larger sample from Fall 2016 ($N = 245$) as confirmed by a Fisher's exact test (i.e., $p = .42$). As illustrated in Table 4.3, slightly greater proportions of Colorado and Maine beginning music teachers completed the follow-up BMTMQ, whereas beginning music teachers in New Mexico may be underrepresented in the spring.

Mentoring and induction program comprehensiveness. A total of 163 follow-up responses were collected in March 2017, but I excluded 9 respondents after determining they did not ever participate in a school mentoring program. (The 19 cases excluded from the Fall 2016 data collection window are partially comprised of these 9 excluded cases.) Thus, the valid

number of beginning music teachers who were either currently participating or formerly participated in a school mentoring program, across both data collection windows, is $n = 154$.

Categorical responses. More mentoring and induction program items were included in the March 2017 administration of the BMTMQ than in the Fall 2016 version. Responses reflecting basic mentoring program structure are presented first; I then address comprehensive mentoring or induction markers (observations, evaluation and feedback; assigned mentors and meetings; teaching loads and professional development) in terms of quality of support.

Responses from current and former mentees depict a sharp contrast between mentor program aspirations and reality. Most former mentees (71.6%) reported receiving only one year of mentoring support, whereas most current mentees (68.9%) anticipated they would experience two or three years of mentoring support. Length of mentoring programs is reported in Figure 4.2. Note, however, that current mentees may have optimistically inflated estimates of how long



Figure 4.2. Length of mentoring program participation as reported by March 2017 respondents.

their school mentoring programs will last, whereas former mentees likely provided an accurate report of what they actually experienced. It may also be possible that current mentees are provided access to and expected to engage in mentoring programs of greater length than former mentees.

Large proportions of mentees were informally evaluated by their mentor (39.9%) or not evaluated at all (30.1%). Only thirty percent of mentees reported that their mentor formally evaluated their teaching practices by using observations and/or student work (15.0%) and formal standards (15.0%). The informal or nonexistent evaluations as reported by these respondents may illustrate: mentor roles that were unclearly defined; districts in which evaluations are conducted by officials other than the mentor; mentors believing that their role is to support, not to evaluate; or a combination of these factors.

Nearly one-half of mentees (45.5%) reported that they received informal feedback after observations. Post-observation feedback seldom was delivered formally (9.1%), and only in some instances was feedback part of a structured meeting (18.8%). One out of seven (14.3%) respondents never received feedback despite being observed, and 12.3% were never observed by their mentor.

Meetings between mentors and their beginning music teacher mentees appear to have occurred somewhat regularly, ranging from one or two times a month (35.7%) to at least once weekly (24.0%). Many mentees (29.2%) formally met with their mentor only a few times during the year. Despite reporting participation in a school mentoring program, 11.0% of beginning music teacher respondents never formally met with their mentor. Caution must be used when interpreting these descriptive results, as I did not solicit responses as to how frequently mentees and mentors *informally* met.

The overwhelming majority of respondents (96.8%) did not have a reduced teaching load as part of their school-required induction program. The five respondents (3.2%) that reported a reduced teaching load included single respondents from California, Colorado, and North Carolina, as well two from Pennsylvania. Given teaching load norms reported by most study participants, induction programs that provide beginning music teachers with a reduced teaching load likely reflect exceptional district-level policies.

When asked to select the response option that best reflected their professional development, most beginning music teacher respondents (68.2%) experienced school- or district-wide meetings or workshops. However, several respondents indicated their professional development experiences most commonly were specific to beginning teachers (24.7%). In some instances, these meetings focused on the beginning teachers' expressed needs (5.8%); such meetings were found within schools in North Carolina ($n = 5$), California ($n = 2$), Pennsylvania ($n = 1$), and Maine ($n = 1$).

Over half of the beginning music teacher respondents were assigned a music mentor (46.1%) or a mentor from a related subject area (e.g., art) (11.0%). Unrelated (i.e., non-music) mentors were also commonly provided to the beginning music teachers (42.9%).

Scaled responses. Four scaled items addressing mentoring and induction program comprehensiveness were included in both BMTMQ administrations. I was initially concerned that former mentees would provide a more accurate depiction of their mentoring experiences closer to when they occurred (i.e., using data from Fall 2016). However, because former mentees' responses did not statistically differ between Fall 2016 and March 2017, I felt comfortable presenting and using the March 2017 scaled responses to mentoring and induction program comprehensiveness items for both the former mentees and current mentees.

Table 4.4

March 2017 Responses to Scaled Mentoring and Induction Program Comprehensiveness Items

	March 2017 Respondents (<i>n</i> = 154)					
	<i>n</i>	<i>M</i>	Med.	<i>SD</i>	range	Skewness
How many times has your mentor formally observed you while teaching?	154	2.24	1.00	6.32	0 - 70	8.75
How many times have you observed your mentor teaching in their classroom (if applicable)?	135	2.71	0.00	10.79	0 - 114	8.71
How many times have you observed experienced teachers (not your mentor) in their classrooms?	154	2.83	1.00	4.84	0 - 30	3.65
What is the average length of formal meetings with your mentor (in minutes)?	152	29.68	30.00	23.80	0 - 120	1.47

As illustrated in Table 4.4, great variability is present within the scaled mentoring and induction program comprehensiveness items. For instance, the “How many times has your mentor formally observed you while teaching?” item is highly and positively skewed (i.e., there were 67 instances of “0” values), and has two extreme outliers (i.e., values of “30” and “70”). The responses for the second and third items in Table 4.4 are also highly and positively skewed.

Perhaps more important than these matters of statistical distribution is the apparent low comprehensiveness of respondents’ mentoring and induction programs. Sixty-seven follow-up respondents (43.5%) reported that they had never had been formally observed by their mentor. An even greater number ($n = 76$; 56.3%) never observed their mentor teaching, with 17.0% and

10.4% of respondents having observed their mentor only 1 or 2 times, respectively.

Opportunities to observe other teachers (i.e., not their mentor) were also limited, with over one-third of respondents (35.1%) never observing more experienced colleagues. Mentees' formal meetings with mentors, which mostly occurred once or twice a month (Table 4.4), lasted approximately 30 minutes.

These scaled variables exhibited marked deviations from normality due to positive skewness and extreme outliers. Although these variables provide valuable descriptive information as to the comprehensiveness of mentoring and induction programs, I chose to not transform these variables (by either computing their square root or using logarithms) as I worried the transformation would compromise interpretability and alter any findings (Leech et al., 2011). Thus, I did not use these scaled variables within multivariate or path analyses.

Participation in MEA mentoring programs. Information regarding participation within state MEA mentoring programs, above and beyond district-level mentoring programs, was solicited during both survey administrations. Fourteen beginning music teachers did not participate in their state MEA mentoring program in Fall 2016 but began receiving MEA mentoring support as of March 2017. Contrastingly, 7 respondents who were participating as of Fall 2016 were no longer participating in their state MEA program as of March 2017.

It is noteworthy that within states that offer optional MEA assistance in a traditional format (California, Massachusetts, North Carolina, Oklahoma, Pennsylvania), relatively few respondents (22.4% in Fall 2016, 20.6% in March 2017) were currently participating in such programs. Although 3.9% of these respondents once participated in these programs but no longer did, an overwhelming majority (75.5%) of March 2017 respondents in these states never received this supplemental, music-specific support. The lack of participation within states that

offer optional MEA mentoring programs suggests that district-sponsored mentoring and induction programs may be the primary vehicle for supporting beginning music teachers.

Mentor functions, attributes, and practices. Beginning music teachers were asked to rate their school-assigned mentors on eight functions and attributes using 6-point Likert-type scales, report on mentor support practices using 5-point frequency scales, and provide a global rating of mentor effectiveness ranging from 1 (*Not Effective*) to 10 (*Extremely Effective*). (Recall that mentees were asked to provide their perceptions of their mentor’s functions, attributes, support practices, and effectiveness; no direct evaluation of mentors was made by me or any other party.) This descriptive information is reported below (Table 4.5) for both data collection phases, in aggregate.

Table 4.5

Level of Agreement with Mentor Functions and Attributes Items, Both Data Collection Phases

My mentor...	Fall 2016 (<i>N</i> = 245)		March 2017 (<i>n</i> = 154)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
... is / was supportive.	5.30	1.05	5.08	1.21
... has established / established a trusting relationship with me.	5.09	1.18	4.82	1.39
... demonstrates / demonstrated empathy.	5.05	1.16	4.77	1.34
... is/was an effective listener.	5.03	1.18	4.71	1.34
... positively influences / influenced my teaching abilities.	4.54	1.23	4.25	1.32
... aides / aided me with my classroom management practices.	4.41	1.33	4.13	1.45
... helps / helped me to better engage my students while teaching.	4.22	1.32	3.96	1.29
... possesses / possessed thorough music content knowledge.	3.55	2.07	3.51	2.02

Note: Range of 1-6; midpoint of 3.5. The first four items pertain to interpersonal attributes, whereas the lower four items reflect pedagogical practices.

Fall 2016 respondents' mentor ratings were mostly positive (i.e., level of agreement greater than the scale midpoint of 3.5). Although the "My mentor possessed thorough music content knowledge" means was lower than other item means, it remained above the scale midpoint; its wide standard deviation reflects the u-shaped distribution (i.e., the majority of responses were either *Strongly Disagree* or *Strongly Agree*). The mean represents two divergent response groups in which most beginning music teachers either strongly disagreed or agreed to the statement. Additionally, respondents (both current and former mentees) rated their mentor's interpersonal attributes (e.g., empathy, trusting relationship) higher than their abilities to develop pedagogical practices (e.g., student engagement, classroom management). With exception to music content knowledge (which was virtually unchanged in both data collection windows), item responses were slightly lower in March 2017 than in Fall 2016, but all item means were above the scale midpoint.

Respondents were also asked to report on the frequency of mentor instructional and psychological support and role modeling, and mentor effectiveness (Table 4.6 below). In Fall 2016, the beginning music teachers harbored mostly positive views of their school mentors but noted that instructional support was less frequent than psychological support. The mentor support practices and overall effectiveness ratings were lower in March 2017 than during the Fall 2016 questionnaire administration.

The pattern of responses across data collection windows may reflect how I operationalized "role model," "psychological support," and "instructional support". The parenthetical examples for the instructional support item stated "e.g., my mentor shares resources with me, helps me to reflect on my planning and instruction." Perhaps this definition—which omitted short- and long-term planning, instructional delivery, and other important teacher

Table 4.6

Frequency of Mentor Support Practices and Overall Effectiveness, Both Data Collection Phases

	All Fall 2016 Respondents (<i>N</i> = 245)		All March 2017 Respondents (<i>n</i> = 154)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
My mentor is/was a role model	3.68	1.14	3.48	1.15
My mentor provides/provided me with psychological support	3.61	1.11	3.45	1.11
My mentor provides/provided me with instructional support	3.05	1.15	2.95	1.15
School-assigned mentor's overall effectiveness	6.81	2.41	6.44	2.47

Note: The three roles were anchored by a frequency scale of 1 (*Never*) and 5 (*Always*). Mentor effectiveness was rated from 1 (*Not Effective*) to 10 (*Extremely Effective*). Midpoint of 3.0 for the first three items and 5.5 for the final item.

behaviors—restricted responses. Another possibility is that mentors from unrelated subject areas (e.g., math) may have provided their mentees with sound and appropriate pedagogical advice, but due to differences across the disciplines, mentees might have perceived instructional support (as it pertains to *music* instructional support) as occurring less frequently. Regardless of the explanation, mentees with non-music mentors indicated in March 2017 that their mentors provided instructional support less frequently ($M = 2.57$, $SD = 1.11$) than those with music mentors ($M = 3.41$, $SD = 1.04$), a statistically significant difference, $t(152) = -4.85$, $p < .001$.

Beginning Music Teacher Mindset

In the following three sections, I present beginning music teacher respondents' self-reports of reflective practice, teaching efficacy, and professional commitment as collected in Fall 2016 ($N = 245$) and March 2017 ($n = 154$). Means and standard deviations are provided for each questionnaire item, by time, for each major construct.

Reflective practice. Table 4.7 shows BMTs' responses to the 17 reflective practice items (mean and standard deviation) for both data collection periods. Beginning music teachers reported frequently engaging in reflection while teaching (the first 5 items) as well as after teaching. With regard to post-teaching reflection, respondents appear to less frequently use personal notes or seek professional literature when new instructional approaches are desired. Instead, these teachers tend to reflect by internally critiquing their teaching, seeking advice from colleagues, or by focusing on their students' abilities and feedback.

Table 4.7

Means and Standard Deviations for Reflective Practice Items, Fall 2016 (N = 245) and March 2017 (n = 154)

	Fall 2016		March 2017	
	M	SD	M	SD
<u>While in the act of teaching, how frequently do you...</u>				
...spontaneously adjust your teaching to address unexpected learning problems?	4.16	0.67	4.08	0.67
...change instructional strategies to engage more students?	3.94	0.72	3.84	0.72
...adapt your teaching in response to student learning styles and preferences?	3.90	0.72	3.91	0.67
...experiment with different teaching approaches to assist a struggling student?	3.85	0.75	3.97	0.66
...deviate from the lesson plan to enhance student learning?	3.74	0.70	3.68	0.69
<u>How frequently do you engage in the following reflective activities after teaching?</u>				
I try to identify and address my weaknesses as a teacher.	4.45	0.66	4.29	0.65
I talk about classroom experiences with colleagues in order to improve my teaching.	4.16	0.84	4.07	0.86
I draw on information learned at workshops or conferences in my planning of lessons.	4.08	0.79	3.92	0.87
I account for student abilities and interests when designing learning activities.	4.06	0.71	4.11	0.62
I consider teacher role models in trying to improve my teaching.	4.01	0.83	4.07	0.82
I think about inconsistencies that occur within my teaching.	3.97	0.80	3.97	0.75
I consider classroom events to be problem-solving opportunities.	3.86	0.78	3.79	0.75
I consider student feedback when assessing my own teaching effectiveness.	3.78	0.82	3.73	0.82
I contemplate how my background affects my teaching.	3.73	1.00	3.63	1.00
I use notes and other documents to reflect on my teaching.	3.41	0.94	3.33	1.02
I consult books or articles on effective teaching when trying to adapt my instructional approach.	3.28	0.99	3.24	0.96
I review professional literature when confronting teaching challenges.	3.13	0.98	3.20	0.94

Note: reflective practice items were anchored by a frequency scale ranging between 1 (*Never*) and 5 (*Always*). All means were above the scale midpoint of 3.0.

Teaching efficacy. Participants were also asked to rate their level of agreement with 12 teaching efficacy statements. As illustrated within Table 4.8, respondents in both data collection windows reported being quite efficacious, as all item means were well above the scale midpoint of 3.5. Respondents appear to be less efficacious with some facets of classroom management (e.g., “I can calm...”, “I can control ...”) and engagement (e.g., “I can motivate...”).

Table 4.8

Means and Standard Deviations for Teaching Efficacy Items, for Both Data Collection Phases

	Fall 2016		March 2017	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
I can provide alternative explanations or examples when students are confused	5.17	0.68	5.13	0.64
I can get students to believe they do well in music	4.99	0.68	4.96	0.69
I can help students to value music learning	4.96	0.78	4.99	0.77
I can establish an effective classroom management system	4.81	0.92	4.80	0.87
I can get students to follow classroom rules	4.78	0.88	4.74	0.84
I can implement alternative strategies when progress is slow	4.76	0.83	4.75	0.72
I can craft questions that stimulate critical thinking	4.70	1.00	4.67	0.88
I can use varied assessment strategies to determine what students know and can do	4.69	0.84	4.82	0.77
I can assist families in helping their children to do well in music	4.55	0.90	4.49	0.92
I can calm a student who is disruptive or noisy	4.51	0.96	4.51	0.82
I can control disruptive behavior in the classroom	4.46	1.06	4.43	1.00
I can motivate students who show less interest in music	4.23	0.95	4.12	0.85

Note: Teaching efficacy items were anchored by a Likert-type scale of 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). The scale midpoint was 3.5.

Professional commitment. Five items were used to measure professional commitment. Respondents in both data collection windows, overall, were professionally committed (Table 4.9). Most respondents indicated they indefinitely would remain a music teacher (i.e., “I plan on remaining a music teacher...”). Career choice commitment (i.e., “If you could go back to your college days...”) was overwhelmingly positive. The two teaching satisfaction items (i.e., “I

Table 4.9

Means, Standard Deviations, and Frequencies for Professional Commitment Items, Both Phases

		Fall 2016 (<i>N</i> = 245)	March 2017 (<i>n</i> = 154)
“I plan on remaining a music teacher...”	As long as I am able	51.0%	48.7%
	Until I am eligible for retirement	16.5%	18.8%
	Undecided at this time	16.9%	19.5%
	Will probably continue until something better comes along	13.3%	10.4%
	Definitely plan to leave teaching as soon as I can	2.4%	2.6%
“If you could go back to your college days and start over again, would you still become a teacher?”	Certainly would not	2.0%	2.0%
	Very unlikely	2.8%	2.6%
	Unlikely	2.0%	4.6%
	50/50	13.0%	12.4%
	Likely	15.0%	17.0%
	Very likely	23.5%	21.6%
“I would leave music teaching for another position if I could.” (-)		<i>M</i> = 4.56	<i>M</i> = 4.55
		<i>SD</i> = 1.30	<i>SD</i> = 1.34
		range 1-6	range 1-6
“This job give me professional satisfaction.”		<i>M</i> = 4.89	<i>M</i> = 4.84
		<i>SD</i> = 1.11	<i>SD</i> = 1.16
		range 1-6	range 1-6
“Please estimate how many years you will remain a music teacher.”		<i>M</i> = 24.53	<i>M</i> = 23.40
		<i>SD</i> = 13.02	<i>SD</i> = 12.90
		range 0-60	range 0-50

Note: Since the “I would leave music teaching...” statement was negatively phrased, responses were reverse-scored (i.e., 1 represents *Strongly Agree*, 6 represents *Strongly Disagree*).

would leave music teaching...”, “This job gives me professional satisfaction”) were in alignment with respondents’ career choice commitment responses, as most responses were above the scale midpoint of 3.5. On average, participants indicated they planned to teach music for two to three decades, with almost one-fourth of beginning music teachers planning to teach 35 years or more.

Data Reduction

To create smaller sets of latent variables for purposes of multivariate analyses, I applied exploratory factor analysis (EFA) techniques to targeted item responses within both the Fall 2016 and March 2017 data sets (Field, 2013; Leech et al., 2011). Each major construct targeted for data reduction (i.e., reflective practice, teaching efficacy, professional commitment, mentor functions and attributes) was examined individually, by data collection window (i.e., Fall 2016, March 2017). EFA was deemed appropriate because I initially sought to reduce the data while also determining underlying factors and explaining the correlations among variables (Field, 2013).³ During EFA, the researcher does not specify a priori restrictions regarding the relational patterns between latent variables (i.e., unobserved variables, constructs) and questionnaire items (i.e., observed variables) (Brown, 2015).

After completing an exploratory construct validation and measurement development process, confirmatory factor analysis (CFA) techniques are typically used to corroborate the underlying structures and the relationships between latent variables as determined by EFA or once a model has been generated from existing research or theory (Brown, 2015; Field, 2013; Harrington, 2009; Vogt, 2007). I had hoped to engage in CFA of March 2017 responses following the exploration of the factor structure of Fall 2016 responses, as quantitative

³ Researchers sometimes utilize principal components analysis (PCA) to simplify variable structures, but this approach explains variance within variables, not the correlations among variables (Brown, 2015).

researchers recommend utilizing an initial EFA and subsequent CFA on separate samples (e.g., Wang, Watts, Anderson, & Little, 2013). However, the number of valid March 2017 responses ($n = 154$) is considered too small for CFA (Kline, 2015), and perhaps more importantly, several measures utilized in this investigation (i.e., reflective practice, professional commitment, mentor functions and attributes) are in the early stages of development. Although EFAs on the Fall 2016 and March 2017 data revealed patterns of item-factor relationships and factor structures, Brown (2015) cautions that “use of CFA is premature” in this instance because “the initial EFA findings are limited in their ability to fully guide the CFA specification (p. 168). For instance, researchers that use CFA before further EFA validation may encounter poor model fit “because of the potential sources of misfit that are not present in EFA” (Brown, 2015, p. 167). Additional EFAs with different samples may be necessary before the use of CFA is appropriate (Brown, 2015).⁴

To counter a “premature” use of CFA (Brown, 2015, p. 168), the researcher can compute an EFA within the CFA framework, a procedure known as E/CFA (Brown, 2015; Muthén & Muthén, 2012). Although underutilized in educational research, this exploratory approach serves as an intermediate analysis that provides important statistical information (e.g., potential error covariances, statistically significant cross-loadings, estimates of model fit; Brown, 2015) and can help avoid spurious factors (Campbell-Sills & Brown, 2006). Knowing this, I engaged in E/CFA with the March 2017 data to corroborate the factor structures as proposed by EFAs on Fall 2016 and March 2017 data. E/CFA also allowed me to determine the existence of salient correlated errors, a process that Brown (2015) states “may foster the refinement of the solution initially suggested by EFA” (p. 175). (It must be noted that while CFA techniques were utilized, I am not

⁴ Brown further notes that “CFA is strongly driven by theory or prior research evidence” (p. 42) and as such, “every aspect of the CFA model is specified in advance” (p. 42). Thus, CFA is a hypothesis testing procedure (Brown, 2015; Field, 2013).

proposing a confirmed factor structure. To do so, additional research using a larger beginning music teacher sample is needed.)

In the sections that follow (arranged by each major construct), I detail EFA procedures used on the Fall 2016 and March 2017 data sources, including assumption checks (independence of observations, linear yet moderate correlations) and the extraction and rotation procedures. Then I document the E/CFA procedures used on March 2017 responses to corroborate the factor structures as proposed by the Fall 2016 and March 2017 EFAs.

Reflective practice, Fall EFA. I used principal axis factoring (minimum eigenvalue of 1.0) with oblique rotation (i.e., Promax) to extract factors and generate a factor solution for the 17-item measure of reflective practice. Four factors were extracted, but numerous cross loadings were present and factor/subscale reliabilities were less than satisfactory. In the hopes of achieving conceptual clarity and greater internal consistency, I then forced a 3-factor solution using Promax rotation. Two items (i.e., “I use notes and other documents to reflect on my teaching,” “I talk about classroom experiences with colleagues in order to improve my abilities”) did not load sufficiently (.30 or greater) within any factor. I forced another 3-factor solution but excluded these two items. Greater clarity was achieved, although two previously-loading items failed to load (i.e., “I account for student abilities and interests when designing learning activities,” “I consider student feedback when assessing my own teaching effectiveness”).

I ultimately determined that a 3-factor, 13-item solution provided the best interpretability while maintaining adequate reliability. Furthermore, it maintained sampling adequacy ($KMO = .80, p < .001$), all anti-image correlations were .69 or greater, and the factor solution explained 53.9% of all variance. The three underlying factors represent Reflection-in-Action (RiA; 5 items, $\alpha = .78$), Reflection-on-Action (RoA; 5 items, $\alpha = .69$), and a third factor, Reflection-

toward-Action (RtA; 3 items, $\alpha = .71$). Reflection-toward-Action is comprised of practices and dispositions that are indicative of a professional. Teachers who reflect toward-action attend conferences or examine their discipline's professional literature in an effort to better inform their planning and to improve their instruction. With regard to these three reflective practice factors, the interfactor correlations were positive, with RiA moderately correlating with RoA (median $r = .56$) and modestly correlating with RtA (median $r = .32$), and RoA modestly correlated with RtA (median $r = .41$). Table 4.10 (below) displays the items and factor loadings for the rotated factors, with loadings less than .30 omitted.

Reflective practice, Spring EFA. Since the EFA for Fall 2016 data indicated that the three-underlying factors were correlated, I used SPSS to compute an oblique factor solution (Promax rotation) for March 2017 reflective practice data based on eigenvalues greater than 1.00. The resultant 5-factor solution was plagued with illogical loadings and a single-item factor, likely the result of the fourth and fifth factors having eigenvalues of 1.04 and 1.02, respectively. Furthermore, the scree plot indicated the presence of an inflexion, which further justified dropping the fourth and fifth factors. Thus, I forced a 3-factor solution using Promax rotation.

The forced 3-factor solution (three rightmost columns in Table 4.10 below) exhibited greater clarity, despite two items not loading ("I account for...", "I talk about..."). One item loaded on two factors ("I draw on information..."), but this item conceptually fit within the third factor (as was the case after the Fall 2016 EFA). I then forced another 3-factor solution using Promax rotation, but excluded the two non-loading items. The factor structure remained intact, but the "I draw on information..." item still cross-loaded. Requirements of sampling adequacy were satisfied ($KMO = .78, p < .001$), all anti-image correlations were above .62, and this final

Table 4.10

Comparison of Factor Pattern and Loadings for the Rotated Fall 2016 (N = 245) and March 2017 (n = 154) Reflective Practice Items

Item	Fall 2016 Factor Solution			March 2017 Factor Solution		
	RiA	RoA	RtA	RiA	RoA	RtA
...change instructional strategies to engage more students?	.78	.69	.70	.83	.71	.89
...spontaneously adjust your teaching to address unexpected learning problems?	.76			.73		
...deviate from the lesson plan to enhance student learning?	.73			.81		
...adapt your teaching in response to student learning styles and preferences?	.67			.75		
...experiment with different teaching approaches to assist a struggling student?	.60			.58		
I think about inconsistencies that occur within my teaching.	.45			.55		
I try to identify and address my weaknesses as a teacher.		.81			.63	
I consider classroom events to be problem-solving opportunities.		.69			.65	
I contemplate how my background affects my teaching.		.45			.40	
I consider teacher role models in trying to improve my teaching.		.41			.54	
I consider student feedback when assessing my own teaching effectiveness.		.31			.51	
I use notes and other documents to reflect on my teaching.					.38	
I review professional literature when confronting teaching challenges.			.94			.90
I consult books or articles on effective teaching when trying to adapt my instructional approach.			.73			.91
I draw on information learned at workshops or conferences in my planning of lessons.			.31			.37
I account for student abilities and interests when designing learning activities.					.39	
I talk about classroom experiences with colleagues in order to improve my abilities.						
Eigenvalues	4.09	1.66	1.28	4.40	2.15	1.41
% of variance	31.47	12.74	9.81	29.31	14.33	9.40

Note: Loadings < .30 are omitted. Two items absent from the Fall 2016 factor solution (i.e., “I consider student feedback...” [omitted], “I use notes and other documents...” [failed to load]) loaded within the Reflection-on-Action factor following March 2017 EFA. The final two items failed to load in both the Fall 2016 and March 2017 EFAs. “RiA” is Reflection-in-Action, “RoA” is Reflection-on-Action, and “RtA” is Reflection-toward-Action. Omitting the cross-loaded item (i.e., “I draw on information...”) from the March 2017 EFA negligibly decreased the internal consistency of RoA from .72 to .71, but RtA increased from .79 to .89.

15-item, 3-factor solution explained 53.0% of all variance. The three factors were again comprised of Reflection-in-Action (RiA; 5 items, $\alpha = .83$), Reflection-on-Action (RoA; 7 items, $\alpha = .71$), and Reflection-toward-Action (RtA; 2 items, $\alpha = .89$).

One item not present in the Fall 2016 factor solution (i.e., “I use notes...”) loaded in the RoA factor following the March 2017 EFA (.32). Additionally, the “I consider student feedback...” item—which I excluded from the final Fall 2016 factor solution due to its illogical loading—loaded with other RoA items (.38) and was retained. One cross-loaded item (i.e., “I draw on ...”) was omitted because the difference between the standardized factor loadings was too similar to justify retention.⁵ Although this resulted in RtA being comprised of only two items, its internal consistency (as determined by Cronbach’s alpha) was exceptional (.89). RiA was modestly correlated with RoA (median $r = .45$), and RiA and RtA were weakly correlated (median $r = .15$); RoA and RtA correlated modestly (median $r = .40$).

Reflective practice E/CFA. To explore model fit of the 3-factor structure as proposed by the final iteration of EFA on the March 2017 reflective practice responses, I created an E/CFA model using Amos Graphics 24. Harrington (2009) recommends the researcher negotiate missing data prior to running a CFA by first running the analysis with missing data, then imputing missing values ($n = 4$ instances; 0.2%), and lastly comparing the output from both analyses. Although markedly differing outcomes were not anticipated, a direct comparison of the non-imputed and imputed versions of the CFA was needed to confirm that missing data patterns did not compromise analysis (Harrington, 2009). There were negligible differences when comparing the model across both the non-imputed and imputed data sets. When including imputed values (using the maximum likelihood imputation method; Harrington, 2009), the model

⁵ This cross-loading could have been the result of the item statement, which includes both “toward-action” (conferences) and “on-action” (planning of lessons) reflective behaviors.

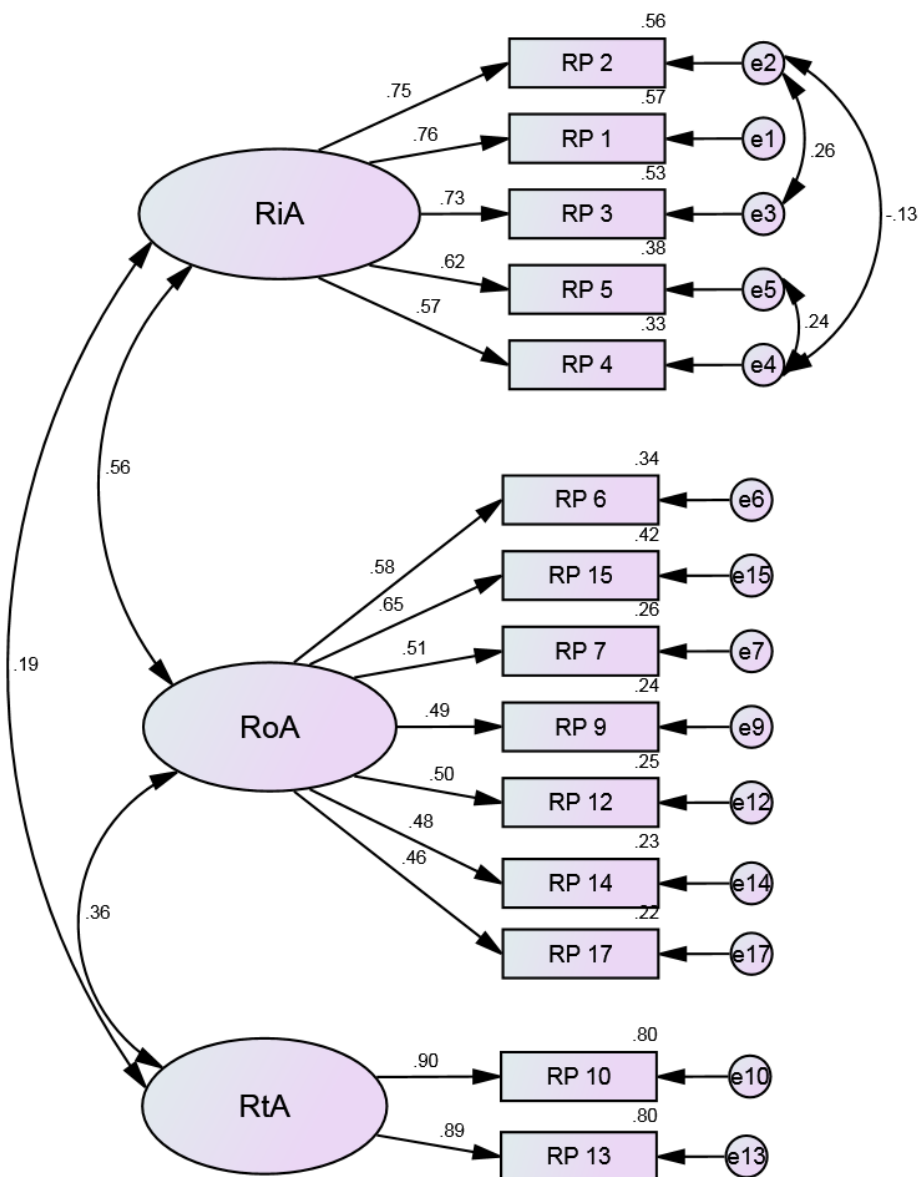


Figure 4.3. E/CFA model on March 2017 responses to reflective practice items.

exhibited marginally acceptable fit ($\chi^2 = 101.96, p = .017, df = 74$) as determined by three primary fit indices: CFI = .955, RMSEA = .050, TLI = .945.⁶ CFI values close to .95 or greater,

⁶ Although a nonsignificant chi-square statistic is typically desired to determine close fit (Meyers et al., 2006), the other fit indices indicated that acceptable model fit was present.

RMSEA values close to .05 or lower, and TLI close to .95 or greater reflect adequate fit (Brown, 2015; Harrington, 2009).

Models exhibiting “poor fit” may be the result of using inappropriate indicators or specifying too many or too few factors within the model (Harrington, 2009). To identify areas of poor fit, the researcher must examine modification indices (MI) after missing data have been imputed (Harrington, 2009). The model fit greatly improved when I allowed for 3 logical error covariances as suggested by MI values greater than 4.0 (i.e., e4-e5, e2-e4, e2-e3), $\chi^2 = 83.66$, $df = 71$, $p = .145$, CFI = .980, RMSEA = .034, TLI = .974.⁷ Standardized factor loadings ranged from .46 to .90, which Tabachnick and Fidell (2013) consider “fair” to “excellent”. Reflection-in-Action was moderately correlated with Reflection-on-Action ($r = .56$), Reflection-on-Action was modestly correlated with Reflection-toward-Action ($r = .36$), and Reflection-toward-Action was modestly correlated with Reflection-on-Action ($r = .19$). It must be noted that “once you start modifying a model based on MI or standardized residuals, even if the modifications are justified, you have moved out of the confirmatory framework and into exploratory work” (Harrington, 2009, p. 54). This approach seems appropriate, however, as I explored underlying factor structures and psychometric properties of various constructs and measures within a beginning music teacher population, an area in which such research efforts are lacking.

Teaching efficacy, Fall 2016 EFA. As with the reflective practice items, I conducted an initial analysis using orthogonal rotation but used oblique (Promax) rotation for all subsequent analyses. Although I hypothesized a priori that the teaching efficacy factors would be

⁷ Using only results from chi-square goodness-of-fit tests to determine model fit is notoriously problematic (Arnold, 2006; Harrington, 2009; Jöreskog, 1969). As such, I report chi-square values as well as other modification indices when describing model fit.

intercorrelated, the two extracted factors were correlated at .65, well above the minimum threshold of .32 advocated by Tabachnick and Fidell (2013).

The Kaiser-Meyer-Olkin measure verified sampling adequacy for the analysis, KMO = .88, which is considered “meritorious” by Hutcheson and Sofroniou, 1999; all KMO values for individual items were greater than .79, which is above the acceptable limit of .5 (Field, 2013). An initial analysis was computed to obtain eigenvalues for each factor; the scree plot showed an inflexion that justified retaining two factors, which was further supported by the first and second eigenvalues being greater than Kaiser’s (1960) recommendation of 1.00. A potential third factor, which had an eigenvalue of 1.000 displayed in SPSS, was in fact 0.999995. I did explore a 3-factor solution using orthogonal and oblique rotation but in both instances, the second and third factors exhibited poor reliability. Thus, the solution was comprised of two factors: one pertaining to Classroom Management and Motivation (5 items; $\alpha = .87$), and one regarding Instruction and Engagement (7 items; $\alpha = .74$). Although this 2-factor solution deviated from the 3-factor solution previously proposed by Tschannen-Moran and Woolfolk Hoy (2001), the 2-factor solution explained 52.0% of overall variance, with the first factor accounting for 41.6% of the variance and the second factor accounting for 10.4%.

Teaching efficacy, March 2017 EFA. An EFA on March 2017 responses to 12 teaching efficacy items also supported a 2-factor solution, but item loadings within this solution differed substantially from those obtained with the Fall 2016 data. Whereas all classroom management items loaded with one student engagement item during the Fall 2016 EFA, three total student engagement items loaded with the classroom management items during the March 2017 EFA. Additionally, one student engagement item (i.e., “I can assist families...”) loaded with the four instructional strategies items, and not with the three aforementioned student engagement items.

Table 4.11

Comparison of Factor Pattern and Loadings for the Rotated Fall 2016 (N = 245) and March 2017 (n = 154) Teaching Efficacy Items

Item	Fall 2016		March 2017	
	Factor Solution <i>I</i>	Factor Solution <i>2</i>	Factor Solution <i>CME</i>	Factor Solution <i>IS</i>
	$\alpha = .87$	$\alpha = .74$	$\alpha = .87$	$\alpha = .75$
I can get students to follow classroom rules	.99		.89	
I can control disruptive behavior in the classroom	.90		.76	
I can establish an effective classroom management system	.72		.63	
I can calm a student who is disruptive or noisy	.57		.75	
I can motivate students who show less interest in music	.44		.59	
I can provide alternative explanations or examples when students are confused		.69		.65
I can implement alternative strategies when progress is slow		.56		.78
I can craft questions that stimulate critical thinking		.49		.50
I can get students to believe they do well in music		.46	.59	
I can use varied assessment strategies to determine what students know and can do		.44		.72
I can help students to value music learning		.43	.58	
I can assist families in helping their children to do well in music		.34	--	--
Eigenvalues	5.00	1.25	5.13	1.30
% of variance	41.63	10.41	46.62	11.78

Note: All items loaded above the .30 level. Within the March 2017 factor solution column, “CME” is Classroom Management and Engagement, and “IS” is Instructional Strategies.” The “I can assist families...” item was excluded from the final EFA using March 2017 responses.

Since this item exhibited a low standardized factor loading in the Fall 2016 and March 2017 EFAs (.34), I decided to omit this item. (This omission slightly increased the factor's reliability from .74 to .75, as assessed by Cronbach's alpha.)

I then used Promax rotation to compute a second EFA on March 2017 responses (i.e., 11 items). After ensuring that adequate sampling was present ($KMO = .86$, $df = 55$, $p < .001$) and that all anti-image correlations were above .80, SPSS proposed a 2-factor solution in which 58.4% of all variance was explained. These two factors were moderately correlated ($r = .67$). The first factor, Classroom Management and Engagement, consists of 7 items and has a reliability level of $\alpha = .87$. Instructional Strategies, the second factor, consists of 4 items (all 4 of the instructional strategies items from the TSES) and has a reliability level of $\alpha = .75$. The factor solutions from both the Fall 2016 and March 2017 EFAs are displayed in Table 4.11 (above).

Teaching efficacy E/CFA. After checking assumptions of skewness and kurtosis (Harrington, 2009), I engaged in preliminary E/CFA analysis using the March 2017 EFA factor structure.⁸ This initial E/CFA included 11 instances (0.6%) of missing data (i.e., without using any imputation procedure); I compared these results to the model using imputed data. Since only negligible differences were found, I proceeded with analysis.

The E/CFA model initially demonstrated a reasonably approximate fit (Kline, 2015) ($\chi^2 = 106.39$, $df = 43$, $p < .001$; CFI = .913, RMSEA = .098, TLI = .888), but allowing six logical error covariances (i.e., e2-e3, e1-e4, e1-e12, e4-e5, e5-e9, e5-e11) based on MI scores resulted in an improved fit ($\chi^2 = 63.71$, $df = 37$, $p < .001$; CFI = .963, RMSEA = .069, TLI = .945). Although the RMSEA and TLI values did not meet recommended guidelines (i.e., below .05 and above

⁸ The model as proposed from EFA on March 2017 responses demonstrated better fit ($\chi^2 = 106.39$, $df = 43$, $p < .001$; CFI = .913, RMSEA = .098, TLI = .888) than did the model using the factor structure as proposed by EFA on Fall 2016 responses ($\chi^2 = 142.12$, $df = 53$, $p < .001$; CFI = .882, RMSEA = .105, TLI = .853). The March 2017 model also demonstrated better fit when allowing for error covariances.

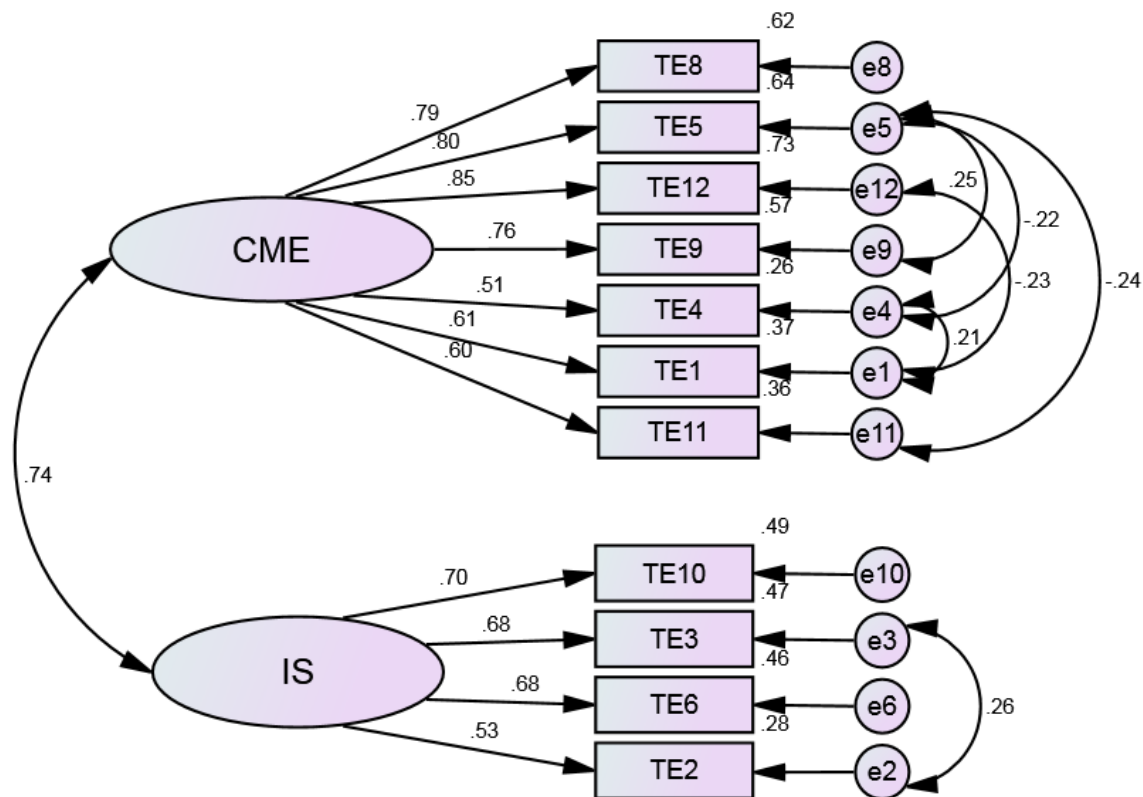


Figure 4.4. E/CFA model on March responses to teaching efficacy items.

.95, respectively), they were close and considered acceptable (Kline, 2015; Harrington, 2009). Despite there being a strong positive relationship between both factors ($r = .74$), this correlation was below .85, the value at which concerns about discriminant validity are raised (Brown, 2013). Since E/CFA corroborated the model structure, I felt confident in creating subscale scores for the two factors.

Professional commitment, Fall 2016 EFA. Factor analyses using orthogonal and oblique rotations (minimum eigenvalue of 1.0) each resulted in a single professional commitment factor being extracted. This 4-item factor ($\alpha = .84$) explained between 68.4% of the

Table 4.12

Comparison of Factor Pattern and Loadings for the Fall 2016 (N = 245) and March 2017 (n = 154) Professional Commitment Items

Item	Fall	March
	$\alpha = .84$	$\alpha = .88$
I would leave music teaching for another position if I could. (-)	.81	.83
If you could go back to your college days and start over again, would you still become a music teacher?	.81	.88
I plan on remaining a music teacher74	.77
This job gives me professional satisfaction.	.69	.74
Eigenvalue	2.74	2.94
% of variance	68.40	73.43

variance in commitment to music teaching. The Kaiser-Meyer-Olkin measure verified the sampling adequacy, KMO = .82 (“meritorious” according to Hutcheson & Sofroniou, 1999), and all anti-image correlations were above .80.

Professional commitment, March 2017 EFA. Results of the March 2017 EFA confirmed the 1-factor solution (KMO = .82, $df = 6$, $p < .001$; all anti-image correlations above .78). This single factor ($\alpha = .88$) explained 73.4% of the variance. Table 4.12 illustrates the identical factor structures and strong internal consistency across both data collection phases.

Professional commitment E/CFA. After using Amos to map a single factor diagram (as proposed by the EFA on March 2017 responses), I then engaged in E/CFA with the March 2017 responses. Only one missing value was found; the ML imputation procedure was used to create an estimated response value. The TLI value negligibly changed when comparing the non-imputed and imputed E/CFA outputs. The E/CFA model displayed excellent fit ($\chi^2 = 2.89$, $df =$

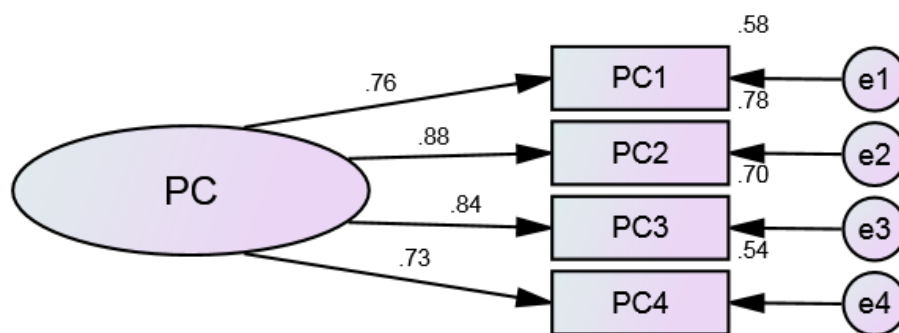


Figure 4.5. Professional commitment E/CFA model, based on March 2017 responses.

2, $p = .24$), despite the RMSEA value not being .05 or lower (CFI = .997, RMSEA = .054, TLI = .992). All standardized factor loadings were above .71 and considered “excellent” (Tabachnick & Fidell, 2013).

Mentor functions, attributes, and practices. I computed numerous factor analyses to explore possible underlying factor structures within Fall 2016 and March 2017 responses to the 11 mentor functions, attributes, and support practices items. Despite these attempts, numerous problematic cross-loadings were present. EFA procedures are described in the following sections, with a summary of results and interpretation concluding the section.

Initial EFAs. Responses to 11 mentor function items were solicited during the Fall 2016 BMTMQ administration and analyzed using principal axis factor analysis with oblique (Promax) rotation. (Standardized factor loadings below .30 were suppressed.) A 2-factor solution was proposed, but four items cross-loaded on both factors. Following identical procedures, I engaged in EFA on March 2017 responses; SPSS generated a 2-factor factor solution, but four instances of cross loadings and a lack of interpretive clarity were again present.

When researchers encounter instances of cross-loading, removing these items prior to computing subsequent analyses may improve model fit and mitigate potential discriminant validity concerns (Costello & Osborne, 2005; Farrell & Rudd, 2009). Merely omitting these items due to their correlation with multiple factors, however, may result in the researcher overlooking the nature of factors (Fabrigar & Wegener, 2012). Instead, researchers can increase the “cutoff” thresholds for standardized factor loadings after an initial EFA as a rationale for retaining items. Minimum thresholds are recommended at .30 (Leech et al., 2011; Fabrigar & Wegener, 2012), .32 (Tabachnick & Fidell, 2007), or .40 (Matsunaga, 2010; Meyers et al., 2006; Morey, 2003).⁹ Another approach is to retain cross-loaded items if the respective large to small cross-loaded factor loadings are .60 to .30, .50 to .20, or even a more narrow .60 to .40 (Matsunaga, 2010). Because I encountered numerous instances of cross-loadings within the initial EFAs—in which factor loadings below .30 were suppressed—I re-ran Fall and March EFAs while suppressing standardized factor loadings below .40.

Subsequent EFAs. Despite the suppression of values below .40, however, cross-loadings remained problematic. In both data collection phases, the “My mentor positively influences / influenced my teaching abilities” item was the only remaining cross-loaded item (i.e., because three of the four original factor loadings were greater than .30). I omitted this item from the subsequent EFA (both phases) because the standardized factor loadings were within a value of .10 of each other (i.e., .53 and .44 in Fall 2016, .47 and .50 in March 2017); however, removing this cross-loaded item and computing a new EFA (10 items) resulted in the emergence of additional cross-loaded items (one in Fall 2016, two in March 2017). Such a pattern—in which

⁹ Matsunaga (2010) states that “setting the value of .40 ... is perhaps the lowest acceptable threshold, whereas .60 or .70 would be the limit of the conservative end” (p. 101), arguing that standardized factor values of .30 (9% of variance) or .32 (10% of variance) are too liberal.

Table 4.13

Factor Pattern and Loadings for the Rotated Fall 2016 (N = 245) and March 2017 (n = 154) Mentor Functions, Attributes, and Support Practices Items, Following Initial EFA.

	Fall 2016		March 2017	
	Factor Solution		Factor Solution	
	<i>Interpersonal Attributes</i>	<i>Pedagogical Practices</i>	<i>Interpersonal Attributes</i>	<i>Pedagogical Practices</i>
My mentor...				
... demonstrates / demonstrated empathy.	1.03		1.07	
... is / was an effective listener.	1.02		1.01	
... is /was supportive.	.90		.95	
... has established / established a trusting relationship with me.	.90		.89	
... provides / provided me with psychological support.	.43	.31	.58	
... provides / provided me with instructional Support.		.88		.90
... possesses / possessed thorough music content knowledge.		.62		.61
... helps me / helped me to better engage my students while teaching.	.31	.62	.37	.60
... is / was a role model.		.58	.42	.34
... positively influences / influenced my teaching abilities.	.44	.53	.47	.50
... aides me / aided me with my classroom management practices.	.39	.49	.39	.50
Eigenvalue	6.62	1.34	6.83	1.30
% of variance	60.14	12.21	62.09	11.83

Note: Items below .30 were suppressed.

the removal of a cross-loaded item (or items) resulted in the emergence of additional cross-loaded items—continued through four subsequent EFAs. Cross-loadings were exhausted once one five-item factor remained (i.e., the “Interpersonal Attributes” items in Table 4.13 below).

Summary. EFA is used to generate theory by reducing responses into smaller sets of variables (Henson & Roberts, 2006; Tabachnick & Fidell, 2007). Although cross-loadings within both data sets made interpretation difficult (i.e., all items pertaining to pedagogical practices [Table 4.13] were eventually omitted), the presence of cross-loadings merits further research. This extensive EFA process eventually resulted in some conceptual clarity (i.e., five items that address interpersonal attributes and three that address pedagogical practices), but more refinement of the measure seems prudent. Given these statistical concerns, the items that solicited responses to mentors’ functions, attributes, and support practices could not be easily separated into two underlying factors and thus were not be used in any subsequent analyses.

Creation of Subscale Scores

The EFA process revealed underlying factors within responses to reflective practice, teaching efficacy, and professional commitment items. Once confirmed by E/CFA, I felt confident in creating subscale scores for each factor. These subscale scores were created by summing all items that loaded within a given factor. Since I desired to use November and December responses as one point in time (i.e., “Fall 2016”), I had to first ensure that these responses did not statistically differ. In the sections that follow, I describe the subscale scores and their distribution characteristics and discuss how I determined that November and December responses did not statistically differ.

Reflective practice. I created three subscale scores (Reflection-in-Action, Reflection-on-Action, Reflection-toward-Action) based on the underlying factor structure as initially

proposed by EFAs and ultimately corroborated by E/CFA. Scores for each subscale (i.e., factor) formed a near-normal distribution with no extreme outliers (i.e., skewness indices $< |1.0|$ and Shapiro-Wilk test p -values $> .05$). I then computed independent samples t -tests to compare November and December responses for each subscale to ensure that responses did not differ based on response window. Assumptions of continuous data, independence of groups and observations, no significant outliers, approximately normal distribution, and homogeneity of variances were checked and met. Responses to the Reflection-in-Action subscale items were not significantly different across November (19.72 ± 2.70) and December (19.46 ± 2.56) windows, $t(243) = 0.72, p = .48$, nor were Reflection-on-Action responses (20.45 ± 2.77 in November, 19.83 ± 2.72 in December), $t(243) = 1.62, p = .11$, or Reflection-toward-Action responses (10.80 ± 2.40 in November, 10.35 ± 2.09 in December), $t(243) = 1.47, p = .14$. Based on this evidence of response consistency, I created new variables by combining November and December responses. These combined variables (i.e., “Fall 2016”) are utilized in all subsequent analyses. Regarding March data, I created subscale scores and checked for normality. The three subscale scores were each found to be near normally distributed, with no extreme outliers.

Teaching efficacy. With regards to the two teaching efficacy subscale scores (Classroom Management and Engagement, Instructional Strategies), I explored the Fall 2016 data for missing values. Since scores were present for all variables (i.e., 3 instances of missing data were imputed during the E/CFA phase), I created subscale scores for both factors. Responses to the Instructional Strategies (IS) subscale items were normally distributed, but the Classroom Management and Engagement (CME) subscale responses were not approximately normally distributed and had one extreme outlier. Because of this single extreme outlier from the December data collection window—a genuinely unusual value—I opted to compute a Mann-

Whitney U test (non-parametric analog of the independent samples t -test) on the CME subscale score. Assumptions were checked and met. CME subscale responses were not significantly different between the November (mean rank = 127.88) and December data collection periods (mean rank = 133.61), $U = 6688.0$, $z = -0.55$, $p = .58$). Since no outliers were detected with the Instructional Strategies factor, I computed an independent samples t -test to compare November and December responses after checking and satisfying assumptions. November (18.90 ± 2.44) and December (19.42 ± 2.28) subscale item responses for Instructional Strategies efficacy were not significantly different, $t(243) = -1.58$, $p = .12$. Based on this outcome, I proceeded with aggregating scores across the two data collection windows.

A statistical test for normality (i.e., Shapiro-Wilk) suggested that both of the teaching efficacy subscales comprising March 2017 data were not normally distributed. Despite this, skewness and kurtosis values were within the guidelines outlined by Morgan et al. (2013), and visual inspection of box and whiskers plots and frequency distributions confirmed that both subscale scores were in fact approximately normally distributed.

Professional commitment. The single subscale score using Fall 2016 data was approximately normally distributed with no extreme outliers. I then computed an independent samples t -test to determine if November and December responses differed. Assumptions were checked and met. Professional commitment subscale responses did not differ significantly across respondents in November (19.19 ± 4.02) and December (19.17 ± 4.32), $t(243) = 0.03$, $p = .98$. Thus, responses to November and December professional commitment items were combined for all subsequent analyses. The subscale score was approximately normally distributed, with no extreme outliers detected. Because E/CFA confirmed the previous single-factor solution, I computed a subscale score for the March 2017 responses to professional

commitment items. The subscale score was approximately normally distributed and no extreme outliers were detected.

Reliability estimates of subscale responses. After creating each subscale score, I confirmed the internal consistency estimates (using Cronbach's alpha). All subscale scores were reliable above the conventional adequacy level of .70 (see Table 4.14).

Correlations of subscale responses. Intercorrelations, means, and standard deviations for the eight subscale scores are presented in Table 4.15, sorted by Fall 2016 and March 2017 data. In both windows, CME efficacy was moderately correlated with the IS efficacy factor, and professional commitment was moderately correlated with CME efficacy. Additionally, the RiA and RoA factors were moderately correlated, but RtA was only weakly correlated with the other reflective practice items. Overall, reflective practice was weakly correlated with professional commitment and weakly to moderately correlated with teaching efficacy.

Table 4.14

Reliability Estimates for All Subscale Item Responses

Factor	Fall 2016 α level	March 2017 α level
<i>Reflective Practice</i>		
Reflection-in-Action (RiA)	.78	.83
Reflection-on-Action (RoA)	.69	.71
Reflection-toward-Action (RtA)	.70	.89
<i>Teaching Efficacy</i>		
Classroom Management and Engagement (CME)	--	.87
Instructional Strategies (IS)	--	.75
<i>Professional Commitment</i>		
Professional Commitment (PC)	.84	.88

Note: Reliability estimates are not provided for the teaching efficacy subscales in Fall 2016 because the factor structure varied. RtA was comprised of 3 items in Fall 2016 but only 2 items in March 2017.

Table 4.15

Correlations, Means, and Standard Deviations for Subscale Scores in Both Data Collection Windows

Factor – Fall 2016 Responses	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Reflection-in-Action	19.30	2.39	--					
2. Reflection-on-Action	26.91	3.31	.46**	--				
3. Reflection-toward-Action	6.29	1.80	.17*	.29**	--			
4. Classroom Management and Engagement	32.55	4.72	.31**	.24**	.09	--		
5. Instructional Strategies	19.18	2.29	.35**	.28**	.07	.58**	--	
6. Professional Commitment	19.07	4.27	.00	.19*	-.03	.44**	.17**	--
Factor – March 2017 Responses								
1. Reflection-in-Action	19.48	2.62	--					
2. Reflection-on-Action	26.82	3.55	.44**	--				
3. Reflection-toward-Action	6.44	1.80	.18*	.32**	--			
4. Classroom Management and Engagement	32.56	4.40	.24**	.13	.18*	--		
5. Instructional Strategies	19.37	2.29	.35**	.23**	.05	.58**	--	
6. Professional Commitment	19.04	4.44	-.03	.19*	.09	.34**	.17*	--

Note: ** Correlation is significant at $p < .01$

* Correlation is significant at $p < .05$

Since all correlations were below .85, there was adequate evidence of discriminant validity (i.e., subscale scores are not measuring any redundant or largely overlapping constructs; Kline, 2015). In both phases, CME and IS were strongly and significantly correlated ($r = .58$), which is expected given that these factors were rotated using oblique (correlated) rotation following their extraction.

Multivariate Analyses

In the sections that follow (organized by major construct), I determine whether growth in reflective practice, teaching efficacy, and professional commitment over time is connected to mentor content area or mentor effectiveness. This was accomplished through the use of mixed multivariate inferential statistics; such experimental designs are referred to as “mixed-group” or “mixed” because both between-subjects factors (mentor effectiveness, mentor content area) and a within-subjects factor (time) were utilized (Drew, Hardman, & Hosp, 2008; Field, 2013). These particular between-subjects variables were selected based on extant literature. For instance, participation in a mentoring may positively influence reflective practice (Danielson, 1999; Moir, 2005), a long-existing belief that has only recently received empirical support (LoCasale-Crouch, Davis, Wiens, & Pianta, 2012). Additionally, mentors can increase their mentees’ teaching efficacy (Yost, 2002) and overall confidence (Odell & Ferraro, 1992), while also positively influencing their professional commitment (Ingersoll & Strong, 2011), particularly when the supports are perceived as effective by mentees (Ingersoll, 1997).

Prior to this mixed multivariate analysis, however, it seemed prudent to first examine the effects of mentee status (current, former) on the aforementioned constructs, a decision based on prior research. To illustrate, beginning teachers tend to exhibit lower levels of teaching efficacy than their experienced inservice colleagues (Wolters & Daugherty, 2007) and student teachers (Woolfolk Hoy & Spero, 2005), but beginning educators’ teaching efficacy can be strengthened through mentoring (Celano & Mitchell, 2014; Yost, 2002) and participation in a school induction program (e.g., Wechsler et al., 2010). Because it seemed possible that current mentees may have reported lower levels of teaching efficacy than their more experienced, former mentee colleagues, I first explored the effects of mentee status on reflective practice, teaching efficacy,

and professional commitment to eliminate this potential confounding variable.

After determining that mentee status did not impact responses to reflective practice, teaching efficacy, and professional commitment, I then used mixed multivariate and univariate statistics to explore whether changes in reflective practice, teaching efficacy, and professional commitment over time were impacted by mentoring program comprehensiveness or mentor effectiveness. Mentor effectiveness (as perceived by mentee) has two levels—low or high; and mentor content area has two levels—music or non-music. The time factor is comprised of two levels (Fall 2016, March 2017), and the dependent variable set included the six subscale scores as corroborated by E/CFA (Reflection-in-Action, Reflection-on-Action, Reflection-toward-Action, Classroom Management and Engagement Efficacy, Instructional Strategies Efficacy, Professional Commitment). Simultaneously examining the six dependent variables was not possible in that several subscale scores exhibited poor correlations, so I analyzed by construct.

Before I could determine the effects of respondents' perceptions of mentor effectiveness on any other variables, I first needed to convert March 2017 responses to the mentor effectiveness scale variable (from 1-10) into a categorical variable.¹⁰ Using the Frequencies procedure in SPSS, I created two approximately equal groups based on cut points. The two groups consist of mentees reporting that their mentors were of Low Effectiveness ($n = 64$) or High Effectiveness ($n = 90$). The two-level categorical variable replaced the previous values of 1-6 (Low) and 7-10 (High), which seemed appropriate given the scale variable's distribution ($M = 6.44$, $Med. = 7.00$, $SD = 2.47$, $skewness = -0.67$, $kurtosis = -0.48$).

¹⁰ I had worried that respondents who no longer were in a school mentoring program would provide a more trustworthy rating of mentor effectiveness during the Fall 2016 administration (i.e., closer to when they received mentoring support). Creating a variable in which merging former mentees' Fall 2016 mentor effectiveness ratings and current mentees' responses from March 2017 seemed logical. However, former mentees' ratings of their mentors did not statistically differ across data collection windows, so I opted to use only March 2017 responses in the creation of the 2-level categorical variable for mentor effectiveness.

Mentee status. To understand the impact of mentee status (current, former) on the three reflective practice subscale scores, I used a two-way mixed MANOVA with one between-subjects factor (mentee status) and time, the within-subjects factor (i.e., Fall 2016 responses, March 2017 responses). Sample sizes for those currently in mentoring ($n = 87$) and those formerly in mentoring ($n = 67$) were within the recommendation of 1.5 times the smallest group size; therefore, requirements for group size equivalency were considered to be satisfied. All other assumptions, including equality of covariance (Box's $M = 26.29$, $p = .24$), were checked and met. The two-way interaction between time and current mentee status was not statistically significant, $F(3, 150) = 1.78$, $p = .15$, multivariate $\eta^2 = .034$. Additionally, there were no statistically significant main effects of time on Reflection-in-Action, $F(3, 152) = 2.67$, $p = .11$, $\eta^2 = .017$, on Reflection-on-Action, $F(3, 152) = 0.65$, $p = .42$, $\eta^2 = .004$, or on Reflection-toward-Action, $F(3, 152) = 1.93$, $p = .24$, $\eta^2 = .009$. Observed power was .46. None of the reflective practice subscales differed based on current mentee status or over time (Table 4.16).

A two-way mixed MANOVA was also computed to determine the impact of mentee status on the two teaching efficacy subscale scores. Assumptions of homogeneity of variances and equality of covariance were checked and met. One extreme outlier (a low value) was detected within Fall 2016 responses for the Classroom Management and Engagement subscale score; rather than transforming the data, I decided to retain the outlier and proceed with the two-way mixed MANOVA, then compare the results with the outlier excluded. (The results did not vary.) The two-way interaction between mentee status and time was not statistically significant, $F(2, 151) = 1.22$, $p = .30$, multivariate $\eta^2 = .016$. Furthermore, no statistically significant main effects were found for time on Classroom Management and Engagement efficacy, $F(1, 152) = 0.00$, $p = .99$, $\eta^2 = .000$, or on Instructional Strategies efficacy, $F(1, 152) = 2.00$, $p = .27$, $\eta^2 =$

Table 4.16

Means and Standard Deviations for Reflective Practice, Teaching Efficacy, and Professional Commitment Subscales as a Function of Mentee Status and Time, for Respondents in Both Data Collection Phases (n = 154)

	Fall 2016		March 2017		Change Score	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>M</i>
Reflection-in-Action						
Currently in Mentoring	19.14	2.38	19.57	2.83	0.43	0.43
Formerly in Mentoring	19.51	2.40	19.36	2.34	-0.14	-0.14
Reflection-on-Action						
Currently in Mentoring	26.96	3.56	27.06	3.43	0.10	0.10
Formerly in Mentoring	26.86	2.98	26.50	3.69	-0.36	-0.36
Reflection-toward-Action						
Currently in Mentoring	6.22	1.74	6.23	1.82	0.01	0.01
Formerly in Mentoring	6.38	1.88	6.71	1.76	0.33	0.33
Classroom Management and Engagement						
Currently in Mentoring	31.86	4.82	31.93	4.80	0.07	0.07
Formerly in Mentoring	33.44	4.46	33.37	3.71	-0.07	-0.07
Instructional Strategies						
Currently in Mentoring	18.78	2.15	19.17	2.25	0.39	0.39
Formerly in Mentoring	19.70	2.37	19.63	2.33	-0.07	-0.07
Professional Commitment						
Currently in Mentoring	19.13	4.17	18.79	4.24	-0.34	-0.34
Formerly in Mentoring	19.00	4.43	19.37	4.69	0.37	0.37

Note: None of the multivariate results were statistically significant. Respondents were comprised of beginning music teachers currently in mentoring ($n = 87$) and formerly in mentoring ($n = 67$) as of March 2017.

.008. Observed power was .26. Although current mentees reported higher levels of efficacy for both teaching efficacy factors in March 2017 (Table 4.16) than did former mentees, these differences were not statistically significant.

To determine the impact of mentee status on professional commitment, I used a two-way mixed analysis of variance (ANOVA). There were no extreme outliers, the variable was approximately normally distributed, and equality of covariance (Box's $M = 1.99, p = .58$) and variance were both satisfied. There was not a statistically significant interaction for time and current mentor program participation, $F(1, 152) = 2.59, p = .11$, multivariate $\eta^2 = .017$. Observed power was .36. Furthermore, there were no statistically significant main effects for mentee status on professional commitment, $F(1, 152) = 0.12, p = .74, \eta^2 = .001$, or for time on professional commitment, $F(1, 152) = 0.01, p = .93, \eta^2 = .000$. Respondents currently receiving mentoring support slightly decreased in professional commitment (Table 4.16) and those no longer in mentoring programs slightly increased in professional commitment, but these observational differences were not statistically significant.

Mentors' content area and effectiveness. Because there were no significant differences in reflective practice, teaching efficacy, or professional commitment based on mentee status and time, I combined responses across the two subgroups (i.e., I no longer used mentee status as a variable) for all following multivariate analyses. In the next section I present findings of the combined effects of mentor content area, mentor effectiveness, and time on the major constructs.

Reflective practice. To determine the extent to which mentor content area moderated the impact of perceived mentor effectiveness on reflective practice, I computed a three-way mixed MANOVA. As with the above MANOVAs, the within-subjects factor was time; the two between-subjects variables were mentor content area (music, non-music) and mentor

Table 4.17

Means and Standard Deviations for Two Between-Subjects Variables at Fall 2016 and March 2017

	<i>n</i>	Fall 2016		March 2017		Change Score
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>
Reflection-in-Action						
Lower Effectiveness						
Non-music mentor	42	19.50	2.64	19.33	2.70	-.17
Music mentor	22	18.77	2.09	18.64	2.59	-.13
Higher Effectiveness						
Non-music mentor	41	19.02	2.40	19.76	2.71	.74
Music mentor	49	19.60	2.28	19.76	2.47	.16
Reflection-on-Action						
Lower Effectiveness						
Non-music mentor	42	26.27	3.24	26.57	2.90	.30
Music mentor	22	27.05	3.68	26.09	4.49	-.96
Higher Effectiveness						
Non-music mentor	41	26.73	3.36	27.77	3.96	1.04
Music mentor	49	27.56	3.13	26.55	3.14	-1.01
Reflection-toward-Action						
Lower Effectiveness						
Non-music mentor	42	6.10	1.66	6.39	1.78	.29
Music mentor	22	6.14	1.98	6.18	1.65	.04
Higher Effectiveness						
Non-music mentor	41	6.56	2.11	6.78	1.86	.22
Music mentor	49	6.30	1.55	6.30	1.85	.00

Note: None of the multivariate results were statistically significant. Results must be interpreted cautiously since cell sizes were imbalanced.

effectiveness (low effectiveness, high effectiveness). The assumption of equality of covariance was satisfied (Box's $M = 63.37$, $p = .65$), and the assumption of homogeneity of variances was met. However, ratios of cell sizes were not within the guidelines of 2.0 (Huberty & Olejnik, 2006); I report Pillai's criterion (trace), a measure that is regarded as more robust than Wilks' lambda (Tabachnick & Fidell, 2007).

The three-way interaction was not statistically significant, Pillai's trace = 0.07, $F(3, 148)$

= 0.32, $p = .81$, multivariate $\eta^2 = .007$. Even though this three-way interaction was not significant (and thus suggested the two-way interaction profiles would not differ), I nonetheless explored the 3 two-way interactions; as expected, these interactions were not statistically significant. I also explored the main effects, despite the lack of significant interaction effects. There were no statistically significant main effects for time, $F(3, 148) = 0.91, p = .44$, multivariate $\eta^2 = .018$, for mentor effectiveness, $F(3, 148) = 0.87, p = .46$, multivariate $\eta^2 = .017$, or mentor content area, $F(3, 148) = 0.36, p = .79$, multivariate $\eta^2 = .007$. Inspection of the means in Table 4.17 (and change scores) further illustrate the lack of statistical significance.

Teaching efficacy. To determine the extent to which mentor content area moderated the impacts of mentor effectiveness on the two teaching efficacy subscales, a three-way mixed MANOVA was computed. Time served as the within-subjects factor, and mentor content area and mentor effectiveness were the between-subjects factors. The assumption of equality of covariance was satisfied (Box's $M = 56.98, p = .005$). Additionally, Levene's test of equality of error variances confirmed homogeneity of variance.

The three-way interaction was not statistically significant, Pillai's trace = 0.018, $F(3, 148) = 0.92, p = .43$, multivariate $\eta^2 = .018$. I explored the 3 two-way interactions, despite knowing these interaction profiles would likely not differ due to the lack of the three-way interaction's significance. The interaction for mentor effectiveness and mentor content area was not significant, $F(1, 150) = 0.96, p = .33$, multivariate $\eta^2 = .006$, nor was the interaction for mentor content area and time, $F(3, 148) = 1.50, p = .22$, multivariate $\eta^2 = .029$, or for mentor effectiveness and time, $F(3, 148) = 2.03, p = .11$, multivariate $\eta^2 = .040$. The main effects also lacked statistical significance. Descriptive statistics for the teaching efficacy responses, by mentor effectiveness and mentor content area, are presented in Table 4.18.

Table 4.18

Means and Standard Deviations for Two Outcome Variables at Fall 2016 and March 2017

	<i>n</i>	Fall 2016		March 2017		Change Score
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>
Classroom Management and Engagement						
Lower Effectiveness						
Non-music mentor	42	32.02	5.79	31.88	4.61	-.14
Music mentor	22	31.77	4.64	31.55	4.99	-.22
Higher Effectiveness						
Non-music mentor	41	31.95	4.43	32.59	4.89	.64
Music mentor	49	33.85	3.75	33.57	3.29	-.28
Instructional Strategies						
Lower Effectiveness						
Non-music mentor	42	18.83	2.50	19.33	2.24	.50
Music mentor	22	19.77	2.16	19.50	2.74	-.27
Higher Effectiveness						
Non-music mentor	41	18.66	2.32	19.09	2.65	.43
Music mentor	49	19.65	2.03	19.58	1.77	-.07

Note: None of the multivariate results were statistically significant. Because the largest cell (49) was more than 2 times larger than the smallest cell, results must be interpreted cautiously.

Professional commitment. To determine the extent to which mentor content area moderated the impact of mentor effectiveness on professional commitment, a three-way mixed ANOVA was computed. This consisted of one within-subjects independent variable (time) and two between-subjects IVs (mentor content area, mentor effectiveness). The assumptions of sphericity and homogeneity of variance were both satisfied. The three-way interaction between mentor content area, mentor effectiveness, and time was not statistically significant, Pillai's trace = .001, $F(1, 150) = 0.10$, $p = .75$, multivariate $\eta^2 = .001$. I then explored the 3 two-way interactions. The interaction of mentor effectiveness and mentor content area was not statistically significant, $F(1, 150) = 0.16$, $p = .69$, multivariate $\eta^2 = .001$, nor were the

Table 4.19

Means and Standard Deviations for Professional Commitment, by Mentor Effectiveness, Mentor Content Area, and Time

	<i>n</i>	Fall 2016		March 2017		Change Score
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>
Professional Commitment						
Lower Effectiveness						
Non-music mentor	42	18.38	5.21	18.55	5.20	.17
Music mentor	22	18.59	3.89	17.85	4.14	-.74
Higher Effectiveness						
Non-music mentor	41	19.17	4.06	19.56	4.35	.39
Music mentor	49	19.80	3.68	19.57	3.88	-.23

Note: None of the multivariate results were statistically significant. Results must be interpreted cautiously since cell sizes were imbalanced.

interactions for mentor content area and time, $F(1, 150) = 2.73, p = .10$, multivariate $\eta^2 = .018$, or for mentor effectiveness and time, $F(1, 150) = 0.65, p = .42$, multivariate $\eta^2 = .004$. There were no significant main effects. Although respondents with a music-specific mentor reported slightly lower levels of professional commitment over time (Table 4.19), this negligible decrease was not statistically significant.

Path Analysis

Although no statistically significant differences were found through use of the two- and three-way MANOVAs and ANOVAs, I nonetheless used path analysis techniques to explore whether mentee status, mentor effectiveness, mentor content area, level of education, school setting, or years of teaching experience were directly or indirectly related to respondents' reflective practice, teaching efficacy, and professional commitment. I had anticipated using

additional mentoring- and induction-related items, but due to issues with lack of normality, these items were excluded. Instead, I used 11 variables (the six aforementioned variables plus the three reflective practice and two teaching efficacy subscale responses) to predict professional commitment (see pp. 175–178). These demographic and mentoring-related variables were justified for inclusion due to previous research literature. As noted earlier, mentoring can directly influence reflective practice (LoCasale-Crouch et al., 2012), teaching efficacy (Woolfolk Hoy & Spero, 2005; Yost, 2002), and professional commitment (Ingersoll & Strong, 2011). Reflective practice can impact professional commitment both directly (LoCasale-Crouch et al., 2012) and indirectly (Chan et al., 2008). In this latter example, reflective practice first impacts teaching efficacy, and in turn, teaching efficacy directly impacts professional commitment. In other words, reflective practice directly affects professional commitment but also indirectly through teaching efficacy; thus, teaching efficacy mediates the impact of reflective practice on professional commitment. This example is illustrated in Figure 4.6.

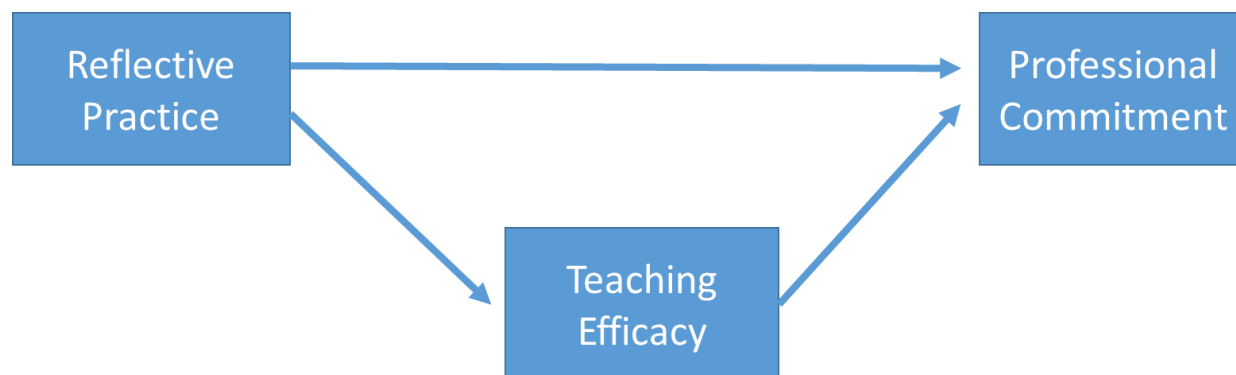


Figure 4.6. An example of direct and indirect (mediated) effects of reflective practice on commitment.

Path analysis uses regression techniques to propose relational patterns among variables (Vogt, 2007) and to visually depict causal networks (Arnold, 2015). More specifically, path analysis is used to explore the direct and indirect effects of variables hypothesized as causes of variables treated as outcomes (Pedhazur, 1997). Although “causality” does not occur within data collection (Meyers et al., 2006), correlation can corroborate causal influence (Meehl & Waller, 2002). Through the use of path diagrams, researchers indicate causal relationships with arrows and measured variables with boxes (Arnold, 2015; Meyers et al., 2006). This regression-based approach allowed me to evaluate the a priori conceptual model (i.e., structure), to explore other models as suggested by the data, and to gain a more nuanced understanding of the data.

Statisticians have traditionally argued against the use of nominal (categorical) variables within path analyses. Although social scientists have recently begun using such variables as independent (i.e., predictor) variables in multiple regression approaches, traditional assumptions of path analysis state that only scale (i.e., interval or near-interval) variables should be utilized (Meyers et al., 2006; Pedhazur, 1997). Recognizing this, I transformed existing categorical variables pertaining to mentoring and induction program comprehensiveness into dummy scale variables. These dichotomous dummy variables included March 2017 responses for mentee status (1 = current, 0 = former), mentor content area (1 = music, 0 = non-music), education level (1 = Bachelor’s, 0 = Master’s), and school setting (1 = Suburban, 0 = Non-Suburban).

Researchers must use simultaneous entry (i.e., “Enter” in SPSS) when determining and refining causal models through use of multiple regression (e.g., Meyers et al., 2006). Since I could not use exploratory regression approaches (i.e., backward, forward, stepwise entry) to determine possible paths, I used previous research to deductively diagram paths, then used multiple regression to “fit” various paths and models.

Assumptions of path analysis—linear and causal relations between variables, uncorrelated errors, use of scale variables (i.e., not categorical)—were checked and met (Pedhazur, 1997). Lack of measurement error, an additional assumption of path analysis, is problematic within social science research. As Maruyama (1998) notes, “assumptions about perfect reliability must be viewed as generally unrealistic” (p. 30). As noted in Chapter Three, I used Petraitis and colleagues’ (1996) conservative guideline of having a sample size of at least 20 times the number of paths. Since the number of respondents who completed both versions of the survey ($n = 154$) was below the minimum recommendation of 200 (Kline, 2015), I could not use structural equation modeling (SEM), a software- and correlation-based modeling technique that allows researchers to specify, estimate, and evaluate models of linear relationships (Kline, 2015; Shah & Goldstein, 2006).

Path analysis for the total sample. A potential statistical concern was present in this investigation. Path analysis, which uses multiple regression to statistically and visually represent the magnitude between causal relationships, cannot adequately determine the presence of nonrecursive paths. Nonrecursive path models—those in which variables have reciprocal effects—cannot be determined through use of multiple regression, but rather through the use of SEM software (Arnold, 2015; Keith, 2015; Meyers et al., 2006). Keith (2015) clearly outlines issues with multiple regression and potential nonrecursive paths:

You should not use reciprocal paths (nonrecursive models) to avoid making decisions concerning the direction of causation. Nonrecursive models are much more complex than recursive models and cannot be estimated through ordinary multiple regression. . . . Most of what you should do to ensure the adequacy of your model boils down to the

same advice for developing a model in the first place: theory, previous research, and logic (p. 517).

Since I did not have sufficient sample size to use SEM software, caution must be exercised in interpreting the proposed path model, as nonrecursive paths may exist between facets of teaching efficacy and reflective practice and among the three reflective practice factors.¹¹

Procedures. I delimited the dependent (i.e., endogenous) variables to three: Classroom Management and Engagement efficacy, Instructional Strategies efficacy, and Professional Commitment. Although I explored whether mentor effectiveness could also serve as an endogenous variable (by exploring different combinations of the demographic and mentoring variables), no statistical model was viable. The latter construct was the most logical outcome variable based on the literature. Since I did not believe that the three reflection constructs would be predicted by either professional commitment or the two efficacy constructs, I excluded these latter variables from serving as predictors within the regression calculations.¹² For each multiple regression, I checked and satisfied assumptions of linearity and normal distribution of residuals.

Once these assumptions were satisfied, I used the steps outlined by Meyers and colleagues (2006) to assess the path model. This consists of conducting separate simultaneous multiple regressions on each endogenous variable, analyzing coefficient output tables to find nonsignificant predictors, and then trimming the model by re-running the regression without nonsignificant predictors, as needed. The authors recommend that a predictor only be included if it achieves both statistical significance (i.e., the p value is less than .05) and practical

¹¹ Teaching efficacy and reflective practice may consist of a nonrecursive cycle (e.g., Posnanski, 2002). A teacher with low Instructional Strategies efficacy may examine their practice (either during or after instruction), develop strategies for improving performance, and enact these strategies (Akbari et al., 2010). As a result, this teacher might improve their teaching practice (and therefore become more efficacious) (Babaei & Abednia, 2016).

¹² Reflective practice may predict (Babaei & Abednia, 2016; Noormohammadi, 2014) teaching efficacy, but a paucity of quantitative research within American educational contexts presently exists.

significance (i.e., the beta weight [standardized regression coefficient] is greater than or equal to .30). However, since this investigation is the first of its kind within music education, I felt comfortable including standardized regression coefficients that were between .10 and .30, which are considered small to medium effects (Cohen, 1988; Suhr, 2008).

After the regression has been trimmed, beta weights are placed within the path arrow. These standardized path coefficients allow for easy comparisons and interpretation. For instance, in Figure 4.7 below, the path coefficient from Reflection-in-Action (RiA) to Classroom Management and Engagement (CME) efficacy is .25. This indicates that an increase of 1 standard deviation in RiA is associated with an increase of .25 standard deviations of CME. Then, each Adjusted R^2 value—the measure of how much variance within the dependent variable can be predicted from the independent variable(s) if the model had been derived from the population (Field, 2013; Leech et al., 2011)—is placed adjacently to the corresponding endogenous variable (i.e., in the upper right corner). Using Cohen's (1988) benchmarks, Field (2013) notes that the magnitudes of Adjusted R^2 values are small (.02 to .12) medium (.13 to .25), large (.26 to .48), and larger than typical (.49 and above).

Results. As shown in Figure 4.7, the path model contains both indirect and direct effects. Indirect effects include mediator variables (Meyers et al., 2006). For instance, RiA has both a direct effect on PC and an indirect effect on PC mediated by CME efficacy.

The first equation in the model included the direct effect of RiA (an exogenous variable) on IS efficacy. Results of this multiple regression equation yielded a significant Adjusted R^2 of .115, $F(1, 152) = 20.82$, $p < .001$, as RiA had a positive effect on IS ($t = 4.56$, $p < .001$).

The second multiple regression equation assessed the effects of RiA and mentee status on CME efficacy. While considered small, this equation exhibited a significant Adjusted R^2 of

.076, $F(2, 151) = 7.30, p < .001$. A comparison of the standardized coefficients indicated that RiA had a positive effect on CME ($t = 3.19, p = .002$) whereas current mentee status (i.e., the dummy value of 1.0) was negatively associated with CME ($t = -2.23, p = .027$). This negative association indicates that current mentees (a dummy value of 1.0) were associated with lower levels of CME efficacy. Although IS efficacy could predict CME efficacy, it was also true that CME could predict IS efficacy; due to the likelihood that these paths were nonrecursive, I opted to exclude IS efficacy as a potential predictor of CME (and vice versa).

Lastly, a third multiple regression equation included the direct effect of two exogenous variables (RoA, RiA) and the direct effect of an endogenous variable (CME) on Professional Commitment (PC). This equation yielded a significant Adjusted R^2 of .160, $F(3, 150) = 10.75, p < .001$. Thus, 16.0% of the variance in Professional Commitment was explained by the model, which is a medium effect (Cohen, 1988). The standardized coefficients indicated that RoA was positively correlated with PC ($t = 2.94, p = .004$), as was CME ($t = 4.75, p < .001$). However, RiA was negatively associated with PC ($t = -2.63, p = .009$).

Results of this path analysis suggests that RoA and RiA directly impact PC, but in contrasting manners. Whereas higher levels of RoA were associated with higher PC, RiA scores were inversely related to PC—that is, RiA that occurred more frequently was associated with lower PC. CME also directly impacts PC, and CME mediates the indirect effects of RiA and mentee status; neither mentee status or IS efficacy directly affect PC. RtA, the third reflective practice variable that emerged through factor analysis, could not predict PC or any facet of teaching efficacy (i.e., IS, CME).

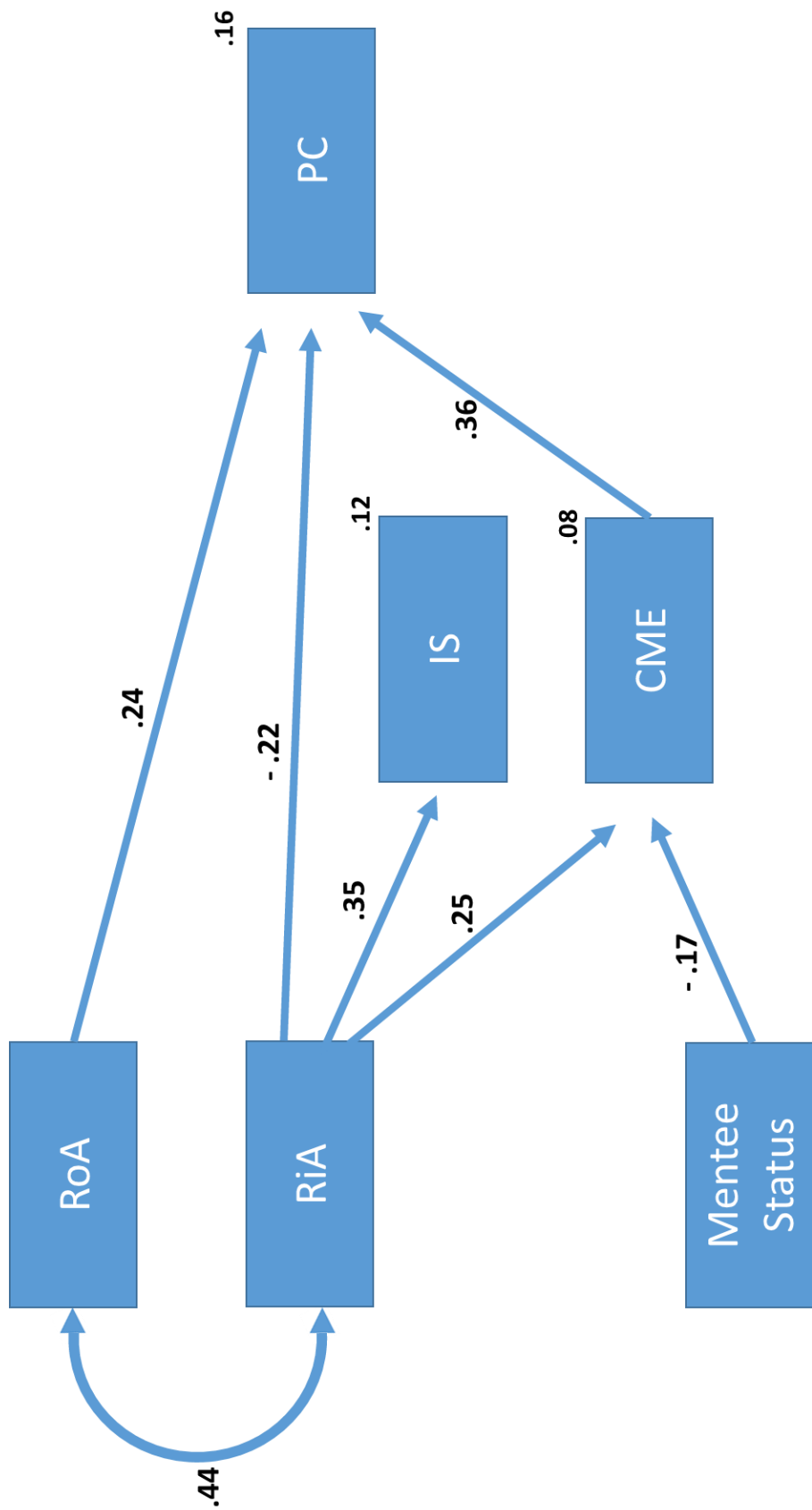


Figure 4.7. Path analysis using respondents who completed the Fall 2016 and March 2017 versions of the BMTMQ ($n = 154$).

Note: The Adjusted R² value for CME (.08) is considered a low effect size, whereas PC (.16) is considered a medium effect. Adjusted R² values represent how much variance the predictor(s) explain within a dependent variable. RoA and RiA were significantly and moderately correlated, but mentee status was not correlated with either reflective practice exogenous variable.

Chapter V

Summary and Conclusions

Due to the unique nature of music instruction, beginning music teachers may be challenged to a greater extent than novice teacher colleagues from non-music disciplines. These challenges, as well as the mentoring experiences of beginning music teachers, have been documented within numerous music education investigations (e.g., Barnes, 2010; Conway, 2002, 2003a; Krueger, 1999; Turner, 2002). No investigator, however, has designed a multi-state, multi-region examination of district-level mentoring programs, explored beginning music teachers' perceptions of their school-assigned mentors and mentoring experiences, or attempted to assess the impact of mentoring experiences on important psychological constructs related to beginning teacher development (i.e., reflective practice, teaching efficacy, professional commitment).

Therefore, the purpose of this study was to investigate the status of mentoring and induction programs and their impacts on beginning music teachers. More specifically, I measured mentoring program comprehensiveness, along with mentor functions and attributes, mentor support practices, and mentor effectiveness as perceived by mentees. I also explored the effects of mentee status, perceived mentor effectiveness, and mentor content area on reflective practice, teaching efficacy, and professional commitment.

Summary of Major Findings

Data were collected from beginning music teachers within 10 states in Fall 2016 ($N = 245$) and March 2017 ($n = 154$). Respondents completed the Beginning Music Teacher

Mentoring Questionnaire (BMTMQ), which included researcher-designed measures of (a) mentor and induction program comprehensiveness, (b) mentors' functions, attributes, and support practices, and (c) reflective practice, as well as adaptations of existing teaching efficacy and professional commitment measures. Exploratory factor analyses (EFAs) were computed on all Fall 2016 responses, then again within March 2017 data. After corroborating factor structures, computing subscale scores, and determining that responses did not vary significantly based on mentee status (current or former mentoring program participant), I used multivariate and univariate statistics to determine the effects of perceived mentor effectiveness and mentor content area on beginning music teachers' reflective practice, teaching efficacy, and professional commitment.

Responses to these constructs did not differ by mentee status (current, former). Perhaps more surprisingly, perceived mentor effectiveness (as moderated by mentor content area) did not impact reflective practice, teaching efficacy, or professional commitment over time. In fact, mentees with non-music mentors reported increases in reflective practice, teaching efficacy, and professional commitment, though these gains were not statistically different from those of mentee respondents who were assigned a music mentor.

Lastly, a measurement model that predicted professional commitment—including direct effects of Reflection-on-Action, Reflection-in-Action, and Classroom Management and Engagement efficacy, and indirect effects of Reflection-in-Action and mentee status—is proposed. Only one demographic or mentoring program variable entered the path model; mentee status predicted Classroom Management and Engagement efficacy with current mentees tending to report lower levels of efficacy than former mentees. Those beginning music teachers who more frequently reflected in-action demonstrated higher levels of efficacy but lower levels of

professional commitment. Reflection-on-Action had a direct, positive effect on professional commitment. Reflection-toward-Action, despite its emergence as a third reflective practice variable following the extensive factor analysis process, could not predict professional commitment or either teaching efficacy factor. Due to concerns with sample size, I computed path analyses through use of multiple regression, but this approach could not account for potential nonrecursive paths.

In this study, I provide a current perspective of beginning music teacher mentoring, but also raise several questions, including: Are school-provided mentoring programs adequately benefiting beginning music teachers? Do mentors' functions, attributes, and support practices reflect best practices and do mentors adequately respond to mentee needs? Does providing music mentees with music-specific mentors truly matter? In the sections that follow, I address these questions by highlighting noteworthy and unexpected findings and comparing these to existing literature. I then conclude by presenting implications, stating study limitations, and providing recommendations for future research.

Factors Limiting the Potential Effectiveness of Mentoring Programs and Experiences

Beginning music teacher respondents reported district-level mentoring and induction experiences that, overall, are substantially less comprehensive than those recommended by teaching pedagogues and researchers. Most respondents received mentoring supports for one year. Mentor-mentee meetings occurred weekly for a quarter of respondents, but more commonly occurred either once or twice per month or only a few times per year; alarmingly, one out of ten respondents reported that they never formally met with their school-assigned mentor. When meetings did occur, they were typically 30 minutes in length. Nearly half of these beginning music teachers were never observed by their school-assigned mentor, and the majority

were never provided with opportunities to observe their mentor teach, including beginning music teachers with music specialist mentors. Additionally, over a quarter of mentees never received feedback from their mentor. This lack of feedback could stem from never being observed by or meeting with their assigned mentor, mentors lacking sufficient training to provide specific feedback, an absence of deliberate effort to provide detailed and timely feedback, the fact that some mentors may lack the time, commitment, or awareness needed to construct and communicate feedback in an effective manner, or any combination of these factors.

As well as diverging from recommended best practices, the mentoring experiences reported by study participants did not align with preferences expressed by beginning music teachers in prior studies. In her survey of beginning music teachers in the Pacific Northwest, for example, Turner (2002) found that music mentees favored assigned mentors who regularly observed their teaching, provided specific feedback during post-observation meetings, and created opportunities for observation of the mentor while teaching. Without being able to observe the beginning teacher, a mentor likely cannot determine their mentee's specific instructional needs.

Although not explored in this investigation, the lack of observations by mentors may be due to funding, scheduling concerns, or time not being allocated for pre- and post-observation conferences (DeCesare, Workman, & McClelland, 2016). Similarly, the infrequency of mentees observing their mentors or other experienced teachers may be the result of state induction and mentoring policies that do not require such experiences (Goldrick, 2016). Mentor program leaders should ensure, through the selection process, that mentor teachers do not feel inadequate or insecure about having mentees observe their teaching (Bullough, 2005) and should arrange such observations (Gordon, 1991).

Another possibility is that due to the performance-oriented nature of many music classes, beginning music teachers may have been hesitant to ask for observations, especially when a music mentor was provided by the school district. If mentees were self-conscious about the performance quality of repertoire, it seems plausible that they may have preferred for observations to only occur later within a concert cycle, even if a trusting mentor-mentee relationship was present. If true, this music-specific dynamic presents a challenge to effective mentoring. Researchers should explore how both music and non-music mentors negotiate mentees' willingness (or lack thereof) to be observed, how mentors facilitate observations within mentor program structures, and if the degree to which mentees trust their mentors moderates when and how frequently observations occur.

Given these findings related to meetings, observations, and feedback, one could reasonably question the extent to which mentors are skilled or vested in the mentoring process. A substantial number of mentees met with their mentors only a few times during the year (for only 30 minutes), were never observed by their mentor, and were seldom offered opportunities to observe their mentor teach. It is possible that mentoring and induction program logistical concerns (i.e., lack of state policies or guidelines, limited funding, scheduling conflicts) may partially explain the limited mentoring experiences. Additional study of mentors—their selection, training, and dispositions—appears warranted, however, as a means of further interpreting why mentoring experiences reported by so many beginning music teachers are narrow or shallow rather than rich or robust. Perhaps states should heed Goldrick's (2016) advice and “develop robust, thoughtful accountability structures that go deeper than compliance-oriented systems and move toward a focus on program improvement and the measurement of program outcomes” (p. 38). Until mentors-mentee pairs have opportunities for weekly, protected

meetings that are between 90 and 150 minutes—for observations, pre- and post-observation conferences, and observations of the mentor or of other experienced teachers (Glazerman et al., 2010; Goldrick et al., 2012; NTC, 2016)—perhaps the value of school mentoring programs cannot be indisputably purported (Robinson, 2003; Schmidt, 2008).

Traditional school mentoring and induction programs have been criticized due to their failure to recognize or include music-specific elements (Bell-Robertson, 2015; Benson, 2008; Conway, 2006). As such, music education researchers have recommended that school districts supplement existing mentoring and induction programs with professional learning communities, peer supports, or virtual teacher networks. In an effort to respond to immediate needs and challenges and provide music-specific teaching strategies, for example, members of the Supporting Beginning Music Teachers ASPA facilitate an online Facebook group called “Beginning Music Teachers.” Another approach—one that moves beyond short-term remedies—might consist of using digital methods (e.g., text messaging, recordings of teaching episodes) to mentor beginning music teachers. For instance, Vaughan-Marra (2017) found that beginning music teachers who received supplemental, digitally mediated mentoring valued the increased flexibility and frequency of mentor communication afforded by a digital approach. Instead of abandoning mentoring programs altogether, schools should embrace the use of technology as a means to facilitate music mentoring within the district or across districts, particularly if digital mentoring can mitigate scheduling and logistical difficulties associated with pairing teachers within the same location at the same time. Such “outside of school” efforts may also allow for mentoring needs to become decontextualized, which in turn may allow for greater critical inquiry and reflection (Berg & Rickels, 2017).

Because I only surveyed music mentees, other facets of comprehensive mentoring programs that may have been unknown to the mentee respondents—including mentor training and compensation, administrative support, clear program expectations, and regular program evaluations (Danielson, 1999; Dunne & Villani, 2007; Glazerman et al., 2010; NTC, 2016b; Saphier et al., 2007; Smith & Ingersoll, 2004)—were omitted from this investigation. By surveying mentors, administrators, or program leaders (e.g., Flanagan, 2006; Sherrill, 2015), researchers may obtain more complete and valid descriptions of mentoring program characteristics and quality. Much descriptive research on beginning music teachers' mentoring experiences and preferences currently exists, but perhaps additional examination of the mentoring programs themselves is needed before exploring the impacts of these programs on teachers.

Lastly, the lack of comprehensive mentoring experiences at the district level is even more concerning when considering the low participation within the supplemental and music-specific MEA mentoring programs. Less than one quarter of beginning music teachers within states that offered MEA mentoring took advantage of such programs. MEA mentor program coordinators may be challenged in identifying and then contacting new beginning music teachers within their states (Greene et al., 2017), but this could be remedied by collaborating with university music teacher educators, extending the mentor program leadership and staff beyond one or two teachers, and working with state activities associations or school administrators organizations to learn of new music teachers. Additionally, limited participation may reflect the fact that some MEA programs do not facilitate mentor-mentee pairings once the school year has commenced (Greene et al., 2017). Given the low participation in these music-specific programs and the lack of ongoing MEA facilitation, however, school districts must take the lead in providing more

comprehensive mentoring and induction experiences that support and promote beginning music teachers' development.

The Nature of Mentor Functions

Music teaching is a complex activity. To help mentees improve their instructional practices, ease their transition from preservice to inservice educators, and increase their efficacy (e.g., Feiman-Nemser, 2001b; Fletcher, 2000; Gold, 1996; Odell et al., 2000; Reiman et al., 1992), mentors must frequently provide their mentees with a combination of instructional, psychological, and role modeling supports (Gold, 1996; Richter et al., 2013). To accomplish this, mentors must manifest a variety of interpersonal attributes, including abilities to establish trusting relationships, show empathy, build self-esteem, and effectively listen to their mentees (Jonson, 2002; Richter et al., 2013; Yendol-Hoppey & Dana, 2007).

Even though the first years of inservice music teaching can be isolating (Conway, 2003a; Krueger, 1999) and emotionally trying (Benson, 2008; Conway & Zerman, 2004), mentor-mentee meetings cannot primarily serve as forums for expressing frustrations. Instead, mentors must attend to mentees' immediate needs (Hobson et al., 2009) while simultaneously focusing on their long-term pedagogical development—the process that Feiman-Nemser (1998; 2001b) refers to as educative mentoring. Specific to beginning music teacher mentoring, the most commonly documented short-term needs are related to classroom management (e.g., Barnes, 2010; Conway, 2003a; DeLorenzo, 1992; Schmidt, 2008), but instructional and administrative tasks reflect both short- and long-term needs (e.g., Blair, 2008; Conway, 2003a; Jacobs, 2007; Schmidt, 2008; Smith, 1994). As Lieberman and colleagues (2012) state, “mentors find themselves involved with a central tension—that of providing emotional support and building a trusting relationship with a mentee and at the same time focusing on instructional content that improves the pedagogy

of the new teacher” (p. 3). This “bifocal perspective” (Achinstein & Athanases, 2006, p. 12) will likely remain a challenge if mentors are not sufficiently trained and mentor-mentee relationships are not adequately developed through frequent meetings over a period of two or more years.

On average, the beginning music teachers whom I surveyed favorably agreed with eight items measuring perceptions of their mentor’s functions and attributes. They tended to endorse their mentors’ interpersonal attributes, however, more strongly than their pedagogical practices. I also solicited responses as to how frequently these mentees received instructional, psychological, and role modeling support from their school-assigned mentors. Mentees believed that psychological and role modeling supports were provided more frequently than instructional support. The mentoring experiences of beginning music teachers may reflect an emphasis on psychological needs and supports over refinement of pedagogical practices because mentors find it more natural to first engage mentees on questions of basic confidence before addressing nuanced elements of teaching competence—in essence, building empathy and trust before taking on a more formal coaching or evaluative role. However, since I only surveyed mentees, it is possible that instructional supports were provided more frequently than mentees perceived them to be. Clearly additional investigations regarding specific mentor behaviors are necessary, as are efforts to further refine and validate this measure of mentor functions, attributes, and support practices.

There is ample research and literature that highlights the importance of mentor training in fostering mentoring experiences that promote long-term growth and commitment among beginning teachers (e.g., Danielson, 1999; Glazerman et al., 2010; Goldrick, 2016; Moir et al., 2009). While mentors were not the focus of this study, it is possible that study participants’ mentors had less access to mentor training programs or were not able to leverage the training as

deliberately as other mentors. Instead of fostering reflective practice and autonomy, and responding to mentees' needs, questions, and personal goals specific to pedagogy or instruction (Bartell, 2005; Daresh, 2003), these beginning music teacher mentors may have primarily provided emotional support and short-term remedies to classroom issues due to insufficient mentor training.

Regardless of content area, mentors must receive training on how to facilitate effective conversations and how to specifically provide instructional and psychological supports (New Teacher Center, 2016b). Comprehensive mentoring and induction programs that address both instructional and psychological support (New Teacher Center, 2016b) may positively impact mentees' experiences (Crasborn et al., 2008, 2010) and result in stronger mentor effectiveness (Conway et al., 2002). By providing training regarding adult learning (Achinstein & Athanases, 2006) and techniques for listening, questioning, and facilitating a conversation (e.g., the Cognitive CoachingSM model [Costa & Garmston, 2002]), mentors may be able to more effectively promote critical thinking among their mentees, regardless of content area. Furthermore, such an approach—one in which the mentor listens, asks non-judgmental questions, and provides non-evaluate feedback through clarifying and paraphrasing (Strong & Baron, 2004)—may allow mentors to indirectly elicit suggestions from mentees rather than merely providing direct advice. That said, for beginning music teachers to sufficiently develop their instructional skills, it may be necessary for mentors to be more deliberative, direct, and decisive in their coaching and mentoring approach at times.

Because mentor training was not directly assessed, it is impossible to assert that any deficiencies in perceived instructional support or role modeling may be attributed to insufficient training. The fact that mentors seldom met or were observed by their mentees also may have

compromised efforts to address more complex instructional problems or provide role modeling. More research is needed to explore a range of factors that might enhance or inhibit mentors' abilities to effectively address the pedagogical development and instructional effectiveness of beginning music teachers.

Questioning the Importance of Mentor Content Area

Respondents indicated that their mentors more frequently provided psychological support than instructional support, and reported that their mentor's interpersonal attributes were more prominent than their pedagogical practices. Pedagogical practice and instructional support may have been rated lower due to the mentors' content area. For instance, mentees with non-music mentors believed that they received instructional support less frequently than did mentees assigned a music mentor, a difference that was statistically significant. Mentees with non-music mentors may have perceived their mentors as being less capable or less engaged in providing meaningful, music-specific instructional assistance than mentees with music mentors, despite no obvious differences in requisite interpersonal attributes (Feiman-Nemser, 1998, 2001b; Lieberman et al., 2012). Having a music teacher mentor did not substantively improve beginning music teachers' reflective practice, teaching efficacy, or professional commitment over time—at least within the bounds of a four-month period during a single school year.

Respondents who were assigned a non-music mentor actually demonstrated greater gains in reflective practice, efficacy, and commitment, though gains for both mentor subject area groups were not statistically significant. These findings contradict the views of researchers who have previously suggested that it may be more beneficial to pair mentees with mentors from the same content area (e.g., Conway, 2003a; Ingersoll, 1997). It is possible that music mentors provide value-added benefits for beginning music teachers in terms of instructional needs or

pedagogical wherewithal, while non-music mentors may be better or equally suited to developing a professional mindset that embodies reflection, efficacy, and commitment.

Beginning music teachers may prefer having a music mentor, and many have previously stated that non-music mentors could not satisfy their instructional needs (e.g., Conway, 2003a, 2010; DeLorenzo, 1992; Schmidt & Canser, 2006; Turner, 2002). But, music and non-music education researchers have also indicated that mentors from a similar or different content area (Conway, 2015a; Kaufmann, 2007) may be equally effective, a belief echoed by mentoring policy analysts (Goldrick et al., 2012) and pedagogues (Jonson, 2002; Kaufmann, 2007). Specific to music education, Weimer (2017) noted that mentee-mentor pairings that were matched by personality considerations allowed for trusting relationships. Although music teaching may differ from teaching in other disciplines in important ways, this should not negate the possibility that some beginning music teachers might benefit from being matched with a non-music teacher mentor or with two mentors—one from within music and one from without. Furthermore, matching mentors and mentees based on interpersonal dynamics and the mentee's needs may result in greater perceptions of mentoring program effectiveness than are matches based on subject-area compatibility alone (Bartell, 2005; Daresh, 2003; Hobson et al., 2009). Perhaps music education researchers should consider these additional mentor criteria when investigating mentor effectiveness and mentors' impacts on mentees.

Access to varied comprehensive mentoring supports may be more important than being assigned a same-subject area mentor. Perhaps otherwise effective, non-music mentors were perceived by their music mentees as being less effective due to the lack of content-specific conversations. Beginning music teachers may lack the experience or maturity needed to recognize how general (i.e., not necessarily music-specific) pedagogical principles apply to

music teaching and learning. Additionally, mentors who teach in a different discipline than their mentee may require more time to develop rapport and discover shared language with the mentee prior to observing or providing evaluative feedback related to the mentee's content knowledge and instruction. Nevertheless, interacting with and learning from professionals from various content areas is an aspect of inservice teaching that extends beyond the initial years of one's career. For example, all inservice teachers typically receive school-wide professional development experiences, regardless of content area. Perhaps music teacher educators could model and teach preservice teacher how to transfer and apply non-music practices (e.g., theories or content acquired in School/College of Education coursework) to their music instruction. Then, if provided a non-music mentor upon graduation, the mentee may be better prepared to consider and act upon their mentor's feedback as it relates to common, transferable pedagogical practices.

Respondents' Mindsets and the Impacts of Mentoring

Respondents reported that they were more reflective than not, rather efficacious, and strongly committed to teaching music. This raises questions as to whether any differences in reflective practice, teaching efficacy, and professional commitment can be explained or predicted by mentor and mentee variables or by mentoring program variables. Although mentoring programs can promote mentees' reflective practice (LoCasale-Crouch et al., 2012) and increase teaching efficacy (Darling-Hammond, 2003; Wechsler et al., 2010) and professional commitment (Ingersoll & Strong, 2011), these findings were not substantiated in this investigation. I speculate as to potential reasons for this in the paragraphs that follow.

Reflective practice. The importance of teacher reflection has been extensively voiced within the literature. As a result, teacher preparation programs have embedded formal reflection

assignments within preservice coursework since the 1980s (Feiman-Nemser, 1990). Beginning teachers, despite being familiar with and typically ambivalent about reflective practice as they approach the end of their preservice preparations, oftentimes come to recognize the value of reflection and engage in some form of reflective practice during the first years of teaching in an effort to improve their professional practice (Williams & Grundnoff, 2011).

Many current day preservice teacher education programs effectively develop teachers' reflective thinking, a general professional disposition (Feiman-Nemser, 1990), through the use of coursework assignments and by instilling the importance of critical examination of practice. Therefore, it is possible that respondents in this investigation graduated from music teacher education programs that valued and promoted reflective practice. It also is possible that the measurement approach—assessing frequency of reflective practice behaviors through general descriptors (i.e., *Never, Rarely, Sometimes, Often, Always*) rather than discrete time intervals (e.g., daily, a few times of week, weekly), or through self-reports rather than behavioral measures—may result in inflated estimates of reflective practice.

Beginning music teacher respondents who more frequently reflected in-action demonstrated lower levels of professional commitment. These educators indicated that they often spontaneously adjusted their teaching and quite frequently changed instructional strategies to promote student engagement, adapted teaching in response to students, and deviated from the lesson plan in an effort to enhance learning. McLaren (2017) defends this facet of reflective practice by stating “‘Reflection-*in*-action’ is sometimes (wrongly) interpreted as seeking technical fixes through an on-the-spot experiment or restructuring of strategy” (p. 182). Contrastingly, other education writers (e.g., Ariasian & Gullickson, 1994, 2005) have argued that employing such a reactive approach to teaching may limit one's abilities to reflect on-action, or

that reacting (i.e., Reflection-in-Action) in real-time may not allow for learning (Eraut, 1995). Based on my review of the literature, I do not know of an investigation that has found a negative relationship between reflection-in-action and professional commitment. Perhaps the current respondents who reflected more in-action felt less committed to teaching due to an inability to reflect in-action or to learn from their in-action decisions. Alternatively, Reflection-in-Action may make beginning music teachers increasingly aware of the complexity and difficulty underlying school music teaching, leading them to question whether they are committed to a professional career in education. Investigators may wish to solicit the frequency that beginning music teachers create detailed lesson plans, as this may serve as a covariate to reflective practice. Additionally, asking mentees to watch recordings of recent teaching episodes and then prompting them to recall specific instances of Reflection-in-Action may provide a greater understanding of the frequency and nature of this form of reflection.

Teaching efficacy. There is some evidence that participation in comprehensive induction or mentoring programs (Wechsler et al., 2010) with highly effective mentors (Darling-Hammond, 2003) may enhance mentees' teaching efficacy. Because first-year teachers commonly report being less efficacious than they were during student teaching (Woolfolk Hoy & Spero, 2005)—perhaps due to increased responsibility and less direct instructional support—mentoring experiences may be assumed to play a pivotal role in boosting beginning music teacher confidence. I found no evidence, however, of substantive changes in the teaching efficacy of mentees who participated in my investigation.

The lack of growth in teaching efficacy may be attributed to bias. Respondents tended to be efficacious, overall, in that means for all teaching efficacy items exceeded scale midpoints. Other researchers (i.e., Wechsler et al., 2010) have previously found similarly high levels of

teaching efficacy among beginning teachers. Additionally, teachers with 1-3 years of current participation in a school induction program may be highly efficacious, regardless of the comprehensiveness of their supports (Henry, 2016). These findings should be interpreted cautiously, however, as the efficacy beliefs of novice teachers within supportive environments (e.g., mentoring programs, positive workplace conditions) may become inflated (Knobloch, 2006; Wolf, Foster, & Birkenholz, 2008) and disconnected from objective measures of teaching competence. Furthermore, respondents may have been susceptible to a social desirability bias (i.e., wanted to be viewed as being efficacious), as beginning teachers often feel reluctant to ask for assistance (Feiman-Nemser, 2003); as a result, responses to teaching efficacy item may have been exaggerated. Researchers exploring the teaching efficacy beliefs of beginning music teachers may wish to utilize a forced-choice response format to mitigate risks of social desirability (Ashton, Olejnik, Crocker, & McAuliffe, 1982). Lastly, high self-reports of teaching efficacy might also reflect a potential survey response bias. Potential respondents who were less confident about their music teaching may have felt disinclined to respond to the survey invitation. By opting to not participate, these beginning teachers—in conjunction with those who were not contacted due to not belonging to their state MEA or NAFME—may have resulted in less efficacious beginning music teachers being underrepresented in the sample.

Professional commitment. More than two-thirds of respondents indicated that they would remain a music teacher indefinitely (i.e., “As long as I am able,” “Until I am eligible for retirement”). The number of respondents who expressed their desire to leave the profession in the short-term was low (2.4% in Fall 2016, 2.6% in March 2017), especially when compared to a recent analysis of SASS data that indicates between 10% and 17% of beginning teachers leave the profession annually (Gray & Taie, 2015). Although approximately 30% of respondents were

less certain of their commitment, respondents within this sample appear to be more committed than the teacher workforce as a whole. Longitudinal investigations of professional commitment may better illuminate changes in commitment beliefs, especially given that increases in teaching experience and lower perceived administrative support, autonomy, or workplace satisfaction may be associated with lower commitment (Bogler & Somech, 2004; Ebmeier, 2003; Ingersoll, 1997). Additionally, researchers may wish to expand the upper-limit response options to the professional commitment items, as this may diminish the likelihood of any potential ceiling effects or negatively skewed distributions (Riazi, 2016).

Aside from measurement concerns or the possibility that these respondents may truly be committed, two additional sources of bias may have inflated professional commitment scores: professional organization membership (i.e., sampling bias) and self-selection bias. Joining NAFME (and resultantly becoming a member of the state MEA) may reflect a high level of commitment to the profession, and thus introduce bias within the data. Conceivably, beginning teachers who are certain of their career choice may strengthen their teacher identity—and in turn, commitment (Ballantyne, 2005)—by joining a music education professional organization. The second conjectured source of bias, self-selection bias, may be present in that teachers with low levels of professional commitment may have received the survey invitation but elected to not participate. Likewise, respondents with low levels of professional commitment may have consciously decided to not join NAFME or their state MEA. Although such cases were outside the target population, investigators could attempt to survey these teachers by working in combination with state departments/boards of education, school districts, and music teacher preparation programs.

Challenges with Participant Access and Response

In July and August 2016, I recruited state MEA leaders to assist with distributing the Beginning Music Teacher Mentoring Questionnaire, as I believed that these organizations would have a vested interest in determining how existing district-level programs could be enhanced to better serve and retain beginning music teachers within their state. Because I worried that alternative distribution methods (e.g., posting links on a Facebook page) would minimize response rates and encourage bias and nonresponse, I secured MEA leadership support for distributing the questionnaire within eight states. Despite this extensive support-garnering process, a low number of responses in November 2016 resulted in me paying NAFME to distribute the questionnaire and send one follow-up message, as well as joining one state MEA to harvest email addresses from the members-only directory. These efforts increased the number of valid Fall 2016 responses from 71 to 245, but at a price of \$3.07 per valid respondent—excluding the incentives. Although response rates could not be computed, other electronic surveys of beginning teachers have found modest response rates (e.g., 40% in Flanagan, 2006; 48% in Pogodzinski, 2014) that are markedly lower than the 83% Turner (2002) reported after mailing questionnaires to beginning music teachers. Clearly, there are distinct challenges associated with conducting surveys of teachers, and beginning teachers who represent more at-risk profiles may be more reluctant to participate in studies, ironically, because they feel too overwhelmed to carefully consider their circumstances or take the time to respond.

As discussed earlier, it is possible that beginning music teachers who were more efficacious and committed gravitated toward this study, and those with lower levels similarly felt less inclined to participate. That is, highly efficacious or committed members of the beginning music teacher population may be overrepresented, and thus may have introduced bias (i.e., social

desirability) into the sample data. Additionally, beginning music teachers who did not belong to their state MEA (November 2016 sampling window) or to NAFME (December 2016 sampling window) would not have received invitations to participate.

Response rates, nonresponse rates, and the bias that is associated with nonresponse (Fowler, 2014) could not be computed. This stemmed from me not being provided with MEA members' contact information (with the exception of North Carolina). Although I attempted to minimize nonresponse by sending at least one follow-up message and offering cash-based incentives to promote response, I cannot determine how biased the nonresponses may be.

Lastly, because the March 2017 sample size was below 200, I could not use structural equation modeling (SEM) software to specify, estimate, and evaluate the linear relationships between the exogenous and endogenous variables (Kline, 2015; Shah & Goldstein, 2006). Although I created a path model through the use of multiple regression (i.e., path analysis), SEM software would have resulted in greater statistical power, produced diagrams with greater validity and accuracy, and illuminated any potentially nonrecursive relationships between reflective practice, teaching efficacy, and professional commitment (Gay & Airasian, 2003). The proposed path model provides an exploratory approach in illustrating the impacts of mentors and mentoring, but surveying greater numbers of beginning music teachers would allow researchers to corroborate models (though use of SEM) to better illustrate the magnitude and direction of relationships among these variables.

Challenges of Measuring Key Constructs

Following the extensive factor analysis process, internal consistency of March 2017 subscale responses were all above .70, which is above the minimum level of acceptability for measurement and construct validation research (Nunnally & Bernstein, 1994). Although these

researcher-created items (reflective practice) and existing measures (teaching efficacy, professional commitment) demonstrated acceptable reliability, the alpha coefficient for Reflection-on-Action (.71) was marginally acceptable. This may have attenuated the correlations of Reflection-on-Action with other variables, which could explain why this facet of reflection could not predict teaching efficacy.

Simply, reflective practice remains a messy construct to both conceptualize and measure. As a result, a paucity of psychometrically sound measurement instruments presently exist. Using the items created by Akbari and colleagues (2010) and the writings of Schön (1983, 1987), I created 17 reflective practice items. Although the items developed for this investigation show promise, further validation and scale refinement may be necessary. Beyond estimates of internal consistency, researchers should also establish the stability of reflective practice measures through the estimation of test-retest reliability. Additionally, researchers may wish to use a 9-point Likert-type level of agreement scale to allow for greater variability of responses to the reflective practice items, thereby enhancing the reliability of measurement.

Respondents indicated that they often engage in reflection-in- and on-action, but only sometimes reflect toward-action (i.e., referring to professional literature and print resources as a means of adapting future instruction). To better understand the reflective behaviors of beginning music teachers and how mentors promote reflective thinking, researchers may wish to use audio or video recordings. Stimulated recall and push-button methods, which have been utilized within general education investigations (e.g., Crasborn et al., 2010) of cooperating teachers' abilities to promote reflection, could also be considered. A more novel means of measuring reflective practice might consist of researchers creating smartphone or tablet-based apps that can both prompt various facets of reflective practice and collect mentee data at specific junctures

throughout the school year, including prior to, during, and immediately after mentoring sessions. Such apps may allow for text, audio, and video data collection, as well as serve as a means for guiding reflection. Through these efforts, beginning music teachers' specific reflective practices (viz., frequency, behaviors) and the role of mentors in promoting reflection may be more thoroughly understood.

The teaching efficacy factor structure in this investigation deviated from the three-factor solution proposed by Tschannen-Moran and Woolfolk Hoy (2001) and that has been validated in other general education studies utilizing preservice and beginning teacher samples (Fives & Buehl, 2010; Nie, Lau, & Liao, 2010). Unexpectedly, item responses within the purported classroom management and student engagement factors were similar and intercorrelated enough to form one factor (i.e., Classroom Management and Engagement). Perhaps these beginning music teacher respondents believe that an engaged classroom is one that is more on task, which in turn minimizes classroom management issues. Music student teachers interviewed and observed by Pellegrino (2015) believed that greater teacher excitement resulted in stronger student engagement, which in turn served as a management strategy. As Schlechty (2011) cautions, however, "it is easy for the teacher and outside observers to confuse the well-managed classroom with the highly-engaged classroom" (pp. 32–33), as students can be compliant without being engaged as learners. Further investigations designed to validate the TSES with beginning music teacher populations—specifically those teachers currently in mentoring programs—are needed, especially to determine if teaching efficacy beliefs of beginning music teachers reflect unique or complex conceptual dimensions that truly differ from those underlying the factor structure of the TSES. Additionally, utilizing a study design with longer data collection periods could provide greater clarity in construct measurement by increasing data variability.

Lastly, factor analysis on responses to mentor functions, attributes, and support practices items proved problematic in both data collection phases. Four items were cross-loaded, the result of these items being strongly and significantly intercorrelated. This may imply that certain pedagogical practices are indistinguishable from mentors' interpersonal approaches. For example, mentees may have associated certain interpersonal attributes (e.g., empathy, careful listening) with more effective classroom management mentoring (i.e., a pedagogical practice). Despite these cross-loadings—which prevented me from using these mentor-specific variables within multivariate and path analyses—the factor analysis provided some conceptual clarity. Five items addressing mentors' interpersonal attributes and psychological support, as well as three items that address content knowledge and instructional support, were empirically justified as separate facets of mentoring support. This nascent measure of mentor functions, attributes, and support practices shows promise. Researchers may wish to elicit the assistance of expert evaluators to assess content validity and to refine items as necessary. The creation of additional items and the use of alternative response formats may help to further validate the measure, given that mentors' pedagogical practices and interpersonal attributes should be distinguishable.

Implications for Beginning Music Teacher Mentoring

Findings from this investigation have implications for numerous audiences. Policymakers, district- and school-level administrators, state music education association leaders, school-assigned mentors, and music teacher educators all play important roles in determining whether beginning music teachers have access to quality and impactful mentoring experiences.

Suggestions for policymakers.

- Develop and implement mentoring and induction policies that mandate rigorous mentor selection criteria as well as initial and sustained mentor training.

- Require that school mentoring programs provide sufficient and protected time for beginning teacher development, including weekly meetings, pre- and post-observation meetings, and opportunities to observe the mentor and/or other experienced teachers.
- Once comprehensive mentoring and induction program standards are drafted, hold schools accountable regarding ongoing program development and evaluation.
- Allocate state funding and require that local-level funds are dedicated to mentoring and induction programs.

Suggestions for district- and school-level administrators.

- Provide initial and ongoing mentor training that focuses on both requisite interpersonal attributes and pedagogical practices that foster mentee growth.
- Ensure adequate time is provided for protected, weekly mentor-mentee meetings.
- Facilitate mentor-mentee interactions within the existing building schedule. If necessary, provide reduced teaching loads to mentees to allow for pre- and post-observation meetings, observations of other teachers, and collaborative planning time.
- If mentors are full-time teachers, provide reduced teaching responsibilities to allow for frequent mentor-mentee interactions.
- Require that mentoring supports extend beyond the first inservice year.
- Annually survey and/or interview mentees, mentors, and building-level administrators to determine program effectiveness and impacts on mentees.

Suggestions for music education association leadership.

- Provide adequate training for mentors within MEA programs, including retired music mentors who may be disconnected from current education realities or lack familiarity with contemporary mentoring approaches.
- Ensure that MEA mentors provide support that extends beyond providing dates for festivals, discussing honor band logistics, and “how-to” topics. Instead, provide training that allows mentors to provide mentees with instructional and psychological support, as well as strategies for fostering beginning teachers’ long-term development.
- Continue to promote existing MEA mentoring programs. In states without such programs, work with music teacher educators, inservice educators, and MEA leadership from other states to design and implement such programs.
- Appropriate and continue to fund a dedicated line item for MEA mentor programs. Such funding should extend beyond mentor stipends.
- Partner with music teacher educators to regularly evaluate and refine MEA mentoring programs.
- Collaborate with music teacher preparation programs, state activities associations, state principal organizations, and state boards/departments of education to identify new music teacher hires within districts, then contact and encourage these teachers to participate in the MEA mentoring program.

Suggestions for school-assigned mentors.

- Request initial and on-going mentor training or other mentoring-related professional development. If no such experiences exist, request funding to attend mentoring conferences, purchase mentoring texts, or ask to meet with other mentoring officials in other districts.
- Work with school administrators and mentoring and induction program leadership to ensure that observations of the mentee are possible.
- Move beyond the “tell them what I know” method of mentoring to one that promotes reflection and inquiry.
- Provide mentees with both instructional and psychological (emotional) supports.

Suggestions for music teacher preparation programs and music teacher educators.

- Educate preservice teachers about MEA mentoring programs within their state.
- In states that do not provide MEA mentoring programs, advocate their importance to MEA leadership and collaborate with these organizations to develop such supports.

Recommendations for Future Research

Although study respondents did not demonstrate significantly different rates of change for reflective practice, teaching efficacy, or professional commitment in relation to perceived mentor effectiveness or mentor content area, several study findings have provided valuable insights as to the mentoring experiences of beginning music teachers. Recommendations for future research are organized according to potential theoretical and methodological advances.

Theoretical concerns. I used the previously-validated short form (i.e., 12 items) of the TSES to measure the teaching efficacy beliefs of beginning music teachers. An unanticipated finding was the two-factor solution that deviated from previous investigations in both music and mainstream education. In addition to utilizing longer data collection periods (and thereby increasing data variability), researchers should further explore the teaching efficacy beliefs of beginning music teachers to determine whether efficacy beliefs regarding classroom management and student engagement constitute one factor or two distinct factors. To accomplish this, music education researchers may consider using the long form (i.e., 24 items) of the TSES.

Perhaps surprisingly, Reflection-in-Action was the only facet of reflective practice that predicted teaching efficacy (i.e., Classroom Management and Engagement, Instructional Strategies). Because I used multiple regression techniques during path analysis, I could not account for potential nonrecursive paths among the three reflective practice factors or between reflective practice and teaching efficacy. Music education researchers should first further validate and refine the reflective practice items developed for this investigation. Then, replicating the present study and eliciting larger sample sizes will allow researchers to use SEM software, which in turn may provide a more nuanced understanding of the various recursive and nonrecursive relationships among these constructs. Upon refinement, future researchers may be able to utilize the mentor functions, attributes, and support practices items, as well as items pertaining to mentoring and induction program comprehensiveness, in future causal modeling investigations.

Methodological concerns. Longitudinal studies that utilize a data collection period extending beyond 4 months should be conducted to determine if the impacts of mentoring

experiences only materialize as mentees participate in mentoring programs for longer periods. This investigation lasted from early December 2016 through early March 2017, but a 3-week holiday break occurred in the middle. Perhaps this relatively short data collection length and break within the data collection process, when compounded by a lack of comprehensive mentoring experiences, diminished the emergence of any potential gains. Conversely, surveying beginning music teachers at the commencement of their first inservice year may provide researchers with baseline measures of reflective practice, teaching efficacy, and professional commitment. Such initial measures may also provide a more comprehensive understanding of how beginning music teachers' abilities to reflect deeply on their professional practice, leverage efficacious beliefs into more effective instruction and greater student learning, and develop dispositions toward professional development and commitment may change over time. Furthermore, such an approach may illustrate how mentoring experiences may either impede or facilitate change. Lastly, direct measures of beginning teachers' classroom performance and longitudinal measures of student achievement—two points of research intentionally delimited from this investigation—may more fully describe the impacts of mentoring and reflective practice on mentees and, subsequently, upon their students.

Replication and extension studies that measure mentees' professional commitment and planned career intentions (i.e., planned retention, migration, attrition) may illuminate the effects of mentoring programs on teacher turnover. Although mentoring should assist beginning teachers in their initial inservice efforts, its potential to mitigate teacher attrition should be investigated within longitudinal studies. Researchers should also explore additional salient factors (e.g., motivation, satisfaction with colleagues, satisfaction with salary, perceived support)

and how these variables, when coupled with quality of and access to mentoring supports, influence teachers' career choice decisions.

Mentors were not surveyed in this investigation. Researchers should utilize novel data collection methods (e.g., stimulated recall, push-button techniques, smartphone apps) to determine how mentors promote reflective practice among mentees. Additionally, experimental designs that explore the effects of mentor training on instructional, psychological, and role modeling supports (as perceived by mentees) also seem needed, as are efforts that determine the impact of mentor training on mentees' reflection, efficacy, and commitment. In order to more fully understanding the benefits of school mentoring efforts, perhaps music education researchers should investigate how mentoring training, regardless of mentor content area, can impact beginning music teachers.

Conclusion

Beginning music teachers surveyed in this investigation did not demonstrate substantive growth in reflective practice, teaching efficacy, or professional commitment over a 4-month period, and any such change was not directly attributable to differences in perceived mentor effectiveness or having a music specialist mentor. This lack of growth may be attributed to high initial levels of reflection, efficacy, and commitment, or to less comprehensive mentoring programs. Mentoring and induction programs that provide for regular meetings, mutual observations, and formal and detailed teaching evaluations over multiple years, as well as mentors who are skilled in serving as professional role models and providing support that addresses instructional needs and pedagogical growth in addition to psychological support, will benefit beginning music teachers, regardless of how reflective, efficacious, or committed they may be.

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Appendix A

First Recruitment Email to State MEA Presidents

Dear FIRSTNAME:

My name is Bryan Koerner, and I am a doctoral candidate in music education at the University of Colorado. I am writing today to ask for your support and assistance in completing my dissertation project on beginning music teacher mentoring.

As you are aware, beginning music teachers (teachers in their first, second, or third year) have many needs and face numerous challenges, some of which are music-specific. Fortunately, mentoring experiences can aid beginning music teachers' confidence, instructional practices, and psychological well-being.

Given your role as STATE's MEA president, would you please provide me with some information? For my dissertation project, I have developed a short, online questionnaire to learn how beginning music teachers benefit from mentoring. I very much would appreciate your help in contacting music teachers in years 2 or 3 of their careers within STATE; I would need contact information by September 15, 2016.

If you are willing to help, please choose which option you prefer:

1. You provide me with *email addresses for all MEA members*. I would then send the survey link to all members and "filter" out responses to only include teachers in years 2 and 3. (The information you provide will remain confidential and secure and will only be used for my dissertation study.)
2. You *contact your state MEA mentoring chair* to acquire contact information for recent participants (i.e., music teachers in years 2 and 3 of their career) and provide this information to me. (The same confidentiality, security, and use provisions apply.)
3. You *distribute an email survey link* to your membership (via listserv, email directory, etc.) on my behalf in both October 2016 and February 2017.

Please respond to this email at your convenience to indicate that you are willing to support research related to beginning music teachers in STATE or should you have any questions. I would be more than happy to share my findings with your organization!

Thank you!

Sincerely,

Bryan Koerner
 Ph.D. Candidate in Music Education
 University of Colorado at Boulder
bryan.koerner@colorado.edu

Project Advisor
 Dr. James R. Austin
 Associate Dean for Undergraduate Studies
 Professor of Music Education
 Editor, *Journal of Music Teacher Education*
 University of Colorado at Boulder
james.austin@colorado.edu

Appendix B

Prenotification, Main Survey Invitation, and Follow-Up Messages (November 2016 version)

Prenotification Message**Send Date:** Friday, November 4**Subject Line:** Music Education Mentoring: A Survey of Your Experiences

Dear Iowa Music Educator:

In a few days, you will be asked to complete the Beginning Music Teacher Mentoring Questionnaire. This survey is part of my music education dissertation project on the impacts of mentoring programs.

Kris VerSteegt, your state music education association's president, has agreed to distribute this message to all of Iowa's MEA membership in the hopes of reaching music teachers in years 1, 2, 3, and 4 of their careers. **If you are a music teacher in years 1-4, you will be asked to please complete the forthcoming online questionnaire. *If you are not a teacher in years 1-4 but you know of a beginning music teacher, I kindly ask that you forward them this invitation and the forthcoming email!*** This questionnaire will only take between 7-9 minutes to complete, and your responses will remain confidential. It is important to answer honestly, as your responses will inform our profession about the specific benefits of mentoring programs.

Additionally, 100 survey respondents that elect to complete both the November 2016 and March 2017 versions of the survey will be eligible for a 5 USD Starbucks gift card, and one survey respondent that completes both survey administrations will receive a 50 USD Visa gift card.

If you have any questions, please feel free to contact me at bryan.koerner@colorado.edu or at (573) 999-2212. Thank you in advance for your information on this important project!

Sincerely,

Bryan Koerner
Ph.D. Candidate in Music Education
University of Colorado Boulder
bryan.koerner@colorado.edu
(573) 999-2212

Main Survey Invitation**Send Date:** Monday, November 7**Subject Line:** Your Mentoring Experiences: A Short Survey

Dear Iowa Music Educator:

As you are aware, beginning public school music teachers have many needs and face numerous challenges, some of which are music-specific. These challenges and needs can include classroom management, lack of sufficient resources, itinerant teaching schedules, and isolation. Fortunately, mentoring experiences may reduce these challenges. The purpose of my dissertation survey project is to investigate the role of mentoring programs in promoting the professional growth of beginning music teachers.

You have been contacted because Kris VerSteegt, your state music education association's president, has agreed to distribute this message to all of Iowa's MEA membership in the hopes of reaching music teachers in years 1, 2, 3, and 4 of their careers. **If you are a music teacher in years 1-4, you are asked to please complete this online survey questionnaire. If you are not a teacher in years 1-4 but you know of a beginning music teacher, I kindly ask that you forward them this message.** As a study participant, you are asked to complete the enclosed link to the *Beginning Music Teacher Mentoring Questionnaire*. Completing this questionnaire should only require 7-9 minutes of your time. The greater the number of responses, the greater confidence our profession will gain about the specific benefits of mentoring programs. The survey questionnaire can be accessed by clicking the link below (depending on your email client, you may need to "copy and paste" the link into your browser):

https://cuboulder.qualtrics.com/SE/?SID=SV_dg7WC5LC3t148Cx

Participation is entirely voluntary, and you have the right to refuse to answer questionnaire items without consequence. Your confidentiality will be maintained, as all information that is collected will be safeguarded through the use of password-secured storage mediums that utilize a two-step verification process. Additionally, 100 survey respondents that complete both the November 2016 and March 2017 versions of the survey and provide their email address will be eligible for a 5 USD Starbucks gift card, and one survey respondent that completes both survey administrations will receive a 50 USD Visa gift card.

Please complete the enclosed survey questionnaire by Friday, November 18, 2016. Should you have any questions, please contact me at bryan.koerner@colorado.edu or at (573) 999-2212. Thank you in advance for taking the time to complete this survey on this important topic!

Sincerely,

Bryan Koerner
 Ph.D. Candidate in Music Education
 University of Colorado Boulder
bryan.koerner@colorado.edu
 (573) 999-2212

Follow-Up Message**Send Date:** Monday, November 14**Subject Line:** Music Mentoring: Please Share Your Experiences

Dear Iowa Music Educator:

Last week, you were invited to participate in my dissertation survey on the impacts of mentoring programs on beginning music teachers. If you have already completed the questionnaire, thank you very much! **If not, please complete the survey link which is provided below.** Depending on your email client, you may need to “copy and paste” the link into your browser.

https://cuboulder.qualtrics.com/SE/?SID=SV_dg7WC5LC3t148Cx

Additionally, 100 survey respondents that complete both the November 2016 and March 2017 versions of the survey and provide their email address will be eligible for a 5 USD Starbucks gift card, and one survey respondent that completes both survey administrations will receive a 50 USD Visa gift card. **Please complete the enclosed survey questionnaire by Friday, November 18, 2016.**

Thank you in advance for sharing your experiences on this important topic.

Sincerely,

Bryan Koerner
Ph.D. Candidate in Music Education
University of Colorado Boulder
bryan.koerner@colorado.edu

Appendix C

Beginning Music Teacher Mentoring Questionnaire

Section 1—Career Status; Mentoring Access and Experiences (Comprehensiveness)

Including the 2016-17 school year, how many total years of full-time K-12 music teaching experience do you have?

- 1 Year
- 2 Years
- 3 Years
- 4 Years
- 5-19 Years
- 20 or More Years
- I currently do not teach in a school (retired, graduate student, college faculty, etc.)
If “5-19,” “20 or More Years,” or “I currently do not teach in a school” are selected, then skip to end of survey

Do you currently participate in a school mentoring program?

Yes No (If “No” is selected, past-tense item phrasings are displayed.)

This section is designed to measure your experiences with mentoring programs. Throughout this survey, a “mentor” refers to an experienced, school-assigned teacher or full-time mentor who currently provides you with formal support.

Which best describes how you are evaluated as a beginning teacher?

- My mentor only informally evaluates my teaching practices (1)
- My mentor formally evaluates my teaching practices using evidence (observations and/or student work) (2)
- My mentor formally evaluates my teaching practices using professional teaching standards AND evidence (observations and student work) (3)
- My mentor never evaluates me (0)

How many times has your mentor formally observed you while teaching? (Please type your response as a number.) If your mentor is someone you co-teach or share a room with, please only indicate formal observations.

Which best describes the feedback your mentor provides you after observations?

- I receive informal feedback after observation(s) (1)
- I receive formal feedback after observation(s) (2)
- I receive formal feedback after observation(s) as part of a structured meeting with my mentor. (3)
- I never receive feedback after observation(s) (0)

How many times have you observed your mentor teaching in their classroom? (Please type your response as a number.) If your mentor is a full-time mentor (i.e., not a teacher), please type "N/A."

How many times have you observed experienced teachers (not your mentor) in their classrooms? (Please type your response as a number.)

How often do you formally meet with your school-assigned mentor?

- A few times a year (1)
- Once or twice a month (2)
- At least once a week (3)
- I never formally met with my mentor (0)

What is the average length of formal meetings with your mentor? (Please type the number of minutes.)

Do you have a reduced teaching load (e.g., fewer number of "preps") since you participate in your school mentoring program?

- Yes (1)
- No (2)
- I do not participate in a school mentoring program. (0)

Which best describes your professional development experiences?

- Meetings / workshops are for all teachers (1)
- Meetings / workshops are specifically for beginning teachers (2)
- Meetings / workshops are specifically for beginning teachers AND focus on my expressed needs (3)
- I do not participate in professional development experiences (0)

How long are you required to participate in your school-required mentoring program?

- One year (1)
- Two years (2)
- Three years (3)
- I don't know (0)

Which best describes your school-assigned mentor teacher's subject area?

- Unrelated subject area (e.g., math) (1)
- Related subject area (e.g., art) (2)
- Same subject area (i.e., music) (3)
- I do not have a school-assigned mentor. (0)

Section 2—Mentee Perceptions of Mentor Functions and Attributes, Mentor Effectiveness

1 = Strongly Disagree 2 = Disagree 3 = Somewhat Disagree 4 = Somewhat Agree 5 = Agree 6 = Strongly Agree

My mentor positively influences my teaching abilities.

My mentor helps me to better engage my students while teaching.

My mentor aides me with my classroom management practices.

My mentor possesses thorough music content knowledge.

My mentor is supportive.

My mentor has established a trusting relationship with me.

My mentor is an effective listener.

My mentor demonstrates empathy.

Mentor Roles

Mentors typically demonstrate three distinct roles. Please indicate how frequently your school-assigned mentor demonstrates each of these roles:

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5 = Always

My mentor provides me with **Instructional Support** (e.g., my mentor shared resources with me, helped me to reflect on my planning and instruction)

My mentor provides me with **Psychological Support** (e.g., my mentor gave me personal and/or emotional support, was reassuring, demonstrated empathy)

My mentor is a **Role Model** (e.g., my mentor demonstrates teaching techniques, shares wisdom, models professional activities)

Please provide a rating of your mentor's overall effectiveness, from 1 (Not Effective) to 10 (Extremely Effective).

1 2 3 4 5 6 7 8 9 10

Section 3—Music Teaching Efficacy

This section describes various music teaching tasks. Please read each statement and then click the response option that reflects your opinion about how confident you are in being able to accomplish each music teaching task.

1 = Strongly Disagree 2 = Disagree 3 = Somewhat Disagree 4 = Somewhat Agree 5 = Agree 6 = Strongly Agree

Item

- I can get students to believe they can do well in music
- I can use varied assessment strategies to determine what students know and can do
- I can implement alternative strategies when progress is slow
- I can motivate students who show less interest in music
- I can control disruptive behavior in the classroom
- I can craft good questions that stimulate critical thinking
- I can assist families in helping their children to do well in music
- I can get students to follow classroom rules
- I can calm a student who is disruptive or noisy
- I can provide alternative explanations or examples when students are confused
- I can help students to value music learning
- I can establish an effective classroom management system

Section 4—Professional Commitment

I plan on remaining a music teacher (check one):

- 1 = Definitely plan to leave teaching as soon as I can
- 2 = Will probably continue unless something better comes along
- 3 = Undecided at this time
- 4 = Until I am eligible for retirement
- 5 = As long as I am able

If you could go back to your college days and start over again, would you still become a music teacher?

- 1 = Certainly would not
- 2 = Very unlikely
- 3 = Unlikely
- 4 = 50/50
- 5 = Likely
- 6 = Very likely
- 7 = Certainly would

I would leave music teaching for another profession if I could. (-)

- 6 = Strongly Disagree
- 5 = Disagree
- 4 = Somewhat Disagree
- 3 = Somewhat Agree
- 2 = Agree
- 1 = Strongly Agree

Note: I have reverse coded the response options to this negatively phrased item.

This job gives me professional satisfaction.

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Somewhat Disagree
- 4 = Somewhat Agree
- 5 = Agree
- 6 = Strongly Agree

Please estimate how many years you will remain a music teacher. (Please type a number.)

Section 5 – Reflective Practice

The following section is designed to measure your approach to reflective teaching. For each item, please select the frequency (Never, Rarely, Sometimes, Often, Always).

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5 = Always

While in the act of teaching, how frequently do you...

- ...deviate from the lesson plan to enhance student learning?
- ...spontaneously adjust your teaching to address unexpected learning problems?
- ...change instructional strategies to engage more students?
- ...experiment with different teaching approaches to assist a struggling student?
- ...adapt your teaching in response to student learning styles and preferences?

How frequently do you engage in the following reflective activities after teaching?

- I think about inconsistencies that occur within my teaching.
- I consider classroom events to be problem-solving opportunities.
- I draw on information learned at workshops or conferences in my planning of lessons.
- I contemplate how my background affects my teaching.
- I review professional literature when confronting teaching challenges.
- I account for student abilities and interests when designing learning activities.
- I consider teacher role models in trying to improve my teaching.
- I consult books or articles on effective teaching when trying to adapt my instructional approach.
- I consider student feedback when assessing my own teaching effectiveness.
- I try to identify and address my weaknesses as a teacher.
- I talk about classroom experiences with colleagues in order to improve my teaching.
- I use notes and other documents to reflect on my teaching.

Section 6—Demographic Information

Please describe your background and current teaching position.

My sex at birth:

Male Female I prefer not to answer

I currently identify my gender as:

Man Woman A gender not listed here (please provide, if willing) I prefer not to answer

Race / Ethnicity

White Black or African American Asian American
 American Indian or Native Alaskan Hawaiian or Pacific Islander Hispanic or Latino
 Other _____

Marital Status (from the National Conference of State Legislatures)

Single Married Civil Union Domestic Partnership Divorced or Separated

Age (please type): _____

Education (highest degree awarded):

Associates Bachelors Masters Doctorate

Grade Levels Currently Taught (select all that apply):

K-5 6-8 9-12

Primary Special Area Currently Taught (select your primary teaching area):

General Music / Non-Performance Classes Choir Band Orchestra

School Setting for Current Teaching Position (select one):

Rural / Small Town School Suburban / City School Urban / Large City School

School Type for Current Teaching Position (select one):

Public Charter Private / Parochial

Status of Current Teaching Position (select one):

Full Time Part Time (_____ % of full-time equivalent)

School District Size

Please estimate how many total students your school district currently serves:

- 50,000+ (1)
- 25,000 – 49,999 (2)
- 10,000 – 24,999 (3)
- 5,000 – 9,999 (5)
- 1,000 – 4,999 (6)
- 500 – 999 (7)

State you Currently Teach in (select one):

CA CO IA ME MA NM NC OK PA RI Other (please state):

Do you currently participate in your state music education association's (MEA) optional music mentoring program?

Yes No If no is selected, then skip to "Did you once participate..."

How many years have you participated in your state's MEA mentoring program?

One year Two years Three years Four years

Did you once participate in your state music education association's (MEA) mentoring program?

Yes No If yes is selected, then skip to "How many years did you..."

How many years did you participate in your state MEA mentoring program?

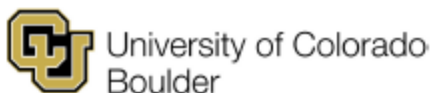
One year Two years Three years Four years

Email Address

One hundred survey respondents that complete this survey and the March 2017 survey will be eligible for a \$5 Starbucks gift card, and one survey respondent that completes both surveys will receive a \$50 Visa gift card. Please provide your email address so that I can directly contact you in early March 2017. If you are randomly selected as a gift card recipient, you will be notified via this provided email address. Thank you!

Appendix D

Institutional Review Board Documentation



University of Colorado
Boulder

Institutional Review Board
563 UCB
Boulder, CO 80309
Phone: 303.735.3702
Fax: 303.735.5185
FWA: 00003492

APPROVAL

05-Dec-2016

Dear Bryan Koerner,

On 05-Dec-2016 the IRB reviewed the following protocol:

Type of Submission:	Amendment
Review Category:	Exempt
Title:	Beginning music teacher mentoring: Impact on reflective practice, teaching efficacy, and professional commitment
Investigator:	Koerner, Bryan
Protocol #:	16-0680
Funding:	None
Documents Approved:	16-0680 Protocol (5Dec16); 16-0680 Consent Form (5Dec16);
Documents Reviewed:	HRP-213: FORM - Amendment;
Description:	- Inclusion of additional research locations.

The IRB approved the protocol on 25-Oct-2016.

Click the link to find the approved documents for this protocol: [Summary Page](#) Use copies of these documents to conduct your research.

In conducting this protocol you must follow the requirements listed in the [INVESTIGATOR MANUAL \(HRP-103\)](#).

Sincerely,
Douglas Grafel
IRB Admin Review Coordinator
Institutional Review Board

Title of research study: Beginning music teacher mentoring: Impact on reflective practice, teaching efficacy, and professional commitment

Investigator: Bryan Koerner, PhD Candidate in Music Education at the University of Colorado

Why am I being invited to take part in a research study?

The purpose of this study is to investigate the role of mentoring programs in promoting the growth of beginning music teachers' reflective practice, teaching efficacy, and professional commitment. Additionally, the comprehensiveness of mentoring experiences and the perceived effectiveness of beginning music teachers' district-assigned mentors will be explored. **You are invited to take part in a research study because you are a first-, second-, third-, or fourth-year music teacher** in California, Colorado, Iowa, Maine, Massachusetts, New Mexico, North Carolina, Oklahoma, Pennsylvania, or Rhode Island.

Why is this research being done?

This dissertation project is being conducted to investigate the role of district-required mentoring programs in promoting the growth of beginning music teachers' reflective practice, teaching efficacy, and professional commitment. Research regarding your district-required mentoring experiences may help generate policy recommendations and practices in states without mentoring programs.

How long will the research last?

Your participation in this study will consist of taking two online surveys. Your involvement will take approximately 13-17 total minutes (7-9 minutes for a Fall 2016 survey, 6-8 minutes for a follow-up survey in March 2017).

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

Your participation in my dissertation project will consist of responding to a series of questions (via the online survey tool Qualtrics) pertaining to your experiences within your district-required mentoring program and your level of agreement with a few teaching-related statements. You will be asked to complete two short surveys: one in November 2016 (7-9 minutes) and one in March 2016 (6-8 minutes). All information you provide will remain confidential. It is my hope that the findings—based on your responses—will benefit the states that presently do not offer mentoring programs for beginning teachers.

What happens if I do not want to be in this research? Or if I say yes and later change my mind?

You can leave the research at any time it will not be held against you. However, 100 participants that complete both surveys (one in November, one in March) will be eligible to receive a \$5 Starbucks gift card, and one participant will receive a \$50 Visa gift card.

Are there any risks and/or benefits?

All research involves risk. The most likely risk from participation in this study, although minimal, is the accidental release of confidential information you provide. I will safeguard against this by using online storage mediums that require two separate passwords before access is granted.

Results from this multi-state, multi-region investigation may provide important recommendations for mentoring program policies and practices. You also may benefit by reflecting on your mentoring experiences.

What happens to the information collected for the research?

Confidentiality will be protected throughout this study. Information collected by the investigator will be securely stored, with additional safeguards including the use of password-secured cloud-based storage mediums (Google Drive, which uses two-step verification) and university computer systems for protecting all electronic items. Excel spreadsheets and SPSS files will be used to manage responses after data collection has ceased; these files will be encrypted prior to being uploaded to Google Drive. Only I will have access to this data.

Can I be removed from the research without my OK?

While unanticipated, you may be removed from the study without your approval.

Who can I talk to?

If you have questions, concerns, or complaints about this dissertation project, you can contact the researcher, Bryan Koerner, at bryan.koerner@colorado.edu or (573) 999-2212. This research has been reviewed and approved by the CU Boulder Institutional Review Board ("IRB"). You may contact them at (303) 735-3702 or irbadmin@colorado.edu if your questions, concerns, or complaints are not adequately answered by the researcher.

Giving your Consent

I have read (or someone has read to me) this form. I am aware that I am being asked to be in a research study. I have had a chance to ask all the questions I have at this time. I had had my questions answered in a way that is clear. I voluntarily agree to be in this study. I am not giving up any legal rights by agreeing to this form. I may print this page if I wish to keep a copy of this form.

If you wish to continue and participate in this research, click the "**Yes**" button below to consent and begin the survey.

Do you agree to participate?

Yes

No (if "Yes" is not selected, skip to end of survey)