New Teacher Learning in a Digital Mentoring Environment: Voices of the Mentors

by

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DEDICATION

My journey from coursework to this dissertation will always be associated with one of the final conversations I had with my father before he passed away in April of 2014. Paul Vaughan was a medical doctor dedicated to education as well as his children's dreams. In one of my final phone calls with him, we discussed the idea of me pursuing a Ph.D. in Music Education. We dialogued about the impact that a single teacher educator can have on the profession. During this chat he described one of his own professors from medical school. This particular professor provided him with the tools and strategies to enact medical procedures necessary to save lives. This professor helped many through teaching. This dissertation embodies much about how I envision my contribution to the field of music education. In short, the work of mentoring is supporting educators from a role as a teacher educator; all with the goal of helping others. This dissertation is dedicated to my parents, but this conversations with me father in particular. Thank you, mom and dad, for helping me continue my work in teacher education.

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There are several educators, colleagues, friends, and family that I would like to thank for making this project possible. To begin, thank you to the inspirational new teachers and my co-mentor who participated in this study and whom I connected with. I hope this study can help guide digital new teacher mentoring program design and extend mentoring beyond emotional support to a form of teacher education. This study, along with my past research and experiences mentoring in digital environments over the last four years guided the vision of this study. I hope this project offers something to new music teachers that simply wasn't available to me at that point in my career.

Thank you to my dissertation committee for taking the time to read this dissertation. Thank you, Dr. Kate Fitzpatrick, for your patience and willingness to read my work at various levels of completion. Dr. Allison Ryan, thank you for introducing me to so many seminal authors within educational psychology that guided my thoughts about teacher education outside of new teacher mentoring. Dr. Julie Skadsem, thank you for your advice through my coursework. Your collective support during my journey as a researcher, writer, and music teacher educator has been invaluable.

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I would like to finish this acknowledgement with a note to my children, Everett and Connor, as well as my mother. Everett, you have sat with "mommy" while I typed on my computer in the living room, on the porch, on the playground, and in the coffee shops. Your enthusiasm for everything makes me want to keep going and you make me a better educator and mentor. I was 32-weeks pregnant when I completed my dissertation proposal. Now, I am the lucky mom of two beautiful boys. Connor, you spent many days in your room napping while I transcribed and worked on this project. You bring joy and laughter into our world and taught me that everything will get done when it needs to. Lastly, thank you mom. Thank you for encouraging me on this journey and everything in between. Thank you for reading every paper since elementary school through to now, flying and driving to Ann Arbor and San José to babysit or just visit. Thank you for taking Everett to sleepovers so I could finish work or rest. You made this project possible.

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ABSTRACT

The purpose of this study was to describe mentor perceptions of mentee learning in the digital mentoring environment. Research questions included: (a) How do mentors describe their experiences within the digital environment?; (b) How do mentors describe changes in mentee teaching practice as evidence of mentee learning?; and (c) How do mentors describe the emergence of their mentoring practices in response to the learning of each mentee?

This multiple case study examined two cases each with one mentor and two mentees working together during the 2017-18 school year in a digital mentoring environment. The two cases were bound by the mentor communications, experiences, and interactions with their mentees during this school year. Andragogy was used as the theoretical framework to guide portions of the investigation and data analysis to feature mentee learning (Knowles, 1984; Knowles, Holton, & Swanson, 2005). My rich background as a new teacher mentor working in digital mentoring prior to this study provided me with a unique opportunity to intentionally include myself, in conjunction with a second mentor participant, to self-study our experiences (Bullough & Pinnegar, 2001; Loughran, 2007a). This was enacted through journaling, verbal reflections, and discussions to systematically reflect on our experiences and unique perspectives as mentors in this study (Kleinsasser, 2000; Samaras, 2019). Data for this study was categorized into seven typologies: mentoring meetings, mentor debrief meetings, digital written communication, journals, reflexive meetings, interviews, focus group, and additional supplemental artifacts.

Findings for this study were organized into four main threads describing: (a) the digital mentoring environment, (b) mentoring approaches, (c) mentor's perceptions of their mentee's learning, and (d) mentors adjusting mentoring approaches to mentee's needs. Benefits and challenges of mentoring within the digital environment of the study, along with key findings associated with the research questions and theoretical framework, are presented. Advantages of the digital space were noted in terms of how this environment allowed for flexible meeting times and ease in sharing materials during meetings. The themes associated with these ideas were: (a) flexible check-ins with mentees, (b) sharing of materials, and (c) flexibility of meeting times. Challenges encountered while mentoring in the digital environment helped illuminate how mentor participants modified their approaches through: (a) establishing contingency plans, (b) responding to unintentionally delayed responses, (c) access to a fuller story: critical context of teaching footage, and (d) mentee responsibility in mentoring and mutual planning.

Mentoring strategies and approaches enacted in response to observations of mentee learning included: (a) intentional redirection, (b) elaborating and expanding ideas, (c) presenting rationale, (d) mentoring through story, and (e) prioritizing curriculum. Mentors changed and adapted their mentoring approaches based on how they noted evidence of mentee learning. Changes to mentoring practices were noted based on: (a) flexible preparation, (b) mentors second-guessing themselves, and (c) mentors seeking support. Mentee learning was described by mentors in terms of: (a) evidence of mentee learning: what they do and say matters and (b) differentiated mentoring. Implications for future digital mentor program design and recommendations for future research are also presented.

CHAPTER I

Introduction

Supporting new teachers through induction and mentoring has been a part of the scholarly dialogue of general education for over 60 years (Achinstein & Athanases, 2006; Fuller, 1969; Fuller & Bown, 1975; Moir, Barlin, Gless, & Miles, 2009; Strong, 2006; Wang & Fulton, 2012; Wang, Odell, & Clift, 2010). Researchers in this field discussed topics such as: how new teacher support may mitigate early career attrition, how this support can combat new teacher isolation, and how cycles of stress impact new teachers through a school year (Fuller, 1969; Fuller & Bown, 1975; Pitton, 2006; Ryan, 1974; Veenman, 1984; Villani, 2002). Socializing new teachers into the profession was an additional feature of mentoring and promoted through a combination of individualized and group-based support (Achinstein & Athanases, 2006; Ingersoll & Smith, 2003; Smith & Ingersoll, 2004). In general, mentoring and induction programs are often intended to help mitigate the challenges faced by new teachers by pairing them with a veteran educator known as a mentor. Scholars have described that mentors may help mentees address the following challenges through these programs: meeting the varies needs and abilities of all learners in a new teacher's classrooms, lesson planning, curriculum development, assessment, and classroom management (Daresh, 2003; Pitton, 2006; Portner, 1998; Villani, 2002). Generally, these areas of support teetered between focusing on guiding new teachers towards refining their work while also helping them navigate their work environment and other

stressful aspects of entering the profession (Achinstein, 2006; Feiman-Nemser, 2001. 2012; Smith & Ingersoll, 2004; Strong, 2009).

While not consistently offered on a national level, some new teacher induction programs provided content-specific support to address these varied needs (Achinstein & Athanases, 2006). Despite some exemplar programs emphasizing content-specific support (Shore & Stokes, 2006), state-wide new teacher induction and mentoring programs continued to prioritize pairing new teachers with an on-site veteran educator as these individuals typical have a rich knowledge of district and community needs (Goldrick, 2016). Unfortunately, scholars also contested that these mentors may have a limited understanding of an individual mentee's content-area further restricting the potential of the support (Achinstein & Athanases, 2006; Feiman-Nemser, 2012; Moir et al., 2009; Wang & Fulton, 2012, Wang et al., 2010). District-based mentoring continued to be prevalent despite the strong body of research recommending new teachers access a combination of on-site and content-specific support (Moir et al., 2009; Wang, Odell, Schwille, 2008; Youngs, 2002). Presently, music education scholars continued to advocate for this integrated method of mentoring (Baumgartner et al., 2015; Benson, 2008; Conway, 2001a; 2015; Conway, Krueger, Robinson, Haack, & Smith, 2002; Jacobs, 2008).

Advocates within music education described content-specific support as vital for meeting the range of needs described by music teachers as they enter the profession (Benson, 2008; Conway, 2015). Some of these challenges included the wide, and varied, teaching assignments combined with co-curricular expectations that typically lead to long work days associated with music teaching (Benson, 2008; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2014). Music education scholars have suggested that new music teachers maybe more susceptible to work-related stress in ways that differ from other new teacher

populations (Conway, 2015; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2014). To combat these potentially negative experiences, scholars proposed that new music teachers be provided access opportunities to talk with other music education professionals on a regular basis who are familiar with their unique classroom situations (Benson, 2008; Conway, 2015; Krueger, 2003). The absence of consistent content-specific support for music teachers may have further exacerbated feelings of isolation and stress often associated with being the lone content-specialists at a school site (Benson, 2008; Conway, 2015; Conway & Christensen, 2006; Conway & Zerman, 2004; Krueger, 1999, 2000). To that end, Bell-Robertson (2011) and Conway (2001a, 2015) described that geographic limitations to accessing a content-specific mentor may also contribute to these feelings of isolation (Bell-Robertson, 2011; Conway, 2001a, 2015). Therefore, mentoring within digital environments (i.e. video chat and participation in online communities) could provide new opportunities for new music teachers to connect with content-specific mentors in ways that mitigate these issues (Bell-Robertson, 2011; Vaughan-Marra; 2017).

Digital New Teacher Mentoring

Within the past two decades, video conferencing and digital means of new teacher mentoring became areas of inquiry in educational research (Bierema & Merriam, 2002; Wang & Fulton, 2012; Wang et al. 2010). Due to this generally neoteric position, scholars described online and digitally-based mentoring environments as an amalgamation of computer-mediated communication, online/virtual communities, tele-mentoring, telecommunication, and digitally mediated mentoring (Bierema & Merriam, 2002). Researchers have also noted positive attributes of these mentoring environments for mentees such as: increased opportunities for collaboration and reduced feelings of isolation (DeWert, Babinksi, & Jones, 2003; Hunt, Powell, Little, &

Mike, 2013; Jones, 2013; Klecka, 2004; Klecka, Cheng, & Clift, 2004; Lenear, 2006; Mueller, 2004; Schichtel, 2010). Conversely, some of the challenges of mentoring in digital spaces focused on the logistical and fiscal constraints as well as lack of personal connection (Burrack, 2012; Cheng, 2008; Cothran et al., 2009; Klecka, Clift, & Cheng, 2005; Russo; 2013; Walther, 1996; Wyatt & Arnold, 2012). Amongst these reviews, the range of communication options available in digital spaces (i.e. video-based, text-based, synchronous, asynchronous) made comparisons across studies difficult to discern and therefore continued research is needed to better understand the implications of digital mentoring (Bierema & Merriam, 2002; Cheng, 2008; Meagher, 2010).

In an attempt to identify how communication and mentoring function in these spaces, some scholars compared on-site (face-to-face) mentoring and online environments (Cheng, 2008; Meagher; 2010). In these studies, face-to-face mentoring was distinguished as a helpful environment for promoting dialogue and discussions about teaching; specifically, due to the inherent ease of following visual cues during discussions (Cheng, 2008). Online mentoring produced more surface-level discussions about teaching due to how participants communicated within the text-based chatroom environment (Bell-Robertson, 2011). Reasons for this variance in text-based chatroom mentoring environments included: (a) participant's lack of contextual understanding of posts/messages; (b) anonymity within some on-line environments; and (c) potentially limited opportunities to post throughout a school day (Bell-Robertson, 2011; Cheng, 2008). Despite these limitations, scholars continued to be optimistic about combining mentoring environments and supplementing face-to-face mentoring with: (a) online and on-site workshops, (b) on-site school visits and observations, (c) video recorded lesson review, and (d) chatroom-based communication (Cothran et al., 2009; Wyatt & Arnold, 2012).

While authors concentrated on studying chatroom-based mentoring environments, others focused on video footage review and video conferencing as critical components of mentoring (Reese, 2015, 2016; Wyatt & Arnold, 2012). Wyatt and Arnold (2012) asserted that video review within an online mentoring experience may have helped refine new teacher reflection with the support of a mentor. Within music education, issues such as poor sound quality added new challenges and distractions to the experience for both teachers and students (Eberle, 2003). Despite these challenges, the benefits of connecting music educators through video-based professional development were styled as outweighing the technical barriers (Eberle, 2003; Reese, 2015, 2017). Instead of considering how computer-mediated communication mediums were used in isolation of one another (i.e. chatroom discussions, video review, or video conferencing), it may be possible to combine elements into a newly structured digital environment that may welcome similar mentor-mentee connections to those that thrive during face-to-face mentoring (Cheng, 2008). It is then a matter of defining what this new digital environment looks like and how it functions for both mentors and mentees to continue investigations on this matter.

New Teacher Digital Mentoring in Music

Along with the field of music education, scholars in science, foreign language, physical, and special education also advocated for content-specific support within new teacher mentoring. The rationale for this form of support was similar to what music educators described and noted a unique challenge faced by new music teachers (Conway, 2003; Gardiner, 2010). Though science, foreign language, special education, and physical education scholars noted how content-specific mentoring evolved within digital spaces, music education scholars are still relatively new to this area of research. However, scholarly discussions about digital learning are not entirely absent from the field of music education. Instead, digital environments have been investigated at the

preservice level and covered topics such as: blogging (Chong, 2008; Fitzpatrick, 2014), fieldwork video conferencing (Reese, 2015; 2016; 2017), and teaching footage exchange and review (Bauer & Daughtery, 2001; Burrack, 2012; Eberle, 2003). Bell-Robertson (2011) was one music education scholar who investigated an online learning community for new music teacher mentoring. This study featured approaches for how an asynchronous online community can support the varied needs of new music teachers through peer discussions supplemented with asynchronous support of a mentor. Though Bell-Robertson (2011) presented many functional considerations for online mentoring environments, this study did not address how combining synchronous and asynchronous digital communication may further support new music teachers.

Perceptions of Mentors

Within extant literature, the social nature of mentoring made this space ripe with opportunities to research the needs of mentees. However, understanding mentor's experiences and their approaches also informed mentoring practices similar to P-12 educators examining their teaching. Generalist educators featured mentor's experiences and perceptions within a variety of investigations on mentoring (Feimen-Nemser, 1998; Schwille, 2008). This was often with a focus on identifying how mentors collaborated with one another and how they approached supporting new teachers (Feiman-Nemser, Parker, & Zeichner, 1993; Meagher, 2010; Shore & Stokes, 2006). Along the importance of observations within mentoring (Cothran et al., 2009; Luft & Cox, 2001; Shore & Stokes, 2006), mentors also identified challenges in terms of initiating and guiding debriefs and discussions about teaching experiences with mentees (Achinstein & Athanases, 2006; Feiman-Nemser et al., 1993; Wang & Odell, 2002). Unfortunately, findings like this further conflated the notion that mentoring may do little to

change how new teachers teach and therefore should focus on emotional and social support rather than refining teaching (Strong & Baron, 2004).

Similar to general education, music education scholars investigated the experiences of music teacher mentors (Berg & Conway, 2016; Conway & Holcomb, 2008; Schmidt, 2008) and continued to add to the foundational body of research that described the needs of new music teachers including advocating for access to music mentors (Benson, 2008; Berg & Conway; 2016; Conway, 2015; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004; DeLorenzo, 1992; Kreuger, 1996; Smith, 1994). Along with mentees, researchers featured how mentors also need support and opportunities to reflect on their approaches and the challenges they encountered helping new music teachers (Berg & Conway, 2016; Conway & Holcomb, 2008; Schmidt, 2008). Developing a more comprehensive understanding of mentoring approaches may help to further refine program development for both on-site and digital mentoring experiences.

Rationale

Digital environments were noted as a means for connecting new teachers isolated as content specialists at their school-site with content-specific support (Cheng, 2008; Hunt, Powell, Little, & Mike, 2013; Jones, 2013; Meagher, 2010). Similarly, music education scholars acknowledged the need for content-specific support to help meet the unique challenges of new music teachers (Benson, 2008; Berg & Conway; 2016; Conway, 2015; Conway & Christensen, 2006; Conway & Garlock, 2002; DeLorenzo, 1992; Kreuger, 1996; Smith, 1994). Digital environments like those studied in special education and physical education may help mitigate these challenges and feelings of isolation often noted by new music teachers (Bell-Robertson, 2015).

Mentor programs for music teachers are currently being designed by The National Association for Music Educators (NAfME), the Society for Music Teacher Educators (SMTE) Beginning Teacher Support Area of Strategic Planning and Action (ASPA), the American String Teachers Association (ASTA), American Orff-Schulwerk Association (AOSA), and other state and national music organizations. These groups are seeking avenues to connect novice music educators with content-specific support through digital spaces (American Orff-Schulwerk Association, 2019; American String Teachers Association, 2017). A few music education scholars have studied digital environments for music teacher support (Bell-Robertson, 2011; Vaughan-Marra, 2017), while others provided descriptions of program design (Berg & Conway, 2016, 2017; Conway, 2013; Conway & Holcomb, 2008). Therefore, continued investigation into new music teacher digital mentoring is needed to identify, organize, and refine new music teacher support within this environment.

Purpose Statement

The purpose of this study was to describe mentor perceptions of mentee learning in the digital mentoring environment.

Research questions included:

(a) How do mentors describe their experiences within a digital environment?

(b) How do mentors describe changes in mentee teaching practices as evidence of mentee learning?

(c) How do mentors describe the emergence of their mentoring practices in response to the learning of each mentee?

Case Study and Investigations of Mentoring

Case study design was used for this investigation and has been commonly used to study mentoring in general education (Cheng, 2008; Meagher, 2010; Wyatt & Arnold, 2012) and music education (Conway 2001a; Conway & Garlock, 2002; Conway & Zerman, 2004; Weimer, 2017). This multiple case study (Barrett, 2014; Merriam & Tisdell, 2016) included the study of two cases each with one mentor and two mentees in a digitally mediated mentoring environment during the 2017-18 school year. Chapter III will provide more details on the design.

Adult Learning Theory

One challenge within new teacher mentoring involved identifying how mentors toggle between attending to the emotional needs of new teachers as well as fostering opportunities to discuss and refine teaching (Feiman-Nemser, 2001, 2012; Schwille, 2008). This balance was also particularly challenging for new music teachers participating in mentoring experience because of their immediate concerns about their classroom as well as stress related to navigating their new role as adults learning outside the structures of their undergraduate experience (Conway, 2015; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004). To that end, identifying opportunities within mentoring, as well as structuring mentoring to support new teachers as learners and developing educators, was difficult to isolate (Feimen-Nemser, Parker, & Zeichner, 1993). It may be worthwhile to consider framing an investigation about new teacher mentoring and learning within theories and frameworks to emphasize learning in adulthood.

The present dissertation welcomed a close examination of how mentoring approaches supported mentee learning. The andragogical model was developed to represent a process of learning within adulthood (Knowles, 1984; Knowles, Holton, & Swanson, 2005). Despite the limited extant literature featuring the use of adult learning theories to investigate new teacher

mentoring, this framework was ideal for guiding the particular study on digital mentoring. Specifically, because it helped highlight mentoring approaches and mentee learning through connecting these ideas to the set of assumptions and elements about adult learning. These included: defining mentees as adult learners as well as identifying mentoring approaches featured in this investigation. I will provide a detailed description of this framework in Chapter II and will feature andragogy in Chapter VI to further illuminate connections between the findings, research questions, and theoretical framework.

Self-Study: A Means of Connecting Mentoring, Researching, and Teaching

Though more detail will be provided in Chapters II and III, my rich background as a new teacher mentor working in digital mentoring over the past four years provided me with a unique opportunity for this study. After careful consideration, I chose to intentionally include myself as a participant in this study in conjunction with a second mentor. Self-study was used as a lens to reflect and discuss our experiences as mentor teachers within this new music teacher digital mentoring. In extant literature, self-study was often defined by scholars as a researcher's intentional and personal inquiry into their teaching practices and their impact on student learning (Loughran, 2002; 2007a/b). Similar to the limited presence of adult learning theories in prior literature on new teacher mentoring, self-study was not often associated with supporting new teachers. However, self-study techniques and qualitative study design both prioritize a teacher's unique understanding of teaching that may only be reached from the practitioner's perspective (Bullough & Pinnegar, 2001; Elijah, 2007; Kosnik, 2001; Loughran, 2002, 2007, 2007b; Samaras, 2010; Samares at al. 2007; Wilcox, Watson, & Paternson, 2007). This position lent itself well to identifying mentoring approaches and how new teachers were supported as learners in this present dissertation. This was because self-study welcomed a teacher educator's

perspective during investigations of teaching and learning to confront the challenges that are "typically, too easily ignored, or explained away, because of the pressure of the work of teaching" (Loughran, 2007b, p. 162).

Positionality within self-study. The conscious inclusion of a researcher into a study was a relatively contemporary notion and therefore required reflection on examples of ways researchers situate themselves within qualitative inquiry. For example, in music education Conway and Holcomb (2008) described the conscious inclusion of the researchers as participants in the study of music teacher mentoring to help provide new insight into mentors' perceptions and experiences. In this particular investigation, heuristic inquiry was implemented to allow both researchers to be "conscious throughout data collection and analysis to attend to the *emic* (insider) perspectives of the participants" (p. 57). Though a slightly different approach within this present dissertation, I investigated my perspective as a mentor through collecting data on my collaborations with an additional a co-mentor to study our experiences.

Self-study was then integrated into this present dissertation for the following reasons: (a) the explicit presence of my synthesized position as music teacher educator, music education researcher, and new music teacher mentor was a unique practitioner's perspective that could not be ignored and (b) my previous studies of digital mentoring largely influencing my work. My position as a mentor in the study in relation to my co-mentor was best represented through the technique of reflexivity which helped highlight some of the themes and findings described in later chapters. Reflexivity involved reflections and discussions completed by my co-mentor and me on our individual and collective journeys as mentors and music educators.

Though more detail will be provided in Chapter III, my co-mentor participant had a similar rich interest in music teacher research and refining her work as a music educator and

mentor. This included 14 years of teaching experience and a personal interest in studying her work as an educator and mentor. Along with acting as cooperating teacher to five student teachers over her career, she had three years of experience supporting novice music teachers through an on-site mentoring program as well as assisting her local music educator association with developing mentoring opportunities for new music teachers. Our unique combination of new music teacher mentoring expertise, as well as my scholarly interest in this topic, helped substantiate the inclusion of myself in this study and the use of self-study practices in this investigation of digital new music teacher mentoring.

Andragogy and Self-Study: Frame and Lens

In this present investigation, theory helped frame and guide the investigation. Andragogy was used as the theoretical framework to help focus data analysis and feature themes and findings specific to mentoring approaches and how the new teacher mentees were supported as learners. Due to the flexibility inherent in self-study practices, self-study was used as a lens to guide a malleable focus both inward and outward on the work of teaching and learning about teaching (Bullough & Pinnegar, 2001; Saramas, 2019). To toggle between these reflections and discussions during self-study, LaBoskey (2004) iterated that self-study scholars employ multiple methods and, in some cases, use whatever methods may best inform the researcher's personally situated inquiry. While some scholars may debate or interpret this flexibility as a potential lack of clarity within this form of qualitative research, the use of self-study as a lens in this present dissertation afforded a clearer position of my work as both participant and researcher in this new teacher digital mentoring experience. The distinctions between andragogy as a theoretical framework and self-study as a lens will also be addressed in detail within Chapter II and III as well as revisited in Chapter VII.

Definitions

Digital Mentoring is defined as the use of synchronous and asynchronous digital communication to connect a mentee with a mentor for new teacher mentoring and support (Vaughan-Marra, 2017).

Hearty Curricular Discussion is defined as a dialogue within a mentoring meeting which involves a balance between communication, emphasis on curricular content, and demonstration of teaching practices. These types of discussions were noted as a result of attentive and nuanced use of mentoring approaches featured in this dissertation.

Mentor Teacher is broadly defined as a veteran educator who either volunteers or is assigned a new teacher to support through providing opportunities for reflecting on practice, navigating the work environment of a school-site, and in some cases observing classes to provide additional recommendations for practice (Achinstein & Athanases, 2006; Moir et al., 2009).

New Teacher is defined as an educator in either their first or second year of service in the profession (Moir et al., 2009).

New Teacher Mentoring is broadly defined as the support new teachers encounter typically during their first three years in the profession through pairing with an expert educator (Achinstein & Athanases, 2006).

Reflexive meetings were specified opportunities within the study for the mentor participants to enact the theoretical lens of self-study strategies to examine their work within entire research process, specifically discuss their critical self-

reflection their biases about their work as mentoring as well as review how their ideas connected to the theoretical framework of andragogy (Kleinsasser, 2000).

Summary

In Chapter I, I presented a brief overview of the scholarship on new teacher mentoring, music teacher mentoring and digital mentoring. And as was suggested in this introductory chapter, a literature gap currently exists between content-specific support, new music teacher mentoring, mentoring approaches, mentee learning, and digital mentoring environments. The present dissertation is intended to help uncover mentoring approaches from the intimate perspectives of mentor teachers working in a digital mentoring environment. Along with the rationale for the study, purpose, and research questions were also provided. Case study design was also introduced as the design for this investigation. Additionally, andragogy and self-study were presented as the theoretical framework and theoretical lens respectfully to promote the voices of participants as well as guide the analysis of the data and organization of themes and findings. It is my intent to feature the voices and perspectives of the participants as well as descriptions of the mentors' experiences with their mentees to better understand the complexities of the digital mentoring environment and how content-specific support can be fostered within new teacher mentoring. Chapter II presents a comprehensive review of literature that guided this study.

CHAPTER II

Review of Literature

Introduction

Categories of empirical studies reviewed in this chapter include: (a) new teacher mentoring, (b) role of the mentor, (c) digital learning spaces within preservice teacher education, (d) digital mentoring for new in-service teachers, and (e) teacher learning in mentoring. The second section of the chapter examines the framework of andragogy and lens of self-study. I will conclude the chapter with a review of my own past work examining digital mentoring in 2015-16 and 2016-17.

New Teacher Mentoring

Literature from General Education

Mentoring in the field of education is often associated with support intended to socialize novice educators entering the profession. Terms such as support, induction, and mentoring are used to describe this aid provided to new teachers (Achinstein & Athanases, 2006; Moir et al., 2009). Unfortunately, induction, mentoring, and even professional coaching continue to be terms used interchangeably; especially when describing new teacher support (Dawson, 2014). Beyond socialization, the purposes of new teacher mentoring and support included: (a) enabling beginning teacher to learn teaching practices within the context of their classroom, (b) helping new teachers manage their emotions and stress of their jobs, (c) providing individualized support, (d) providing a community of supporters, and (e) identifying avenues for support

through telecommunication, computer, and internet enhanced context (Gold, 1996). Roles and functions of mentors then involved: emotional supporter, cognitive challenger, provider of feedback and scaffolding, generator of learning and mediator of knowledge, as well as mediator between new teachers and their administrators to help foster relationships and communication (Orland-Barak, 2016). Though the term induction may have encapsulated some aspects of mentoring, induction is commonly used to reference the stage in teacher development that occurs in their first year(s) as an in-service educator (Fieman-Nemser, Schwille, Carver, & Yusko, 1999; Gold, 1996). Therefore, interchanging the activities and experiences associated with mentoring, coaching, and induction conflated the sometimes-varied purposes of new teacher support (Feiman-Nemser, 1996).

Some of the early investigations into the experiences of new teachers also sought to identify how programs may be developed to address these needs. Ideas such as the teacher concern cycle, new teacher socialization and stress, as well as the difficulties new teacher encounter during teaching were some of the topics addressed by scholars in the 1970s and 80s (Fuller, 1969; Fuller & Bown, 1975, Ryan, 1974; Veenman, 1984). Fuller and Bown (1975) identified the teacher concern cycle to describe how the focus of new teachers may shift from self-related, to task-related, and then to student- or impact-related concerns through a school year. In addition to a shifting focus, new teachers may have experienced reality shock as they grapple with their teaching experiences and question what they felt prepared to teach based on their memories of their teacher preparation program (Veenman, 1984). To further complicate their experiences, difficult and diverse teaching assignments as well as teaching outside of an expertise or specialization also potentially limited mentees' access to support for these specifics challenges (Achinstein & Athanases, 2006; Daresh, 2003; Feiman-Nemser, Schwille, Carver, &

Yusko, 1999; Griffin, 1999; Grossman & Richert, 1986; Huling-Austin, 1990, 1992, 1994; Shulman, 1986; 1987).

Scholarship on teacher stress continued to guide investigations through the 1990s with a focus on how mentoring can provide support for new teachers as they continue refining their teaching practices (Feiman-Nemser, 1996; Huling-Austin, 1992; Odell, 1990). A report developed by California's Beginning Teacher Support and Assessment (BTSA) program entitled "Success for Beginning Teachers: The California New Teacher Project" (1992), in conjunction with California legislations, SB 1422 (1992), described the need for organized new teacher support focused on mentoring to bridge this gap (Goldrick, 2016; Olebe, 2001). BTSA's program goals included a focus on gradually introducing new teachers to the norms and responsibilities of teaching, along with advising new teachers about ways to demonstrate and implement instructional practices to improve student achievement (Induction, 2017). This initiative was one example of a larger mentoring and induction program that extends support beyond the vital emotional needs of new teachers to also include professional development.

State-level mentoring and induction initiatives. Mentoring and induction programs became more positively associated with teacher retention; especially when new teachers accessed multiple forms of support (Fuller, 2003; Ingersoll, 2003; Ingersoll & Strong, 2011; Smith & Ingersoll, 2004). With these findings, other state initiatives were established to help organize support for new teachers. California, Texas, Connecticut, North Carolina, Illinois, and Michigan were some of the states with Departments of Education who initiated policies requiring school districts to provide new teacher support (Cegelka & Malley, 2002; Fuller, 2003; Goldrick, 2016; McQuillan, 2008; Sweeney, 1998; Sweeney & DeBolt, 2000; Wilkins & Clift, 2007; Youngs, 2002). Many of these programs prioritized pairing new teachers with on-site, district-

based, mentors. These teachers were often selected for their rich subject matter knowledge as well as school-site and institutional knowledge. Unfortunately, these criteria did not guarantee mentees access to content-area mentors; and, as such, these programs focused on providing psychological support to help new teachers and helped navigate norms, procedures, and expectations of school districts. One solace of these larger programs was the inclusion of class observation by mentors followed by discussions of teaching (Darling-Hammond & Rothman, 2015; Olebe, 2001; Wilson, Darling-Hammond, & Berry, 2001).

California's Beginning Teacher Support and Assessment (BTSA) program continues to be one of the longest running programs initiated in 1988 to connect beginning teachers with experienced educators (Goldrick, 2016; Induction, 2017; Olebe, 2001). At the onset of the program, organizers sought to offer new teachers: individualized mentoring, curriculum for new teacher mentoring, instruction workshops, and teacher self-assessment. The program continued to support new teachers through the state and research through the California New Teacher Project and is affiliated with the University of California Santa Cruz School of Education and Stanford University scholars such as Linda Darling-Hammond (Darling-Hammond & Rothman, 2015). Despite these features, the program does not consistently offer content-specific support.

Connecticut's Beginning Educator Support and Training (BEST) program was touted as one of the premiere examples of new teacher induction and mentoring due to the focus on standards for teaching and student learning aligned with content-area support (McQuillan, 2008; Strong, 2009; Youngs, 2002). The BEST program was one of the few state-sponsored mentoring programs to feature content-specific support in the form of Teacher-in-Residence, Scholar-in-Residence, and subject area consultants working collaboratively with new teachers (Darling-Hammond & Rothman, 2015; McQuillan, 2008; Strong, 2009; Wilson, Darling-Hammond, &

Berry, 2001). The program was restructured in 2008 to focus on student achievement and aligned teacher evaluations with the professional development provided within the program. While participants still received content-specific support, the restructuring shifted responsibility to be shared between the state and school-sites renamed the Teacher Education and Mentoring Program (TEAM) (McQuillan, 2008).

Content-specific support and mentor preparation. Scholars researching content-specific support and mentor preparation focused on a variety of topics including: (a) program organization (Luft & Patternson, 2002; Shore & Stokes, 2006), (b) mentee and mentor experiences (Maor & McConney, 2015; Nam, Seung, & Go, 2013; Wildman, Magliaro, Niles, & Niles, 1992) and (c) practices of mentoring (Naseem, 2014). Studies like these examples continued to support the rationale for, and highlighted the potential of, content-specific new teacher mentoring as an opportunity for new teachers to reflect on their teaching.

Luft and Patterson (2002) offered a description of the Alternative Support for Induction Science Teachers (ASIST) program which included a school-university approach along with an in-service new teacher mentoring program. Support consisted of assistance from a local university with an assigned university supervisor working alongside science educators, content-specialists, and graduate students helping new science teachers. Mentors attended monthly meetings with mentees as well as scheduled classroom visits. Mentees ($N = 21$) also had access to online materials and resources, as well as organized professional development. The program was noted by participants as helping them implement specific inquiry-based lessons into their science curriculum and build confidence in their teaching.

Shore and Stokes (2006) described a content-specific support program for science educators ($N = 250$). This program featured: (a) coaching, (b) pedagogy workshops, (c) support

groups of mentors and mentees, and (d) participation in a summer institute to develop curricular units before the school year began. One unique feature of this program was the science teacher mentor leadership institute; focused on mentor preparation. Despite the comprehensiveness of this program, the authors cautioned that this may be impractical to initiate at a district-level due to the lack of opportunities to pair new teachers with in-district content-specific support. Despite these reservations, the authors also described how mentees felt comfortable enacting teaching practices and supporting student learning due to their experiences with this program.

Nam, Seung, and Go (2013) investigated the experiences of individual mentor-mentee relationships of science educators ($N = 6$) by studying beginning science educators ($n = 3$) and their mentors ($n = 3$) who participated in a formal science teaching mentoring program. Similar to Shore and Stokes (2006), one goal of this program was to help new science teachers implement "inquiry-based teaching practices." Data included the collection of conversations between mentors and their mentees that were organically developed based on their critical reflection, shared ideas, and problem-solving regarding science teaching. Mentors gathered information for meetings from observing and analyzing five of the new teacher participants' science lessons. Findings from this study revealed that beginning science teachers implemented five areas of reflection. These included: (a) lesson design and implementation, (b) demonstration and execution of procedural knowledge, (c) assessment, and (d) developing classroom culture.

Though an investigation of intern (student teacher) mentoring, Naseem (2014) detailed novice science educator mentoring practices using narrative inquiry. The author sought to capture the experiences of science teacher mentors ($N = 4$) through exploring the telling of their past as learners and educators as well as their present experiences with mentoring. This study was important to highlight within this literature review because the author featured narrative

descriptions. The author concluded that participants' preferred teaching style, life experiences, student teaching, prior mentoring and coaching influenced their mentoring approach including how they individualized and customized their support for their mentee. In sum, mentors may enact different approaches from one another.

Maor and McConney (2015) surveyed secondary science and mathematics educator mentors ($N = 36$) to describe their motivations for participating in a mentoring program and how they benefited in terms of their professional learning. The mentoring experience was identified by participants as a learning environment. Over the seven-month mentoring project, notable findings included: (a) descriptions of participants' altruistic motivation for mentoring as a means of helping the profession, (b) successful mentoring approaches, and (c) the positive influence of mentoring. Successful characteristics of mentors featured in this study emphasized interpersonal skills as well as guiding mentees to generate their own solutions to problems.

Summary. State-level mentor and induction programs, as well as independently organized mentoring experiences, continued to promote opportunities for new teachers to gain access to support. In an effort to move beyond emotional support, programs also featured occasions for mentees to meet with mentors, review teaching footage, and discuss teaching practices (Darling-Hammond & Rothman, 2015; Olebe, 2001; Wilson, Darling-Hammond, & Berry, 2001). Amongst this work, two other areas of study emerged; these were content-specific support and mentor preparation. The benefits of content-specific support were consistent across the studies presented in this section including opportunities to discuss and review teaching with a content-specialists as well as avenues to help mentees implement best practices into their teaching. Though noted as challenging to design for district-based mentoring programs (Shore & Stokes, 2006), in some cases content-specific support satisfied both the psychological and

educational needs of mentees (Maor & McConney, 2015; Nam et al., 2013; Naseem, 2014). Beyond general education, music education researchers also established a similar argument, and strong rationale, for new music teacher mentoring.

Related Literature from Music Education

Music education scholars contended that new music teachers also need customized support from content-specialists who understands their unique concerns and challenges (Bell-Robertson, 2015; Benson, 2008; Conway, 2001b, 2015; Jacobs, 2008; Weimer, 2010). These challenges were situated in the experiences of music educators including: range of differentiation within classes, co-curricular planning and expectations, and often isolated, or itinerant, teaching positions (Conway, 2001a; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004; DeLorenzo, 1992; Kreuger, 1999; Weimer, 2010). Though a music education mentor helped, they also required their own support and preparation to reflect on their approaches and the varied needs of new music teachers (Berg & Conway, 2016, 2017; Conway, 2012; Conway & Holcomb, 2008; Conway et al., 2002; Schmidt, 2008). Due to the isolated and itinerant nature of music teaching assignments, some researchers recommended considering how digital communication (Bell-Robertson, 2011; Conway & Holcomb, 2008), long-distance mentoring (Berg & Conway, 2016), and digital mentoring (Vaughan-Marra, 2017) maybe options for providing new music teachers often isolated as content-specialists with the support they need. The following music education scholars approached their investigations from the perspectives of new music teachers. Researchers such as Jones (1978), DeLorenzo (1992), Smith (1994) and Krueger (1996, 1999), all provided insight into how new teachers describe their transition into their first music teaching positions.

Jones (1978) designed a survey to identify and describe problems encountered by first-year instrumental music teachers ($N = 46$). Survey results helped describe participants' experiences in terms of support from district coordinators, frequency of negative, memorable, moments during their first year of teaching, and perceived relevance of undergraduate coursework to their teaching assignments. Feelings of uncertainty and insecurity were noted by 63% of respondents. These areas of insecurities included navigating: program management, classroom management, and discipline/student behavior.

DeLorenzo (1992) administered a 55-item questionnaire to beginning music teachers ($N = 507$) to identify perceived problems and usefulness of professional assistance offered to beginning music teachers during their first year in the profession. Results indicated contextual and environmental differences between new music teachers' assignments compounded their feelings of stress. Assistance was highlighted as being most helpful in the form of new teacher mentors and colleagues in the field of music education. DeLorenzo's work paved the way for investigations of how mentoring can be organized to specifically support new music teachers.

Smith (1994) constructed a descriptive study of a music mentoring program to identify avenues for recruiting and retaining quality new music educators into the profession. Participants included new music teachers and mentors ($N = 21$). Data collection spanned two years and described the mentoring program from the perspectives of new music teachers ($n = 14$) and music teacher mentors ($n = 7$). Participants noted the program as valuable in how it provided organized content-specific professional development through what Smith (1994) defined as "collaborative mentoring." The content-specific support celebrated as most helpful in this mentoring program included discussion of the following topics: (a) music classroom

management, (b) special learning populations and music participation, (c) use of music technology in the classroom, and (d) navigating school political structures.

Krueger (1999) interviewed new music teachers ($N = 20$) during their last month of their first year of public-school teaching. These interviews provided insight into the isolation and exhaustion described by new music teachers. Exhaustion was associated with the typically extended work hours commonly connected to music teaching schedules combined with the lack of opportunities to network and connect to a single school-site. The author posited that the lack of district music mentors may exacerbate the feelings of isolation, and in turn, exhaustion. In addition to noting challenges of first year music teachers, this seminal study in music education mentoring also provided insight into how support for this population of music educators may be organized. This included consistently scheduled mentoring meetings, release time for support, and customized support to the needs of new music teachers.

Conway initiated a series of studies to uncover more about the experiences of new music teachers as well as how support is structured for them. Conway and Garlock (2002), Conway (2001a, 2003), as well as Conway and Zerman (2004) featured descriptions of new music teachers' experiences during their first year in the profession. Through a case-study of a K-3 first-year music teacher, Conway and Garlock (2002) combined data of Mandi Garlock's (the first-year teacher participant) reflections with classroom observations, interviews, and a focus group interview with Mandi, her mentor and her principal. The findings were thematically organized as "I wish I had known" statements. These statements summarized challenges of stress, overthinking, and learning to adjust to life as a teacher. The need for a music mentor was highlighted as a means to eliminate some of challenges faced by Mandi.

Conway (2001a) explored the perceptions of new music teachers ($N = 7$) in conjunction with their mentors and building administrators to understand the experiences of new teachers participating in site-based induction and mentoring programs. Despite access to support, scheduling mentoring meetings was described as challenging for new music teachers to add to their busy teaching schedules. Mentees also explained needing support prior to the beginning of the school year. Along with support selecting concert repertoire and opportunities to observe veteran music educators, participants also identified the need for support to navigate the administrative duties associated with music programs. This combination of curricular, pedagogical, and content-specific issues helped illustrate the range of needs of music teachers.

Expanding on prior scholarship (Conway, 2001a), Conway (2003) examined beginning new music teachers ($N = 13$) interactions with their mentors and school-site administrators within district sponsored beginning teacher mentoring programs situated in the state of Michigan. Through interviews and focus group data, the author identified a range of expectations of induction and mentoring practices within Michigan. Variances included: (a) range of mentor practices, (b) access to content-specific support, (b) mentor-mentee pairing process, (c) mentor training, and (d) mentor payment. The new music teacher participants cited needing support beyond assistance navigating school-site or district policies. Instead, they described: challenges with meeting the varied needs of their students, classroom management, and parent interactions. Similar to the findings of Conway (2001a), the new teacher participants in Conway (2003) suggested: early identification and pairing of mentees with mentors, scheduling opportunities for mentors to observe mentee teaching, and building relationships within these pairings as vital for the success of new music teachers.

Conway and Zerman (2004) collaborated as researcher and new music teacher ($N = 1$) and researcher to examine the perceptions of new teacher mentoring, induction, and teaching in the first year. This narrative case study used: a handwritten journal developed by Tavia Zerman, mentor/mentee email communications, interviews, principal and mentor interviews, and teacher questionnaire responses. Zerman also reflected on her challenges as a new music teacher included feeling: overwhelmed, exhausted by long work hours as well as isolation and self-doubt in her ability to meet the varied needs of her large classes. This study further illustrated how the needs of music teachers move beyond emotional support and how support should address how new teachers can continue refining their work through targeted supports.

Juxtaposed to Conway's (2001a, 2003) recommendations for content-based new music teacher support, Stevanson (2005) examined elementary music teachers ($N = 3$) participating in a mentoring program. This was a collective case study guided by three theoretical frameworks. The frameworks involved: The Stages of Concern (Hord, Rutherford, Huling-Austin, & Hall, 1987), The Hierarchy of Needs (Maslow, 1970), and the Categories of Support (Merriam & Simpson, 2000). The author expressed concern for past music education scholarship emphasizing content-specific support. Instead, the findings of this study featured more of what the author identified as personal issues of new music teachers. Stevanson contended that these challenges may be supported through larger induction and mentoring experiences without the help of a content-specialist.

In an effort to continue identifying the content-specific needs of music teachers, Conway (2012) conducted one of the few longitudinal investigations of new music teacher experiences and mentoring. The author examined the reflections of experienced teachers ($N = 7$) on their mentoring as documented by Conway (2001a). This was to identify whether findings represented

in the Conway (2003) were still perceived as relevant. Participants read the 2003 study and examined all data collected in 1999-2000 including journals, two questionnaires, individual interviews, focus group interviews, mentor interviews, and principal interviews. Participants noted: (a) mentoring as valuable; (b) disagreed about who should mentor new music teachers; and (c) recommended new teachers be proactive in finding answers to their questions. Themes were noted as consistent with the Conway (2003) investigation in how participants described their mentoring experiences. These included: (a) a lack of consistency in mentor programs and value placed on these experiences, (b) curricular concerns, (c) music teachers need music mentors, and (d) scheduling mentoring meetings.

More recently, Koerner (2017) designed a comprehensive study of mentor functions and attitudes, mentor support practices, and mentor effectiveness through a survey distributed twice to beginning music teachers ($N = 245$). Through the use of exploratory and confirmatory factor analysis as well as path analysis techniques. Koerner identified no differences in mentee's reflective practices, teaching efficacy, and professional commitment based on support. Instead, similar to Stevanson (2005), the author argued that mentees with non-music mentors had gains in these areas, though not statistically significant. The studies summarized above provide the rationale for providing a combination of emotional support that emphasizes the unique challenges of new music teachers as they transition into the profession.

Summary

Investigations on new music teacher mentoring focused on the needs of new music teachers and the provided supports during their formative years in the profession (Conway 2001a, 2001b; Conway & Zerman, 2004; DeLorenzo, 1992; Jones, 1978; Krueger, 1996). Scholars contended that content-specific support was helpful for mitigating isolation and stress

when mentors intimately understood the experiences of their mentees from their own similar struggles and challenges (Benson, 2008; Conway, 2001b; 2015; Jacobs, 2008; Weimer, 2010). Initially, studies focused on describing the experiences of first year music teachers including what they wish they knew and the need for time to meet with, and observe, veteran music teachers (Ballantyne, 2007; Conway & Garlock, 2002; Conway & Zerman, 2004; Jones, 1978; Krueger, 1996, 2003; Schmidt, 2008; Weimer, 2017). Though emotional support was a priority for mentoring (Stevanson, 2005), topics such as classroom management, navigating administrative duties, differentiating instruction, and planning for music teaching assignments were also important to new music teachers. Along with uncovering the needs of new music teachers, the role of the mentor continued to be an area of interest for researchers (Berg & Conway, 2016; Conway, 2012; Conway & Holcomb, 2008; Conway et al., 2002; Schmidt, 2008).

Role of the Mentor

Role of the Mentor: General Education

Though new teacher experiences and perceptions may inform mentoring practices, the mentor also plays a role. And while many scholars described how present-day mentoring paralleled some of the descriptions within Homer's *The Odyssey* (Cheng, 2008; Meagher, 2010), this myth left little description of how Mentor supported Telemachus in this infamous story (Feiman-Nemser, 2012). Discussions of mentor preparation and the role of the mentor within mentoring have been areas of research interest since the 1980s. Shulman (1986, 1987) as well as Borko and Livingston (1989) argued that teaching was a complex cognitive skill. Furthermore, the cognitive schematic organization of expert knowledge was more interconnected than that of novice educators (Berliner, 1986; Borko & Livingston, 1989; Carter, 1990). This expert

knowledge allowed mentors to draw on connections between ideas to engage in planning, teaching, and reflection alongside a novice educator. This included a rich knowledge of classroom patterns, curricula, and students that afforded them rapid application of this knowledge to experiences in the field. What made this knowledge particularly challenging to teach to novice educators about was its often tacit nature. This is why scholars continued to investigate how mentors supported novice new teachers beyond merely telling new teachers about their expertise to instead guide them through professional practices of mentoring (Carter, 1990; Feiman-Nemser, 2012; Peterson & Comeaux, 1987; Schwille, 2008).

Understanding how mentors and mentees discussed teaching was one approach to studying the nuanced experience of mentoring in the field of education. Feiman-Nemser and Parker (1990) analyzed conversations of mentors and novice teachers (N =8) to identify how mentors dealt with novices' understanding of subject matter. This study highlighted how mentors often felt less prepared to discuss subject matter knowledge with new teachers. These issues caused them to ignore some topics of discussion within subject matter knowledge and also assume mentees' subject matter knowledge to be adequate. Learning to teach a content area involved: (a) deepening one's understanding of subject matter, (b) learning to think about academic content from the students' perspective, (c) learning to represent subject matter in appropriate and engaging ways, and (d) learning to organize students for teaching and learning academic content. These findings illuminated how inadequate support may be avoided with targeted mentor preparation to uncover approaches for discussing teaching with mentees.

Feiman-Nemser (1998) described characteristics of mentors who promoted opportunities for discussions about teaching with mentees. This form of mentoring was identified as educative mentoring and involved mentors considering themselves as teacher educators to their mentees

more than coaches or colleagues. Through this critical essay, Feiman-Nemser explained the epistemological and socio-cultural reasons why in-service teachers do not identify themselves as teacher educators when in mentoring roles. The study featured in this essay followed mentor-mentee pairs ($N = 48$) to understand how novices learn from and along with their mentors. Key mentoring approaches were featured in the findings from this study. Along with mentors describing a clear vision of good teaching, they also enacted activities such as thinking aloud and joint work as ways to foster opportunities for learning within mentoring.

To identify more characteristics of educative mentoring, Feiman-Nemser (2001) presented the experiences of a thoughtful mentor teacher ($N = 1$). Through an analysis of 10 hours of interview and observational data, the author styled how Pete, the mentor teacher, defined his role as a support teacher and how he enacted this role. Findings included: (a) helping novices reflect during discussions with their mentor, (b) mentors modeling reflection on teaching, (c) guiding mentees to focus on students, (d) helping mentees pinpoint problems in their teaching practices, and (e) developing relationships between mentees and their students.

Achinstein and Athanases (2006) provided a series of chapters dedicated to developing a framework for featuring a multi-domain knowledge base for helping guide novices to consider their work as a teacher in relation to students. This involved a set of assumptions about mentoring practices which included a bifocal perspective on teachers and students. Mentors focused on their new teacher mentee and simultaneously targeted the big picture of students, their learning, and their needs. Pedagogical knowledge and knowledge of equity issues were also featured as pivotal for mentoring novices to teach diverse youth and promote equitable learning.

Similarly, Achinstein (2006) identified mentor knowledge through a case study ($N = 2$) of a mentor-mentee dyad. This investigation highlighted three critical domains of mentors included

reading, navigating, and advocating for new teachers. The author noted how some mentor knowledge then fell under political literacy and understanding micro-political climates of school sites. And though contextualized to a school-site, mentors needed a nuanced understanding of how micro-political climates functioned on a theoretical level to help new teachers navigate conflict and develop their professional identity.

Schwille (2008) investigated 26 mentor-mentee pairs in the U.S., England, and China. The study included observations of mentoring meetings, interviews, as well as class observations. The professional practices of mentoring were highlighted through the various interactions between the mentor-mentee pairs. In this form of support, mentors moved beyond "emotional or psychological support and resource procurement and base their practice on the premise that learning to teach requires creating learning opportunities that involve the mentee intellectually" (Schwille, 2008, p. 141). Educative mentoring in this study involved professional practices of coaching and stepping in, teaching together, demonstrating teaching, brief interactions or mentoring on the move, mentoring sessions and debrief sessions, co-planning, videotape analysis, and writing.

Feiman-Nemser (2012) recommended scholars design investigations of new teacher mentoring to also consider their assumptions about learning during mentoring and the process of learning to teach. The author summarized two case studies of mentor teachers ($N = 2$) to identify parallels between their work as teachers and as mentors. For these mentors, working with mentees welcomed them to consider the shared practical knowledge and ways of knowing different from how they reflected on their own practices as teachers. Through responding to mentees' "here and now concerns," the mentors created learning opportunities to help mentees move forward as a teachers and learners. The author concluded that educative mentoring

represents a change in the structure of teacher induction and a shift in the locus of power in preservice preparation.

More recently, Dawson (2014) summarized literature on mentor preparation and synthesized ideas to develop a framework for new teacher mentor preparation. Through the review of literature, the author identified two mentoring models frequently used with new teacher mentoring as well as 16 mentoring design elements. The elements highlighted in the article included: (1) objectives of mentoring models, (2) roles of participants in the models, (3) number of participants in each model, (4) closeness of mentoring relationship, (5) contact time and quality of interactions, (6) relative seniority of experienced teachers as mentors, (7) selection of mentors and mentee, (8) pairing and matching of mentors with mentees, (9) resources for assisting mentors and mentees, (10) role of technology, (11) training for mentors, (12) mentor compensations, (13) policies and guidelines for use of technology, (14) mentoring oversight, (15) activities for mentors and mentees, and (16) termination of mentoring relationships. By highlighting these topics, Dawson (2014) argued there is less need for redefining mentoring but instead a need for a framework to diversify how mentoring is conceptualized.

Role of the Mentor: Music Education

Three music education studies highlighted the mentors' experiences and mentor program design. Conway and Holcomb (2008) investigated the perspectives of experienced music teachers ($N = 11$) as they participated in a two-year new music teacher mentoring project. Using a phenomenological and heuristic approach, the authors collaborated throughout the data collection process to synthesize their expertise and experiences as program coordinator (Holcomb) and mentor development presenter (Conway). Data for this study included: mentor reflections at the beginning and end of the mentoring project, interviews with participants, and

researcher logs from the two authors. Mentors reflected on the need for opportunities to refine their mentoring practices. Participants also described: challenges scheduling mentoring meetings, developing consistent avenues of communication with mentees, and identifying opportunities to observe mentees teaching. All of these challenges were noted as important to address to contextualize support.

Blair (2008) used a narrative approach to investigate the mentoring of novice elementary music teachers ($N = 3$). The author also acted as a participant in the study and was the mentor for the new teachers. Data included: email correspondence, end-of-year reflective journal, a personal reflection log, and an audio-recorded group discussion conducted at the end of the school year. The mentoring meetings were viewed by mentee participants as opportunities to ask questions and receive support in a safe, collegial environment focused on their unique needs and teaching assignments. Though this investigation focused on the mentees' experiences, Blair's unique access as researcher and new teacher mentor welcomed more candid discussions about content-specific support from the participants due to the safe environment she developed for mentoring.

Berg and Conway (2016) highlighted the perceptions of developers and mentor workshop attendees participating in the American String Teachers Association (ASTA) Mentoring Project ($N = 17$). Data included interviews with an ASTA Past-President who initiated the program, ASTA staff assistant, mentor teacher participants ($n = 15$), and co-researcher interviews ($n = 2$). Along with interviews, the researchers collected and reviewed meeting notes, emails, and professional development materials generated for the program. Two sets of findings were presented. First, the authors described the development of the program as well as program goals and perceived benefits of the program. Noted challenges for implementing this form of content-specific support focused on mentor preparation. Participants described challenges: (a) codifying

mentor effectiveness, (b) designing and implementing processes for systematic support within the program, and (c) long-term goals. Other challenges included: designing norms and rules for mutual respect for pairing mentors and mentees; highlighting avenues for communication of pairings; the use and implementation of online video chatting; and close monitoring of the program to allow for quick responses to questions and problems.

Other music education scholars broadened investigations of beginning music teacher studies into program description and evaluation. These studies were designed to investigate the perspectives of both mentees and mentors in their organizations (Raschdorf, 2015; Weimer, 2017). Raschdorf (2015) examined outcomes and implications of informal mentoring relationships for beginning music teachers through the theoretical lens of Social Exchange Theory (SET). The author developed a multiple case study with novice general music teachers ($N = 3$) and interviewed them about their mentoring experiences. Notable major findings described effective mentoring including: (a) the element of choice in selecting a mentoring partner, (b) the establishment of connection based on similar backgrounds and teaching philosophies to facilitate value and trust, (c) reciprocal relationships, and (d) the quality of mentors and mentoring practices.

Lastly, Weimer, (2017) examined the relationships between music teacher mentors and mentees ($N = 4$) within Connecticut's state-wide novice teacher induction program and Teacher Education and Mentoring Program (TEAM). Through analysis of journal entries, individual interviews, and one joint interview between mentor/mentee pairs, findings revealed that participants identified specific roles and responsibilities as mentors and mentees. These included: developing trusts, collaboration, discussions of teaching, and opportunities to observe one another. Similar to previous investigation into new music teacher mentoring, the busy teaching

and co-curricular schedules of mentor/mentee participants in this study created barriers for meeting. Scheduling meetings and proximity of mentor-mentee pairs were noted as barriers to building connections. The author reflected on how relationships would have evolved differently if content-specific mentors also worked in the same building as their mentees.

Synthesis

The studies presented in above sections provided a rationale for content-specific support in general education (Luft & Patternson, 2002; Nam et al., 2013; Shore & Stokes, 2006) and new music educators (Conway, 2001a, 2003; Conway & Holcomb, 2008; Kreuger, 1999; Raschdorf, 2015; Smith; 1994; Weimer, 2017). Rationale for specialized mentoring opportunities was often to focus on the unique needs of teacher groups. Music educators noted a particular need for support combining content with aid to cope with the social stresses associated with entering the music teaching profession.

New teacher mentees sought organized and systematic support from mentors who are knowledgeable about the teaching assignments and contexts of their mentees (Conway, 2003; Kreuger, 1999; Smith, 1994). Additionally, mentoring practices, and access to support, varied greatly and may leave new teacher content-specialists without adequate on-site support (Jones, 1978; Conway, 2015). Researchers also acknowledged that new teacher isolation led to a need for flexible avenues of communication with mentors which may be met more feasibly integrated through digital environments (Berg & Conway, 2016; Conway, 2001a, 2003; Conway & Garlock, 2002; Conway & Holcomb, 2008; Conway & Zerman, 2004; Kreuger, 1999). Program organization and effective mentoring approaches continued to be areas for further investigation (Feiman-Nemser, 2012).

Preparing mentors to support beyond emotional needs of new teacher required systematic mentor preparation and reflection on their practices as educators and mentors (Berg & Conway, 2016; Feiman-Nemser, 2001, 2012; Maor & McConney, 2015; Nam et al., 2013; Shore & Stokes, 2006). Mentoring practices often highlighted: collaboration, observation, and content-support for lesson planning and curriculum development (Dawson, 2014; Orland-Barak, 2016; Shore & Stokes, 2006). Identifying similar mentoring approaches for music education was noted as particularly challenging because mentoring approaches varied within the field of music education (Conway, 2002, 2013, 2015; Conway & Holcomb, 2008). Furthermore, researchers and program organizers cautioned that without organized mentor preparation focused on mentee learning, mentors may default to more didactic approaches of support focusing on mentees merely replicating their mentors' teaching instead of guiding and supporting mentees to refine their own practice (Berg & Conway, 2016; Conway & Holcomb, 2008; Feiman-Nemser & Parker, 1990). General education researchers offered that mentoring, similar to teaching, was most effective when the purposes of the mentoring program are responsive to the mentee as a learner (Feiman-Nemser, 2012; Hobson, Ashby, Malderez, & Tomlinson, 2009; Orland-Barak, 2016). Systematic mentor preparation in conjunction with preparation for digital mentoring may help connect teachers and also mitigate the limitations inherent to on-site general mentoring experiences.

Digital Learning in Preservice Teacher Education

General Education

The prevalence of online learning and digital learning environments made this an important area of research for educational scholars. Kinnear, McWilliams, and Caul (2002) investigated the experiences of undergraduate teacher education students in the United Kingdom

observing elementary classes via videoconferencing through an evaluative case study. The use of digital learning environments in teacher education stemmed from a need for flexibility to visit diverse fieldwork experiences and connect preservice teachers with resources that would be otherwise limited to them if restricted by physical distance alone. Participants noted benefits in these newer forms of observations. Specifically, in how these observations promoted discussions of pedagogical topics in ways different from on-site experiences. Technical problems were noted in regard to camera control and adjustments to lighting for the video feed. Overall the opportunities to connect preservice teachers with access to varied fieldwork observations, that were also unobtrusive to classrooms being observed, outweighed the technical challenges.

Israel, Knowlton, Griswold, and Rowland (2009) described video-conferencing software, hardware, as well as experiences supporting preservice special education majors. Video-conferencing was noted as a key mediator for practicum supervisions. This environment welcomed opportunities for preservice teachers to interact with parents, siblings, and other family members of children with exceptionalities they would otherwise miss due to physical distance. “Users who integrate VC [videoconferencing] in teacher education coursework fundamentally enhance the potency of their instructional outcomes by enabling preservice teachers not only to learn about classroom settings, but also to interact with students and teachers *within* classroom settings” (emphasis in original) (Isreal, Knowlton, Griswold, & Rowland, 2009, p. 15).

Pickering and Joseph Walsh (2011) described how video-conferencing during fieldwork observations connected preservice teachers with early childhood professionals in ways that accommodated their busy academic class schedules. To understand the digital environment, the authors asked participating preservice teachers ($N = 41$) to observe at two fieldwork placements;

one on-site and one via video-conference. The preservice teachers were surveyed, and data was analyzed to compare the quality of the observation reports for each environment. The results identified video observations as a preferred method for participants due to its flexibility to their schedules as well as ease of asking questions and discussing ideas simultaneous to the observation. In general education, digital observations were of interest to teacher educators. Yet, much of this scholarship was exploratory and descriptive in nature to focus on the logistical components of organizing and constructing these types of experiences for students.

Music Education

The use of instructional technology within undergraduate music education programs often featured the use of technology for composing, creating, listening to, and performing music (Webster, 2012). However, technology could also be integrated into music education as an instructional tool, Chong (2008) described three action research studies on music theory edu-blogging. The comparison of the three studies highlighted how online learning environments may welcome more self-directed learning opportunities. The author noted effective management for self-directed learning and digital learning may occur with varying degrees of success based on how comfortable each student felt using this technology.

Fitzpatrick (2014) integrated the use of an interactive class blog into a student teaching seminar with undergraduate music education students ($N = 9$). Communities of practice and constructivist learning theories were used to frame the study. Students' blog posts, comments, and a descriptive survey of the digital environment were analyzed. This environment helped participants form a community and shared repertoire of resources. Notable findings about the blogging experience included how it: (a) welcomed a shared domain of interest for the student

teachers; (b) facilitated interactions that led to the development of a student teacher community; and (c) provided an avenue for sharing resources for the practice of music teaching.

Video conferencing for private lesson and master class instruction has also been discussed by music education practitioners and higher education faculty. These digital communications were a means for connecting students with meaningful feedback and opportunities to improve their performance (Burrack, 2012; Eberle, 2003). Eberle (2003) offered a detailed description of a university-based video conference master class and private lesson project. Although in-person lessons were labeled as ideal, the author welcomed the use of video conferencing as a tool to mitigate the isolation of young musicians with limited resources based on their physical location in the U.S.

In addition to empirical discussions about this learning environment, authors featured in practitioner journals also provided considerations for integrating digital learning environments and communication. Audio interference and delay caused by heavy internet traffic during the video feed transmission of video-conferences during rehearsals could interrupt the learning experience or delay communication in digital spaces (Burrack, 2012; Eberle, 2003). Eberle (2003) offered recommendations for mitigating issues such as using external microphones to reduce interference with the experience. Despite the additional set-up, the access to opportunities to connect with highly renowned musicians and opportunities to improve performance outweighed the initial adjustments for this learning environment (Burrack, 2012; Eberle, 2003).

Video conferencing has been of recent interest for teacher education scholars organizing video-based experiences to connect preservice music educators with more diverse fieldwork opportunities. Reese (2015) described the perceptions of preservice music teachers ($N = 21$) participating in virtual fieldwork and mentoring. The elementary general music fieldwork

included two 30-minute post-observation video conferences and three post-field teaching conferences with their assigned fieldwork mentors. Participants described that by not physically being present in the classroom, their purview was a potentially more realistic representation of student behavior. Post-observation and post-field teaching conferences were noted as beneficial for inquiring and conversing with mentors outside of class time. The preservice teachers also noted the virtual meetings as flexible to their busy schedules. Despite the physical distance, participants appreciated hearing about similar stories of struggle from their virtual mentors.

Reese (2016) then focused on the perspectives of the music teacher virtual mentors (N = 11). The mentor participants noted the virtual fieldwork was valuable and described similar benefits to traditional fieldwork experiences. These included: discussing teaching, observations, and welcoming more opportunities to chat with preservice music educators outside of the school day. Music teacher mentors detailed how the flexibility of scheduling debrief meetings outside of the school day was a benefit of this program.

Reese (2017) identified the types of questions presented during video-conferences for fieldwork. Questions were categorized into general and subject-specific pedagogy as well as opinions of classroom management and student concerns. Virtual mentors often provided responses to mentees in the form of personal narrative followed by clarification questions rather than overtly offering advice. The author discussed how these reflective conferences may position a mentor as a major contributor to the conversation focusing on explaining and describing while mentees may be more passive and focus on feedback.

Summary

Video conferencing and web-based learning have potential to circumvent barriers of physical distance, busy schedules, and cost of travel for students (Eberle, 2003; Reese, 2015;

2016). Edu-blogging experiences provided constructivist learning opportunities through guided reflection and self-directed learning (Chong, 2008; Fitzpatrick, 2014). In relation to fieldwork, video conferencing afforded preservice teachers a chance to view how students interact without the distraction of new people physically in the classroom (Pickering & Joseph Walsh, 2011; Reese, 2015, 2017). Though on-site fieldwork allowed opportunities for preservice teachers to interact with students in a learning environment, video technology approximated some of the in-person experience enough that reflecting on teaching practices and gaining exposure to diverse learning environments became priorities in this space (Isreal, Knowlton, Griswold, & Rowland, 2009; Kinnear, McWilliams, & Caul, 2002; Reese, 2015, 2017). Fieldwork mentors identified video conferencing as helpful for sparking conversations about teaching through the use of story and inquiry during observations debrief discussions. These approaches helped keep video conference discussions focused on the needs of the preservice teachers without the fieldwork mentors overtly directing the discussion (Reese, 2017). Authors continued to be optimistic about the potential of technology-based mentoring experiences to contribute to the professional development of music educators at various stages of their careers.

Digital Mentoring

Developing trust and rapport between mentors and mentees was one of a few key aspects needed for this type of relationship to extend mentoring beyond emotional support towards reflection, discussion, and enacting of teaching practices (Feiman-Nemser, 2001, 2012; Feiman-Nemser et al., 1999; Shore & Stokes, 2006). Researchers investigated content-specific mentoring for music teachers and also noted the importance of building trust within mentoring to foster a healthy mentoring relationship (Conway & Zerman, 2004; Kreuger, 1999; Smith, 1994). However, they cautioned that barriers may exist for new music educators in terms of access to

mentoring which may also impact mentoring approaches (Berg & Conway, 2016; Conway 2001b, 2002, 2013; Conway & Holcomb 2008). Digital mentoring environments may be an avenue for alleviating some of these barriers and connect new teachers with mentors support through: (a) online social networks, (b) video conferencing, (c) remote class observation, as well as (d) opportunities for one-on-one mentor collaboration through digital environments.

General Education

While on-site content-specific new teacher support has been investigated within general education, online and computer-based mentoring environments may also be viable for connecting content-specialists with the customized support that is inconsistently accessed at the district level. Investigations of digital mentoring in general education will now be featured to address: (a) online mentoring program design, (b) logistics and inclusion of lesson video review, as well as (c) benefits and challenges present within these environments that may impact new teacher support.

Online and text-based collaborative mentoring programs accounted for a large portion of the scholarship on digital mentoring (Bierema & Merriam, 2002). Babinkski, Jones, and DeWert (2001) performed a content analysis of an online collaborative mentoring program. Participants included beginning teachers (n = 12), veteran educators (n = 4), and university faculty (n = 8). Results indicated that 66 of the 173 initiated messages (43.9%) were posted from beginning teacher participants, while 221 (56.1%) were posted from university faculty or mentor teacher participants. Topics included: (a) individual student comments and concerns, (b) policy and politics, (c) stories about teaching, (d) technical issues, (e) classroom management, (f) working with adults, and (g) curriculum/instruction. Mentor response types were coded as: (a) fostering a sense of community through thanks and acknowledgements, (b) support, (c) sharing personal

work-related experiences, (d) providing advice, (e) sharing knowledge, information, opinions, and empirical evidence related personal experiences through testimonials, and (f) encouragement through reflection and clarification. Though not content-specific, this e-mentoring environment welcomed participants to address a variety of topics important to new teachers as well as post a wide range of questions and concerns about their experiences in the field.

Looking at a slightly different type of online mentoring community, Klecka, Cheng, and Clift (2004) described four electronic mentoring programs identified as "distributed communities of practice" to illustrate how participants interacted in these digital spaces. The study consisted of three years of data collection. Participants (N = 330) included e-mentors (n = 157) and novice teachers (n = 173). The authors were critical of these on-line and e-mentoring programs. Specifically, that this environment encouraged passive participation of group members which limited correspondence. Participants were observed logging-in and reading posts instead of initiating or responding to messages. New teacher participants bypassed discussion board posts and emailed project directors directly with their concerns because they were unsure which issues were appropriate to discuss within the larger online mentoring environment.

Similar to Babinski et al., (2001), Gareis and Nuusbaum-Beach (2007) compiled a content analysis of an asynchronous online mentoring forum to identify the direction and frequency of the posts amongst the mentors and novice teachers as well as the function and frequency of the posts between members of the online community. Participants (N = 24) included novice teachers (n = 13) and mentors (n = 11). Participants were noted as connecting well within their networked community. The online conversations were described as supportive in nature and included topics such as: (a) planning of teaching, (b) delivering instruction, (c)

student assessment, (d) classroom management, and (e) developing professional identities as novice educators.

In an attempt to compare face to face mentoring with online mentoring, Cheng (2008) designed a mixed-method, explanatory study to identify how new teachers were supported in these environments. Though this was a study of an alternative non-degree teacher certification program, this was also one of the few studies of new teacher mentoring that incorporated the use of sociological frameworks to study mentee learning. Participants ($N = 53$) included the following: new teachers ($n = 35$), district and contracted mentors ($n = 15$), university supervisor ($n = 1$) and principals ($n = 2$). Though topics and posts fluctuated based on the time of the year, new teacher participants sought support in both environments for: (a) classroom management, (b) student engagement, and (c) implementing methodologies of teaching. Participants compared the environments and noted the e-mentoring environment as limiting their ability to internalize messages and posts. The theoretical frameworks of Communities of Practice and Cognitive Apprenticeship helped feature learning within this study as socially situated and relational to a new teachers' teaching context. Learning in mentoring was noted as "affect[ing] their teaching practice and learning to teach" (Cheng, 2008, p. 210) and e-mentoring may be beneficial for resource collection but face to face mentoring supported learning more in comparison.

In a continued effort to understand online group mentoring environments, Simonsen, Luebeck, and Bice (2009) also completed a content analysis of an online mentoring program for beginning science and mathematics educators. Participants included both first year ($n = 11$) and second year ($n = 8$) teachers. The content analysis highlighted noteworthy patterns of online discussion messages about teacher knowledge such as: (a) life/logistics, (b) pedagogical content knowledge (PCK), (c) pedagogical knowledge (PK), and (d) content knowledge (CK).

Knowledge co-construction was identified as: (a) sharing/comparing of information, (b) discovery and exploration of dissonance, (c) negotiating of meaning, (d) testing and modification, and (e) agreement and application of new meanings. The authors identified how mentees often posted less about life and logistics while mentors used these topics as entry points to encourage mentees to participate in the online program. An implication for this study focused on how online private-paired mentoring may provide mentees the opportunity to interact with a mentor that was also "removed from the politics" of their school site or district.

Cothran et al. (2009) studied the experiences of mentor-protégé pairings ($N = 30$) in a physical educator mentoring program. Data included archived chatroom data and interviews with participants. Posts were tabulated based on the quantity and quality of the interactions. Findings indicated four conversation categories: (a) short social greetings, (b) indirect or informal statements about teaching, (c) teaching discussions with short exchanges of context specific questions, and (d) long detailed posts reflecting on teaching and implementation of the required physical education curriculum. Participants described the technical limitations of chatroom-based mentoring. They specifically noted the delayed response time inherent in this environment as prohibiting fluid reflection and conversations about teaching.

Instead of studying mentor-mentee pairs, or the experiences of mentees, Meagher (2010) compared how learning occurred for science teacher mentors ($N = 5$) within online and face-to-face mentoring environments. The author utilized a combination of Social Cognitive Theory (Bandura, 2006) and Situated Learning (Lave & Wenger, 1991) to frame this investigation. Data included: (a) interviews, (b) observations, (c) field notes, and (d) participant survey responses. Mentor participants noted mentoring as impacting: (a) teaching practice, (b) perceptions of how their feedback impacted their mentee's teaching, (c) self-reflection, and (d) self-efficacy.

Participants described the combination of face-to-face and online mentoring environments as allowing them to reach the widest audience of mentees. However, text-based communication for mentoring was noted as limiting. Face-to-face mentoring, on the other hand, welcomed mentors to recognize situations in which their mentees required assistance as well as provided them with clearer feedback about teaching challenges and concerns.

Wyatt and Arnold (2012) explored digital observation practices and described how video footage review can be integrated into mentoring for English teachers ($N = 5$) in the Omani Basic Education School System. Raw data of mentees' classrooms helped develop context for mentor-mentee conversations and rationale for studying the use of lesson footage. However, the limited purview created by the partially captured events in the raw video footage also presented potential constraints for this form of observation. The authors recommended integrating video-stimulated recall into the observation debrief experiences to promote sharing of ideas, reflecting, and discussing teaching with mentees.

Hunt, Powell, Little, and Mike (2013) offered more insight into how digital communication can support mentoring. Utilizing a mixed-methods explanatory design, the authors detailed the experiences of novice special education teachers ($N = 22$) participating in an e-mentoring program. Participants noted timely mentor responses in the form of direct messages offered more opportunities for interactions between mentors and mentees in the online environment. This environment also mitigated feelings of isolation often noted by special education faculty working in isolation as the school specialist.

Music Education

Music education scholars were also initiating investigations of digital new music teacher mentoring experiences. Bell-Robertson (2011, 2014) described the experiences of novice

instrumental music teachers ($N = 11$) who participated in an online new music teacher community. The researcher used Wenger's Community of Practice to analyze the interactions between participants in the study. Through analysis of transcripts and multiple interviews with each participant, the online community was portrayed as meeting the emotional needs of novice instrumental educators as they learned to become music teachers. Despite this affective support, this environment presented few opportunities for rich content-specific conversations about practice. The author surmised that the size of the community, variety of participant's teaching contexts, and time required on behalf of mentees to interact in the online community discussions may have restricted the types and frequencies of conversations. In the most recent review of literature on current trends in new music teacher mentoring, Bell-Robertson (2015) discussed the need for alternative forms of music teacher support especially in digital spaces. The author charged scholars to consider future research of online and digital mentoring for music educators to continue innovating mentoring approaches.

Synthesis

Though e-mentoring may provide opportunities to connect larger groups of new teachers, implications from the studies in this section were also insightful about the various challenges inherent in online communities (Bell-Robertson, 2011; Cothran et al., 2009; Hunt et al., 2013; Simonsen et al., 2009; Wyatt & Arnold, 2012). The positive attributes of online mentoring for mentees included: (a) flexibility of scheduling meetings, (b) customized support, and (c) enriched discussions of teaching through systematic review of teaching footage (Bierema & Merriam, 2002; Klecka, 2004; Klecka et al., 2004; Schichtel, 2010; Schlager & Fusco, 2003; Wyatt & Arnold, 2012).

A noteworthy challenge identified by digital mentoring scholars was how some digital spaces confined or restricted mentee learning (Cheng, 2008; Cothran et al., 2009; Klecka et al., 2005; Wyatt & Arnold, 2012). For instance, chatroom-based mentoring was dependent on the activity and frequency of members posting and sharing ideas (Hunt et al., 2013; Klecka et al., 2005). And though chatroom based online communities met the emotional needs of new educators (Cothran et al., 2009; Hunt et al., 2013; Klecka et al., 2005) the lack of context for posted comments and unique context of each community member's needs also limited opportunities for more focused curricular conversations (Bell-Robertson, 2011). While limitations were important to consider, supplementing face-to-face mentoring with electronic mentoring also enriched the support. These supplemented experiences included: virtual workshops, on-site and virtual school visits, videotaped lesson review along with chatroom-based mentoring (Wyatt & Arnold, 2012).

Videoconferencing for observations and discussions about teaching were described as paralleling the natural conversation of face-to-face in-person discussions of practice within distance learning opportunities (Reese, 2015, 2016, 2017). Some scholars identified this as "media naturalness" which is the degree to which a communication medium (i.e. telephone, e-mail, video conference, etc.) can replicate an in-person discussions (Kock, 2005; Simon, 2006). Based on these considerations, digital mentoring in this present dissertation was defined as the use of synchronous and asynchronous digital communication to connect a mentee with a mentor.

Though many scholars investigated and analyzed content of programs (Babinski et al., 2001; Gareis & Nuusbaum-Beach, 2007; Klecka at al., 2004), others focused more on studying how learning may occur within digital mentoring guided by theoretical frameworks (Cheng, 2008; Meagher, 2010). Though varied, extant literature on digital new teacher mentoring

highlighted the potential for this environment to help meet the varied and unique needs of new teachers through customized and flexible support (Bell-Robertson, 2011; Cheng, 2008). The next section of this chapter will address how evidence of new teacher learning was identified within mentoring and how digital mentoring was examined through the use of theoretical lenses.

Teacher Learning in Mentoring

In addition to comparing on-site and digital mentoring environments, new teacher mentoring programs also varied based on the formality of the mentoring experience. For example, some new teacher induction and mentoring included goals and objectives to guide mentoring (Achinstein & Athanases, 2006; Dawson, 2014; Feiman-Nemser, 2012; Induction resource, 2017; Wang & Fulton, 2012; Wang et al., 2010). These helped new teachers receive curricular support from a mentor and focused meeting on topics such as the needs of diverse student populations (Feiman-Nemser, 2001; Goldrick, 2016). Achinstein and Athanases (2006) suggested that mentors focus on three topic areas during mentoring to spark discussion and reflection on teaching and learning. These areas were: (1) learners and learning, (2) curriculum and teaching, and (3) contexts and purposes of teaching. Though these guides provided a framework, they did not necessarily afford mentors with descriptions of approaches to help novices learn (Feiman-Nemser, 1998, Schwille, 2008).

As a means of comparing formal mentoring programs to the practice of mentoring, Feiman-Nemser, Parker, and Zeichner (1993) investigated the experiences of new teacher mentors ($N = 3$) participating in an on-site formal mentor training program and subsequent mentoring partnership with a new teacher. This study revealed that mentors knew "little about what the beginning teachers are *thinking*.… because the mentors seem relatively uninterested in probing their ideas…. Nor do mentors share their own *thinking* about the lesson" (p. 162,

emphasis in original). As a result, the mentees did not develop a sound rationale for synthesizing the discussions that occurred during mentoring meetings into their practices. The researchers recommended scholars continue to identify specific ways mentors prepare to be attentive to the needs of mentees and the rhetoric of mentoring.

Strong and Baron (2004) also sought to identify learning in mentoring and analyzed 64 recorded conversations between mentors and mentees ($N = 32$) to describe how mentoring conversations occurred before and after mentee class observations. Findings indicated mentors provided indirect suggestions with an often-positive response from the mentees to accept the suggestions. Additionally, the content of the discussions most often focused on teaching and subject specific suggestions for practice. The authors inquired as to why this particular data focused so much on indirect suggestions more than direct recommendations from mentors. They hypothesized that the cognitive coaching model encouraged through the mentoring program being studied directly impacted the increased use of indirect recommendations on behalf of the mentors in the study.

Within music education, Schmidt (2008) studied the growth of a failing first year music teacher, Jelani, ($n = 1$) as he successfully received his tenure and positively changed his practice through becoming a mentor to preservice teachers while also being mentored as a first-year music teacher. Schmidt documented the communication and transactions between the mentee and his two mentor teachers ($N = 3$). Schmidt noted challenges identified by the mentor participants as well as the strategies they implemented to help Jenali change his practice. The author defined this experience as a "reciprocal mentoring" relationship. Experiencing mentoring as a mentee, while also mentoring preservice educators, provided Jenali an additional opportunity to identify new-found knowledge and skills to better self-assess and reflect on his

own teaching over time. Though this particular study described multiple layers of mentoring and mentor perspectives, learning and changing teaching practices based on mentoring was a featured outcome of this experience for Jelani, his mentees, and his mentors.

Synthesis

In some of the described studies, mentoring provided new teachers with opportunities for self-directed learning that was relevant and immediately applicable to their teaching (Feiman-Nemser, 2001, 2012). In the case of new teacher populations, mentoring that was structured around content and context of a new teacher's classroom was most beneficial (Bell-Robertson, 2011, 2014; Conway, 2015; Schmidt, 2008; Shore & Stokes, 2006). However, the approaches mentors enacted may vary depending on whether mentees simply want to know "what to say or do" in a lesson versus gradually and systematically reflecting on their own teaching within a mentoring experience (Feiman-Nemser, 2012; Merriam, 1983; Strong & Baron, 2004). This nuance within mentoring was the difference between learning to teach in isolation and learning to teach with the support of an expert educator (Feiman-Nemser, 1998, 2012; Lortie, 1975). However, identifying mentoring approaches, and how these were enacted to meet content-specific needs of music educators, continued to be topics of discussion (Berg & Conway, 2016; Conway & Holcomb, 2008). Therefore, theoretical lenses that feature the role of the teacher within the learning process, such as adult learning theories and self-study, may help identify mentoring approaches.

Theoretical Framework and Lens

Adult Learning

One challenge within new teacher mentoring often involved identifying how mentors may need to toggle between attending to the emotional needs of new teachers as well as fostering

opportunities to discuss and refine teaching (Feiman-Nemser, 2001, 2012; Schwille, 2008). This balance was also particularly challenging for new music teachers participating in mentoring experience. This was because of the conflict between the immediate concerns of new teachers regarding their classroom while simultaneously navigating their new role as adults learning outside the structures of their undergraduate experience (Conway, 2015; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004). To that end, identifying opportunities within mentoring, as well as structuring mentoring to support new teachers as learners, was difficult to isolate within past research (Feimen-Nemser, Parker, & Zeichner, 1993). It was then worthwhile to consider framing this present dissertation about new teacher mentoring and learning within motivational theories and social frameworks.

In learning environments that cater to adult learners, an educator may function as a facilitator. In this role, they guide and support a learner as they self-reflect; while other times adult educators may act as organizers of materials and activities. In this role, they may also create problem-based learning experiences for their students. Achinstein and Athanases (2006) noted similar roles may exist within mentoring especially as mentoring trends shift towards emphasizing learning in conjunction with emotional support for new teachers.

> A new conception of teacher [meaning the mentee] as learner also requires a new conception of mentor as teacher. We know that many induction programs select mentors on the basis of their being lead teachers, veteran teachers of some distinction, or teachers of greatest seniority…. Although they have distinguished themselves in their classrooms, assuming these good teachers make good mentors of new teachers is problematic. Making mentors needs to be cast as a deliberate act that rests on a knowledge base for effective mentoring.... Thus, mentors are not born, but made, and are in a continuing process of becoming. (pp. 9-10)

With this in mind, theories of adult learning may help guide investigations of mentor perceptions of mentee learning within digital mentoring environments.

Andragogy. Scholars described learning in adulthood as uniquely different from learning that occurs during earlier, more formalized, education (Merriam, Caffarela, & Baumgartner, 2007). Adult learning is then often based on an immediate need for practical knowledge in an adult's life. Major life changes (e.g. a new job, illnesses) could also be significantly impacted by how adults organize their world and evolve in their roles through life. Adult education scholars contended that this population of learners thrive largely on working with practical information and skill oriented to reflect the socio-historical context of their learning environment which balances between formal (situated) and informal (experiential) learning experiences (Knowles, 1984; Knowles et al, 2005; Merriam et al., 2007). This focus on practical learning could impact how adults communicate about their learning needs as well as how they seek support. Therefore, adult educators would need to adjust and plan accordingly for these needs.

Andragogy was defined as the art and science of helping adults learn based on a set of assumptions about adult learners and elements of adult learning (Knowles, 1970, 1984; Knowles, Holton, & Swanson, 2005) (see Table 1). Knowles initially developed a set of assumptions and elements of adult learning to help identify the essence of adult education and what made these experiences different from traditional, school-based, learning (Knowles, 1970, 1984). Some of the major components of Knowles' work included the balanced presence of both informal and more structured, or guided, learning experiences. This combination was intentional because adults seek both problem-based and relevant opportunities to fix or attend to a task. And, though focused on relevance, adult learners also thrive on familiarity in their learning environments. Specifically, paralleling components of adult learning experiences to more formalized education. This model of adult learning welcomes the presence of a student-teacher relationship. This relationship could allow for educators to differentiate learning and even sequence and scaffold

experiences for their students. This balance was noted as helpful for learners acquiring basic skills training for a specialized area of interest. In many ways, this paralleled teacher education or apprenticeship (see Table 2).

Table 1

Six Assumptions About Adult Learners (Knowles, 1984)

1. As a person matures, his or her self-concept moves being dependent on personality towards one of a self-directing human being
2. Adults accumulate a growing reservoir of experiences, which are a rich resource of learning
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.
4. There is a change in time perspective as people mature - from future application of knowledge to immediacy of application. Thus, an adult is more problem-centered than subject centered in learning.
5. The most potent motivations are internal rather than external
6. Adults need to know why they need to learn something

Table 2

Critical Elements of Adult Learning (Knowles, Holton, & Swanson, 2005)

1. Preparing the learner
2. Establishing a climate conducive to learning
3. Creating a mechanism for mutual planning
4. Diagnosing the needs for learning
5. Formulating program objectives

6. Designing a pattern for learning experience

7. Conducting these learning experiences with suitable techniques and materials

8. Evaluating the learning outcomes and re-diagnosing the learning needs

Whether on-site or through digital means, researchers investigating mentoring may seek to identify ways mentors can guide discussions and organize topics to help mentees. This is with a broad intent to offer mentees opportunities professionally develop through mentoring. These proposed future investigations may consider how adult learning parallels new teacher mentoring. For example, new teachers have potential to be well suited for self-directed learning in that they are often: (a) more effective communicators than their undergraduate counterparts, (b) have developed a more refined sense of inquiry, (c) problem based in their learning interests, and (d) are ready for learning unfamiliar material due to the relevance of the information to their daily lives (Conway & Garlock, 2002; Conway & Zerman, 2004). Unfortunately, mentees may also struggle to identify with their mentor and may require more structured support (Conway & Zerman, 2004; Schmidt, 2008). The andragogy model (Knowles, 1984) described the need for an expert educator to guide and support an adult learner. In new music teacher mentoring, this may be associated with supporting new teachers as they implement and refine their curricula, assessment cycles, as well as refine their instruction and teaching practices to include opportunities for more innovative and diverse experiences for their students (e.g. composing, improvising, and integrating technology). The andragogical framework then helped feature codes and themes through a priori coding in this present dissertation to further illuminate how mentors may teach within digital new teacher mentoring.

Self-Study: An Avenue for Refining and Reflecting on Mentoring

Scholars often defined self-study as a researcher's intentional and personal inquiry into their own teaching practices as a means to develop a more introspective and empirical understanding of their impact on student learning. This differed from other forms of teacher inquiry in the focus on a teacher's unique understanding of teaching within a study that may only be reached from a practitioner's perspective (Bullough & Pinnegar, 2001; Elijah, 2007; Kosnik, 2001; Loughran, 2002; 2007a; 2007b; Samaras, 2010; Samares et al. 2007, Wilcox et al., 2007). In much of the literature, self-study featured a driven teacher educator's voice confronting challenges to learning that are "typically, too easily ignored, or explained away, because of the pressure of the work of teaching" (Loughran, 2007b, p. 162). To enact self-study, scholars adhered to a set of assertions including seeking to "openly, reflectively, and systematically examine their practice with critique from others to gain alternative points of view" (Samaras, 2010, p. 720) and identified the "space between self and the practice engaged in" (Bullough & Pinnegar, 2001, p. 15). Due to the situated nature of self-study, case study was often implemented for this type of research (Loughran, 2007a, 2007b).

Although self-study often featured individual examination and self-reflection on teaching, scholarly inquiry was not the only goal of this approach (Bullough & Pinnegar, 2001; Clandinin & Connelly, 2007; Loughran, 2007a, 2007b). Instead, self-study researchers also focused on learning alongside critical friends or co-researchers that offered alternative perspectives to situations and observations being studied (Loughran, 2007a; Samaras & Freese, 2006; Wilcox et al., 2007). Data in self-study included: personal prose and narrative, categories of solicited open feedback about a learning experience, course objectives and information, student projects and assignments, and maintenance of an instructor's log including lesson plans and notes (Samaras et

al., 2007). Analysis of this form of inquiry required an explicit presentation how the researcher intended to position themselves within the work (Clandinin & Connelly, 2007; Loughran, 2007a). This could involve: (a) numerous readings of each individual matrix, (b) revisiting themes, (c) re-examining the codes and repeating the process for each participant, (d) developing a category profile to organize the datasets, (e) combining categories and developing new unique categories to integrate with existing ones as needed, and (f) enlisting of support from colleagues to discuss dilemmas and share out experiences (Samaras, 2010; Samaras & Freese, 2009; Wilcox et al., 2007).

Self-Study in Music Education

A powerful component of qualitative research was how a scholar's prose may connect to a reader's personal story (Robbins, 2014). Leglar and Collay (2002) offered that music educators participating in conversations about the practice of music teaching "expand and enrich the way they think about their craft" (p. 869). This form of dialogue was often explicit in the reports of self-study research in which the authors' personal contexts and connections promoted reflection and personal improvement on their practices as teacher educators (Stanley & Conway, 2015).

Though the write-up of self-study welcomed a visible presentation of a researcher's personal connection to their audience, the methodological decisions could also include a rich interchange between co-researchers as they seek to develop an intimate knowledge of their experiences as teacher educators during informal scholarly discourse (Cooper & Berger, 2004; Conway, Eros, Pellegrino, & West., 2010; Conway, Palmer, Edgar, & Hansen, 2016). For instance, Cooper and Berger (2004) used the practice of "intentional negotiation" during their data collection and analysis of young children exploring music making. This approach involved participant observations along with the authors documenting their discussions about the study

with each other through asking questions, challenging one another's ideas, determining agreement, and using written and verbal communication to document exchanges throughout the study to identify how communication enhances and modifies the musical play of children.

Conway et al. (2010) also utilized self-study design and investigated the simultaneous development of music teachers and music teacher educators as well as how community was developed in higher education through their analysis of formal and informal interactions with undergraduate and graduate students. The authors documented their reflections about their interactions with undergraduate and graduate students along with general thoughts about their transition into the teacher education field. Other data included: (a) interviews with undergraduates, (b) a focus group, and (c) six "self-study" team focus groups. It was interesting to note that the self-study journals were valued by the research team not only for helping substantiate themes but also for providing the Ph.D. students opportunities to reflect on their own teacher education issues.

Expanding teacher education development to graduate teacher education, Conway et al. (2016) examined the individual and collective perceptions of a music education professor and three doctoral students teaching graduate students. Data included: (a) one focus group interview with the students and their professor, (b) self-study journals, and (c) individual interviews with each participant. The main findings highlighted the concerns of the graduate students, primarily that their view of graduate teaching changed with their experiences and time to process content.

Criticisms and Challenges of Self-Study

Though advocates of self-study identified how this method can feature teacher educators as researchers within their own empirical work, self-study was not exempt from scrutiny (Loughran, 2007b). Critical opinions of this method often highlighted the "lack of clarity" or

objectivity within this form of scholarship as a main concern (LaBoskey, 2004; Samaras, 2019). One common point of contention for self-study involved who was defined as a participant in a particular investigation and what constituted a self-study compared to scholarly inquiry. Despite the growing presence of published self-study investigations within general education research as well as the development of the Self-Study Teacher Education Practices (S-STEP) Special Interest Group within the American Educators Research Association (AERA), the lack of clarity distinguishing components of this work from other forms of teacher inquiry was a by-product of the contemporary and ever evolving nature of this approach (Loughran, 2007b).

An additional criticism of this method stemmed from scholarly discussions about how a self-study researcher identified their position within a study and whether limited bias in this scholarship could muddle the subjectivity or nuance. In a larger discussion about research within the arts, music education scholars encouraged researchers to embrace subjectivity and welcome an explicit presentation of a researcher as a participant within research (Matsunobu & Bresler, 2014). The rationale for this position was based on how interpretive research was, and continued to be, inherently non-neutral, and involves "interpolating and extrapolating, judgment-making and assuming, doubting, and affirming" (Peshkin, 2000, p. 5). It was then recommended that qualitative researchers implementing self-study methods into their work welcome reflection on core questions such as: "How have the people in this setting constructed their reality? What is perceived as real? What are the consequences of what is perceived as real?" (Patton, 2015, p. 121). These questions featured multiple truths and pluralism through a synergistic conceptualization of how "realities are taken to exist in the form of multiple mental construction[s] that are socially and experientially based, local and specific, and dependent for their form and content on the persons who hold them" (Guba, 1990, p. 27). If subjectivity is

substantiated as socially constructed truth and knowledge then the researcher may need to position themselves more visibly within their work as a simultaneous participant observer (Patton, 2015). Scholars investigating this idea posited that this position afford a self-awareness on behalf of the researcher to report on their own feelings, emotions, and experiences during a study (Allsup, 2014; Clandinin & Connelly, 2007; Ellis & Bochner, 2002; Patton, 2015). Therefore, if it is recommended that scholars be visible within their studies, then scholars investigating topics of learning should consider integrating self-study into their research.

Synthesis

Scholars recommended that future investigations of new teacher mentoring consider the assumptions surrounding how learning occurs and continue to conceptualize the process of learning to teach (Feiman-Nemser, 2012; Schwille, 2012). Along with refined communication and relationship building skills, the rationale for this argument stemmed from how mentors may be better prepared to meet mentee's needs with an understanding of adult development and learning in adulthood (Griffin, Winn, Otis-Wilborn, & Kilgore, 2003). Andragogy was then selected as the theoretical framework to guide this present dissertation. Themes and findings will be featured in Chapter VI as they related to the assumptions of adult learners and elements of adult learning highlighted within this frame.

In addition to andragogy, self-study strategies were employed to feature the unique perspectives of my experiences as a participant and research in tandem with my co-mentor's experiences during the study. The rationale for incorporating self-study strategies into this investigation stemmed from recommendations by self-study scholars who contended that if a researcher finds themselves within a scholarly inquiry that involved their expertise and personal experiences in the field, "it is not sufficient to simply view a situation from one perspective"

(Loughran, 2002, p. 243) especially when looking at self in action within education context (Hamilton, Smith, & Worthington, 2008).

My Previous Investigations of Digitally Mediated New Teacher Mentoring: 2015-16 Study

This dissertation was influenced by my research and work as a mentor beginning in the summer of 2015 when I was presented a unique opportunity to construct a digital new teacher support program for new music teachers located in California. This detailed presentation of my 2015-16 and 2016-17 studies is to provide a transparent rationale for how the mentoring experience in this present dissertation was designed. The communication, including the expectations for participants, use of video conferencing, text message, and lesson review will be detailed in Chapter III. Therefore, an Institutional Review Board (IRB) application was approved in August of 2015 with amendments added during the summer of 2017.

My previous investigations will be described here, beginning with the 2015-16 study. This descriptive case study was bound by the 2015-16 school year and the two first year teacher participants teaching and mentee experiences (both individual and collective). Research questions included: (a) how do two first year teachers describe their challenges, needs, and concerns specific to orchestral pedagogical content knowledge? and (b) how do the participants interact within the digital mentoring environment? This study involved two participants selected based on Patton's (2015) time-location sampling strategy. This strategy welcomed me, their mentor, to interact with and interview the new teachers during the 2015-16 school year. The following criteria also helped to identify these participants. The new teachers: (a) were paired with me as their remote new teacher mentor due to my connection with the school district and experience as a Beginning Teacher Support and Assessment (BTSA) new teacher mentor, (b) completed a traditional undergraduate music education program from NASM accredited

universities, (c) were assigned to teach classes outside their content area of strength, and (d) were first-year music teachers. See Table 3 for a description of these participants, who are referred to using pseudonyms.

Table 3

Description of 2015-16 Mentee Participants

Participants	Age	Gender	Teaching Assignment	Primary Instrument
Cornelius	23	M	2 beginning orchestra, 2 intermediate orchestra, 1 advanced orchestra, & 1 beginning band. *This was an overtime teaching assignment	Tuba
Elizabeth	22	F	2 beginning orchestra & 3 beginning bands	Flute

Communication

After consent was established, communication with the mentees was initiated, including connecting with each of their corresponding site administrators to explain the study as well as how video recorded teaching footage would be integrated into the mentoring experience. Communication was primarily through video conferencing supplemented with phone, text message, email, and shared documents. I created secured, shared online folders for each mentee participant to access and share files with me as their mentor. These folders were intended to be used as a repository space for gathering and sharing teaching materials including a subfolder dedicated to sharing class video footage between my mentees and me as their mentor.

Video conferencing, text message, and lesson review. Video conference meetings were recorded using built-in screen recording functions on my computer. Programs used to store the video conference data included FaceTime, Skype, and BlueJeans. The videos were saved and stored on a secured external hard drive after each meeting. Text messages were saved through screenshots within a text message program. Screenshots were collected as text-based data and archived to maintain a timestamp of the conversation. Rehearsal video footage was recorded with devices available to each participant in their classrooms. These devices varied between each mentee but often included either a: built-in laptop camera, flip camera, or use of an iPad. Participants recorded a series of rehearsals and uploaded them to a GoogleDrive folder for the files to be shared with me. Subsequent video conferences focused on reviewing mentee's lessons through "video-based shared reflection." This process emphasized discussing and reflecting on teaching to develop a "constructive, shared reflection" (Tochon, 2007, p. 61) to generate new ideas about teaching and student learning.

Communication timeline. Video conference meetings depended on the needs of the mentee and availability of the mentor during a given week in the school year. Mentees often communicated their preferred topics of discussion prior to our video conference through text message or email (see Figures 1 & 2).

Data from the 2015-16

A substantial amount of data was collected to develop a rich context for this digital social space. The sources of the 2015-16 data included: (a) 10 months of digital written communications collected through the study, (b) two semi-structured interviews with each of the participants, (c) one semi-structured focus group with the participants, (d) a researcher journal and notes spanning the 10 months of data collection. Participants were also asked to keep written

reflections in the form of digital written communications. These included: (a) 33 Google docs, (b) 53 text message screen-shots, and (c) email correspondents throughout the study.

Analysis for 2015-16

The video footage collected for this study required particular attention to how the videos were transcribed and used during analysis. Tobias (2014) described that "multimodal and multimedia data affords researchers ways to observe, analyze, and understand phenomena that might not otherwise be possible" (p. 289). The multimodal and multimedia data were also the setting in which the study existed and therefore were analyzed using an inductive analysis approach. This focused on reviewing the data focusing on broad questions avoiding a strong association to a theory by transcribing the videos through the use of matrices to help featured events and themes (Goldman, Erickson, Lemke, & Derry, 2007; Tobias, 2014). Next, a spiral analysis (Creswell, 1998) was employed to continue memoing, interpreting, and representing the data to confirm the emerging themes. Codes were reviewed and recoded as needed through the peer examination (Anfara, Brown, & Magione, 2002).

Jessica's mentoring meeting schedule 2015-2016

August +		**September +**		**October +**		**November +**		**December**	
8.13.2015	Cornelius 1:15	9.7.2015	Cornelius 0:22	10.6.2015**	Elizabeth & Cornelius 0:35	11.5.2015	Elizabeth 0:10	12.30.2015	Cornelius 0:45
8.15.2015	Elizabeth 1:07	9.8.2015	Elizabeth 1:42	10.20.2015**	Elizabeth 0:59	11.8.2015	Elizabeth 1:00 Cornelius 0:55		
8.18.2015	Elizabeth 1:01	9.10.2015	Cornelius 0:30	10.22.2015	Cornelius 0:56	11.18.2015**	Cornelius 0:29		
8.19.2015	Elizabeth 1:25	9.15.2015	Elizabeth 1:20						
8.20.2015	Cornelius 1:06 Elizabeth & Cornelius 1:44	9.20.2015**	Elizabeth 1:01 Cornelius 1:10						
8.26.2015	Elizabeth 1:01	9.27.2015	Elizabeth 0:49						
8.27.2015	Elizabeth 0:49								
8.28.2015	Elizabeth 0:30								
8.31.2015	Elizabeth 1:01								

January +		**February**		**March**		**April**		**May**	
1.3.2016	Elizabeth 1:14 Cornelius 1:06	2.6.2016**	Cornelius 0:57 Elizabeth 2:45	3.6.2016	Elizabeth 0:46	4.24.2016	Elizabeth 1:04	5.19.2016	Focus Group
1.17.2016**	Elizabeth 1:03	2.20.2016	Cornelius 1:10	3.9.2016**	Cornelius 0:36				
		2.21.2016**	Elizabeth 0:59	3.19.2016**	Elizabeth 0:52				
		2.25.2016	Cornelius 0:55						
		2.26.2016	Elizabeth 0:40						
		2.28.2016	Elizabeth 1:05						

** Meetings which discussed rehearsal video footage
+ Mentee submitted a written reflection
Length of meetings indicated as hh:mm

Figure 1. Summary of 2015-16 Data Collection - Jessica's Data

Jessica's mentoring meeting schedule 2016-2017

August		September		October		November		December	
8.7.2016	Initial meetings with each participant	9.1.2016	IRB renewal process initiated with new participants	10.6.2016	Sarah 0:25	11.6.2016	Sarah 0:45	12.13.2016	Grace 0:53
				10.8.2016	Grace 0:58	11.7.2016	Elizabeth 0:50		
				10.18.2016	Grace 0:56 Mandy 1:05 Sarah 1:03	11.8.2016	Mandy 0:40		
				10.25.2016	Grace 1:03 Mandy 1:10 Sarah 0:46	11.16.2016	Mandy 0:48		
						11.22.2016	Mandy 1:00		
						11.29.2016	Grace 0:41 Mandy 0:47		

October 2016 Rehearsal footage review integrated into meetings

Table 1

January		February		March +		April		May		June +	
1.2.2017	Cornelius 0:52	2.7.2017	Grace 0:54	3.6.17	Grace 0:41	4.6.17	Elizabeth 0:47	5.2.17	Sarah 0:43	6.1.17	Elizabeth 0:56
1.8.2017	Sarah 0:40	2.28.2017	Cornelius 1:28	3.11.17	Cornelius 1:05	4.6.17	Cornelius 0:55	5.8.17	Cornelius 1:12	6.2.17	Grace 0:40 Sarah 0:28
1.10.2017	Cornelius 0:46			3.11.17		4.15.17	Cornelius 0:59 Grace 0:54	5.12.17	Elizabeth 0:47	6.12.17	Cornelius 1:06 Elizabeth 2:14 Grace 0:53
1.17.2017	Grace 0:48 Mandy 1:12			3.13.17	Elizabeth 0:30			5.13.17	Grace 0:44	6.26.2017	Sarah 0:35
1.31.2017	Cornelius 1:05 Elizabeth 0:44 Sarah 0:			3.14.17	Grace 0:50			5.25.17	Cornelius 0:41		

+ Mentee submitted a written reflection

Length of meetings indicated as hh:mm

Figure 2. Summary of 2016-17 Data Collection – Jessica's Data

Findings from 2015-16

Along with a description of the digital mentoring environment developed for this study, findings also highlighted how mentees utilized the digital mentoring space and how it provided them with: (a) increased flexibility and frequency of communication with their mentor, (b) opportunities for feedback and advice; (c) multiple points of contacting their mentor that helped balance and structure support, and (d) avenues for feedback regarding their teaching practices met their needs as teacher learners through digital communication.

Two themes emerged that highlighted how the digital mentoring environment helped support the orchestra-specific pedagogical content knowledge needs (PCK) (Shulman 1986, 1987). These included: (a) flexibility and frequency of communication within the digital environment and (b) ability to review of teaching footage with support catered to their needs. The mentees noted the digital mentoring environment as a positive form of communication due to its flexibility and frequency of meetings. The use of debriefing teaching footage via FaceTime also served as a tool for their self-reflection. Descriptive findings regarding how PCK was highlighted in each of the mentees' reflections as well as descriptions the digital mentoring project were presented at the 2016 B1G Academic Alliance Music Education Conference (College Park, MD) as well as the 2017 American String Teacher's Association Conference (Pittsburgh, PA). A summary of findings focused on the digital environment itself were also presented at the 2017 America Educational Research Association (San Antonio, TX).

2016-17 Study

Upon completing my contracted year of digital mentoring with the 2015-16 new teachers, my goal during the 2016-17 year was to continue collecting data on digital mentoring with a new set of mentee participants. A purposeful sampling strategy was employed for this study (Patton,

2015). The criteria included that the new teacher participants: (a) completed a traditional undergraduate music education program from NASM accredited universities and (b) were novice music teachers (i.e. in their first or second years in the profession) (see Table 4). Data sources included: (a) 10 months of digital written communications collected through the study, (b) two semi-structured interviews with each of the participants, and (c) a researcher journal and notes spanning the 10 months of data collection. See Table 4 for a description of the participants from the 2016-17 study, who are referred to using pseudonyms. Participants in this study were also asked to keep written reflections in the form of digital written communications through email, GoogleDocs, as well as notes from our mentoring meetings. These included: separate Google folders including rehearsal video footage and shared resource materials, text message screen-shots, and email correspondents throughout the study. Data analysis followed a similar sequence to that of the 2015-16 study including inductive analysis of the multimedia data (Goldman, Erickson, Lemke, & Derry, 2007; Tobias, 2014) along with a spiral analysis strategy recommended by Creswell (1998).

Table 4

Description of 2016-17 Mentee Participants

Participants	Age	Gender	Teaching Assignment	Primary Instrument
Cornelius	24	M	2 beginning orchestra, 1 intermediate orchestra, 1 advanced orchestra, & 1 beginning band.	Tuba
Elizabeth	23	F	2 beginning orchestra & 3 beginning bands	Flute
Grace	23	F	Pull out middle school level woodwind classes, jazz band, high school: concert band, marching band	Flute
Sarah	23	F	Elementary beginning band and elementary general music	Flute

Findings from 2016-17

In addition to featuring similar findings to the 2015-16 mentee experience, other preliminary findings in the 2016-17 study focused on: (a) logistics for coordinating meetings with mentees, (b) logistics for recording rehearsals for our mutual review, and (c) mentee learning from the mentee's perspective. This exploration into the notion of mentee learning sparked a new interest for me to study the mentor's experience within digital new teacher mentoring.

Conclusion

Chapter II has provided a review of extant literature on new teacher mentoring within general education and music education research as well as digitally mentoring research within general and music education. Details were also provided for how theoretical frameworks of adult learning and self-study helped to support this investigation of mentor perspectives of mentee learning within a digital mentoring environment. Chapter III will describe the methods and analysis for this investigation. Chapter IV and V will detail the findings associated with the three research questions. Chapter VI addresses how the theoretical framework of andragogy helped to illuminate more specific understandings about how mentee learning was noted and how mentoring practices were enacted in the digital mentoring environment. Lastly, Chapter VII is the final chapter including a summary of the study and implications for future research and digital mentoring program design.

CHAPTER III

Methodology

Purpose Statement

The purpose of this study was to describe mentor perceptions of mentee learning in the digital mentoring environment.

Research questions included:

(a) How do mentors describe their experiences within a digital environment?

(b) How do mentors describe changes in mentee teaching practice as evidence of mentee learning?

(c) How do mentors describe the emergence of their mentoring practices in response to the learning of each mentee?

Design

This multiple case study (Barrett, 2014; Creswell & Poth, 2018; Stake, 1995; 2006; Yin, 2014) examined two cases each with one mentor and two mentees working together during the 2017-18 school year in a digital mentoring environment. Case study was implemented to provide opportunities for a flexibility of focus (Barrett, 2014) and fluid approaches to analysis (Creswell & Poth, 2018; Patton, 2015; Yin, 2014). This design also welcomed a consciousness on behalf of the mentor participants collecting data on their experiences in the study. Barrett (2014) provided a visual representation that I modified to help identify the binding for the cases as well as organize my research questions (see Figure 3). The two cases were bound by the mentor

communications, experiences, and interactions with their mentees during the 2017-18 school year from August 2017 to June 2018.

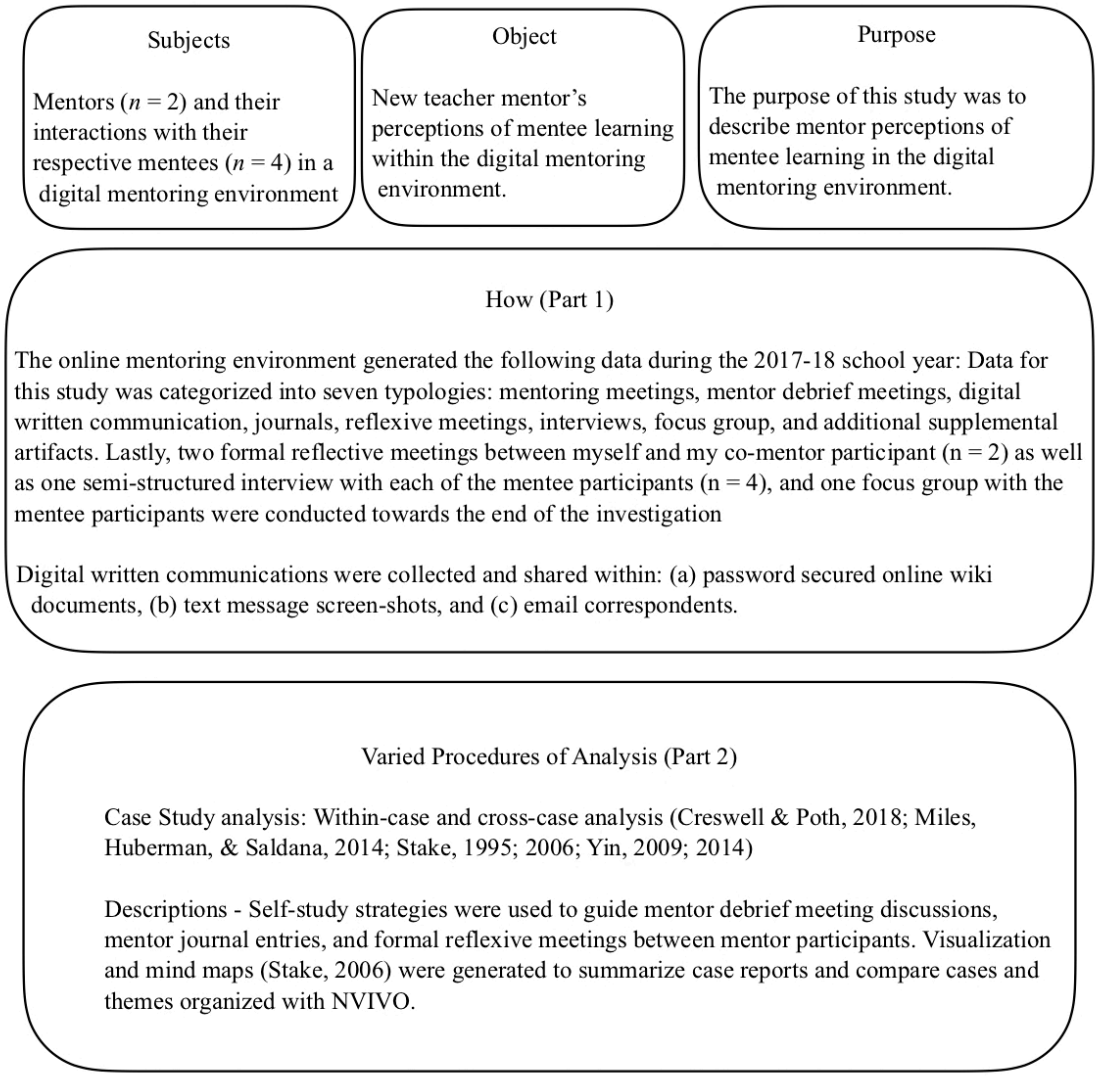

Figure 3. Dimensions of a Case Study on Digital New Teacher Mentoring

Theoretical Framework and Lens

As discussed in Chapter II, I considered one theoretical framework and one lens to guide this investigation of new teacher mentoring. These were the adult learning theory of andragogy and self-study respectfully. Due to the binding of these cases, and the emphasis on mentor

participants identifying evidence of mentee learning through this experience, andragogy was selected as theoretical framework to guide portions of the investigation and data analysis (Knowles, 1970, 1984; Knowles, Holton, & Swanson, 2005). This framework helped me feature, and uncover, procedural components of new teacher mentoring for new teacher learning that may have implications for future mentor program development. Knowles (1984) Critical Elements of Adult Learning (see Table 1 in Chapter II) provided a priori codes as one strategy of analysis.

Self-study was used as a lens and helped feature the unique perspectives of my co-mentor and me as participants in the study and guide reflective and reflexive experiences as we navigated mentoring in this digital environment. One major aspect of self-study "requires that you work with someone else: a critical friend" (Samaras, 2019, p. 3). Typically, this was in the form of co-authorship of a self-study investigation. In this present study, the analysis, including coding and writing up of the findings, was completed by me as a sole authored work; which is a-typical for researchers employing the method of self-study (Samaras, 2019). Therefore, the critical friend and co-mentor participant was present in this dissertation as per recommendations of self-study scholars but not for the purposes of self-study as a method.

In addition to my co-mentor participant, multiple critical friends were involved in this dissertation in a variety of roles and purposes for examining themes and findings. Critical friends participated in both reflections and reflexive practices. They were also sought to help develop trustworthiness in this study and will be discussed in detail later in this chapter. For self-study purposes, the sole critical friend associated with the self-study portion of this present dissertation was my co-mentor participant in this study. This particular critical friend allowed for multiple forms of reflections and discussions about teaching and learning to teach to be featured in the study (LaBoskey, 2004; Samaras, 2019). The lens of self-study also welcomed a rich presence of

personal narratives in this investigation. This included a review of one another's entries as well as dialogue during mentor debrief meetings and meetings with mentees about our work as mentors. Narratives were most prominently positioned during the two reflexive meetings between my co-mentor participant and me to highlight the findings and consider various points of view for the digital mentoring experience as well as the mentoring approaches uncovered in the investigation.

Though reflecting maybe actively employed within reflexive practices associated with trustworthiness (Merriam & Tisdell, 2016), reflecting and reflexivity were different activities and processes within self-study (Kleinsasser, 2000; Samaras, 2019). Reflections shifted to reflexive opportunities when my co-mentor participant and I discussed our work as mentors and teachers to help uncover connections. Specifically, the connections between the emerging mentoring approaches in the findings of this investigation. Reflections, on the other hand, were completed both informally and formally throughout the data collection process. For instance, to immerse myself in the reflexive process, I journaled about my experience as a researcher, mentor, and past as a new teacher but also completed specific reflexivity journal entries to consider my position as a researcher and participant in this study (Kleinsasser, 2000; Patton, 2002). Conversely, reflections were more open-ended and often included the mentees within mentoring meetings. Self-study techniques such as journaling, verbal reflection, and discussions between mentor participants were employed to systematically review ideas as well as feature our unique perspectives of our work as mentors in this study (Berry, 2007; Bullough & Pinnegar, 2001; Clandinin & Connelly, 2007; Loughran, 2002; 2007a).

The systematic inclusion of these reflection and reflexive opportunities, along with flexibility for openly discussing these ideas between mentor participants, adhered to the self-

study criteria of this work being: self-initiated, interactive, and collaborative around the topics of teaching (Hamilton et al., 2008; Saramas, 2019). Despite the emphasis on reflection and collaboration, self-study was not intended to be an exercise in affirmation, nor was it intended to be overly critical. Instead, self-study afforded a malleable focus both inward and outward on the work of teaching and learning about teaching (Bullough & Pinnegar, 2001; Saramas, 2019). To toggle between an inward and outward focus on teaching, LaBoskey (2004) iterated that self-study scholars employ multiple methods and, in some cases, use whatever methods may help best inform the researcher's personally situated inquiry. With this in mind, andragogy was positioned as the theoretical framework while self-study was used as a lens for this investigation.

Sampling

Mentors

A criterion sampling strategy was implemented for this dissertation (Patton, 2015; Yin, 2014). This sampling strategy was based on a set of guidelines and characteristics that all cases in the study met (Patton, 2015). Criteria for the sampling of my co-mentor participant included: (a) prior experience as an on-site new music teacher mentor, (b) mid-career as an in-service teacher, as well as (c) an interest in self-study and improving practice as a music teacher, mentor, and teacher educator. The criterion of the new teacher participants included: (a) completed a traditional undergraduate music education degree program; (b) were interested in accessing formalized support from a new music teacher mentor; (c) in their first or second year of teaching music; and (d) also received on-site mentoring support organized through their school district.

First, I identified my co-mentor for this project through seeking recommendations from music mentoring scholars in the field. In addition to recommendations, I informally observed her at a series of school-university fieldwork clinics during the 2015-16 and 2016-17 school years in

which she brought her beginning band students to a local research one university. These observations provided me with context for her teaching style. I established formal communication and invited my co-mentor to participate in the study during the summer of 2017 at a local Music Educators Association (MEA) summer mentoring workshop. She was leading the workshop for music teacher mentors. Based on recommendations from trusted colleagues and researcher advisors who noted her personal experience with student teachers and new teacher mentoring, as well as her active interest in organizing support for mentors, I felt she was a viable participant to welcome to the project.

Mentees

The mentees in this study included a combination of new music teachers located in the Midwest and Western United States. Criterion sampling was also implemented to identify these participants (Patton, 2015; Yin, 2014). The criterion included that the new teacher participants: (a) completed a traditional undergraduate music education degree program; (b) were interested in accessing formalized support from a new music teacher mentor; (c) in their first or second year of teaching music; and (d) also received on-site mentoring support organized through their school district. I established communication with each mentee by first contacting three undergraduate music education program advisors and professors familiar with my work supporting new teachers. Key music education faculty at each institution helped me identify recent graduates to contact. I began with a list of eight first year music teachers recommended by the key university professors at these three institutions. After sending initial emails, six replied. From here, four mentees were selected based on the criterion sampling described above. See Table 5 for descriptions of mentee participants who are referred to throughout the study using pseudonyms.

Participants

Jessica

During the fall of 2017 I began my first university-level teaching position as a new faculty member at Seton Hill University in Greensburg, PA. Prior to my appointment, I taught middle school band and orchestra, as well as elementary general music for nine years in a large suburban school district in northern California. During this time, I participated in a state mandated, on-site formal mentoring and induction program both as a new teacher and eventually as an assigned district mentor teacher starting in 2010. In fall 2015, I began working with new music teachers within digital mentoring environments including assisting with the American String Teachers Association (ASTA) New Teacher Mentoring Project and the National Association for Music Educators (NAfME) Beginning Teacher Support and Mentoring Project. For this study, my mentees were Emma and Megan (see Table 5.).

Due to my position as researcher and mentor, my participation in this study intersected with case study and self-study to feature my work as a participant–observer (Musante & Dewalt, 2010). As a participant–observer, I was privy to many layers of meaning in the discussions that occurred between my mentees and I as well as the mentor and mentee participants welcomed in the 2017-18 data collection. In other methodological designs these discussions would be otherwise obscured (Loughran, 2002, 2007a; Samaras, 2019). Therefore, I situated myself visibly in this investigation of mentor learning.

Personal statement from Jessica. As I read and reflect on the various avenues for a researcher to be more prominently involved in a study as a researcher-participant, I realize that my rich connection to new teacher mentoring has afforded me a different level of access to this experience compared to other scholars investigating this topic. First, similar to recommendations

within auto-ethnography and heuristic inquiry, I have journaled over the past two years and six months on my journey as an emerging scholar and new teacher mentor in a digital environment. Through this journaling process, I have reviewed personal memos, emails, notes, pictures, video footage, and lesson plans from my past to help synthesize memories of my first years of teaching to my current mentoring practices. Over the past five years, I have refined my expertise as a new teacher mentor through on-site and digitally mediated environments. Lastly, I have completed initial exploratory studies on digital mentoring that have laid the foundation for me to intimately study the combined conversations, experiences, and perceptions of mentors and mentees. Because of my rich connection to this particular research topic, it is important for me to reflect on my experiences as a first-year teacher as well as my experiences as a new teacher mentor and emerging researcher. Grappling with these memories and reflections will help me situate my understanding of experiences in a more scholarly fashion beyond initial reactions that may occur in the moment of mentoring (December 11, 2017).

Laura

Laura was in her 14th year of teaching general music and elementary band in a rural, under-resourced, midwestern community. Her primary instrument is bassoon and she received her Bachelor of Music Education and Master of Music Education from a large Midwestern research university. In addition to her focus on music education during her teacher preparation, she consistently participated in leadership roles with her local Music Educators Association (MEA) chapter focusing on supporting new music teachers. This included hosting five student teachers over her career as well as three years of supporting new teachers within her district sponsored on-site mentoring program. Lastly, during 2017 she assisted her local MEA mentoring project by facilitating a summer workshop for mentors. During the study, her teaching

assignment included K - 5 general music classes and beginning band. She described her class enrollment as: 25 students in the K-2 classes, 30 in the third through sixth grade general music classes, and 16-23 in the elementary band classes. She saw her students for 40 minutes of instructional time once a week. For this study, she mentored Alison and Mandy (see Table 5).

Personal statement from Laura. During my 14 years of teaching elementary general music and beginning band, I seized numerous opportunities to mentor pre-service teachers, student teachers, and beginning teachers. I opened my classroom to pre-service teachers who come to observe my teaching and interact with my students. I collaborated as a cooperating teacher with five student teachers from local midwestern universities, and I served as an in-district mentor for two music colleagues over the course of four years. Prior to participating in this study, I interacted with mentees primarily in person, but also via phone and text conversations. Mentoring new teachers allows me to collaborate with excited educators who are eager to improve their practice. I enjoy discussing curriculum, classroom management, and best practices with these new colleagues, and I appreciate opportunities to share materials I create for myself and my students. Furthermore, I like to examine my own teaching philosophies and techniques after viewing them through the eyes of new teachers. How can I incorporate fresh ideas in my own practice, and how can I better interact with an ever-changing student population? In essence, mentoring and participating in music education research allow me to engage in life-long learning opportunities that help me grow and improve as a music educator. (December 14, 2017).

Mentees

In addition to the differences in their classrooms and communities they worked with, the mentees teaching environments varied in terms of class sizes, contact time, and on-site

mentoring support. The new teacher mentee participants' class sizes ranged from as few as eight students in a class to as many as 49. Contact time with students also varied from approximately 50 minutes daily to rotating and alternating schedules. In addition to the digital support provided to each mentee within this study, the mentee participants also described the support provided by their school sites. The new teacher participant teaching in California was required to participate in the state mandated Beginning Teacher Support and Assessment (BTSA) new teacher induction and mentoring; all other mentees were assigned district support. All mentees were required to meet with their mentors but were not required to complete observations within these programs. See Table 5 for additional information regarding their backgrounds.

Alison. Alison's 2017-18 school site was located in a rural, under-resourced, midwestern farming community. Alison identified the community as under-resourced based on the number of students provided free and reduced lunch and unemployment rate in the community. She was assigned to teach elementary general music. She taught grades kindergarten, developmental kindergarten, as well as first through fourth. Her teaching assignment was created by her district in an effort to reinstate music education in their schools. In addition to Alison's teaching position, her district provided her with a subscription to *Quaver* as her general music curriculum. The use of *Quaver* became a point of contention for her and her lesson planning as she struggled to maintain student engagement with the use of the software as her main curriculum.

Mandy. Mandy initially started her teaching career during the 2016-17 school year. At that time, Mandy was hired at an under-resourced charter school in the midwest and was hired as the high school band and orchestra director. In January of 2017, Mandy chose to leave her job due to health issues she acquired related to job stress. Because she did not complete her first year in the profession, her participation in this dissertation was defined as a first-year experience even

though she is technical two-years out of her degree program. During the timeframe of this study, Mandy was hired and teaching at a large Midwest suburban district. As an itinerant employee, her assignment included: elementary general music, elementary string orchestra, and middle school choir at three school sites.

Emma. Emma's teaching position was located in a diverse, large midwestern suburban school district. The school district was known for its strong academics, rigor, and support for arts and music programs. Her teaching assignment included: 2 beginning orchestra classes, one intermediate (seventh grade) orchestra, one advanced (eighth grade) orchestra, and one world music class. In addition to a music supervisor and assigned in-district music mentor, Emma also had access to an additional string specialist during the school day.

Megan. Megan taught instrumental band and orchestra at a middle school (6-8) in a small, beach-front, west coast community. The school and music program were identified as under-resourced based on Megan's description of the minimal available budget, poor quality of school-owned instruments and equipment provided to the program, as well as general information about the community (i.e. average income and free and reduced lunch participation). Megan was hired the last week of July 2017 which was a week prior to the official start date of the school year. In addition to the lack of resources, Megan also identified her appointment as a surprise to her students and parents in the community who often expressed unyielding support for the former music teacher. This caused issues in how she developed trust with her students and in turn experienced frequent moments of frustration and conflict with her students.

Table 5

Mentee Participant Descriptions[1]

	Undergraduate Degree/ University	**Primary Instrument**	**Teaching Site Description**	**Teaching Assignment Description**	**District Support**	**Digital Mentor**
Alison	MusEd - Small Midwestern Liberal Arts Univ.	Clarinet	Small Midwest suburban city	K - 5 general music	District music colleague	Laura
Mandy	MusEd - Large Midwestern Research Univ.	Perc.	Large Midwest suburban city	K - 5 general music, elementary/beginning: string orchestra, band, and choir	District music colleague	Laura
Emma	MusEd and Performance - Large Midwestern Research Univ.	Cello	Large Midwest suburban city	Middle school: orchestra and general music	District music colleague	Jessica
Megan	MusEd - Western State Univ.	Alto Sax.	Small, under-resourced, Western city	Middle School: orchestra, band, and jazz band	BTSA district music colleague	Jessica

[1] Mentee participants were referred to throughout the study using pseudonyms

Consent and Communication

Consent

The Institutional Review Board approved this project in August 2017. To provide a richer context of how video conference mentoring occurred in this study, 3 participants (Emma, Mandy, and Laura) consented for me to share two short video clips and two images of mentoring meetings in which they appear. In addition to acquiring consent from my co-mentor and mentee participants for the study, additional consent was required from parents of students in each mentee participant's classes due to the use of teaching footage review within the digital mentoring experience. This consent was acquired through notifying parents about the study and acquiring technology waivers on a case by case basis. Because the focus of this investigation is on new teacher learning, with minimal to no inclusion of minors in the video footage, only one school-site administrator requested additional parental consent for the study. The other three administrators approved participation referencing the school district's official technology waivers.

Communication

During the summer of 2017, I met with a trusted faculty advisor from the University of Michigan about my work and brainstormed possible new teacher and mentor participants to invite to the project (see Appendix A). After Laura accepted the invitation to participate in the project, she and I began informally meeting to test video conferencing software to determine which would be the best avenue of communication with the technology available to her. Laura had access to an iPhone, iPad, as well as a Window's based laptop while I used my iPhone, iPad, and MacBook pro.

Laura planned to use her WIFI enabled IBM laptop from home to video conference with her assigned mentees. Laura's available technology made it necessary to seek dual platform video conferencing software that was not only reliable for video conferencing but also included screen recording functions to save video data for the study. To avoid purchasing additional software, I initially researched freeware screen recording software; all of which were unviable options. We also tried using Laura's iPad as her primary communication device for the study. As we tested this option, we encountered challenges recording video conferences as well as accessing documents to share during mentoring meetings. After two weeks of brainstorming, we settled on purchasing a BlueJeans account for Laura to use for the duration of the study. This video conferencing software included screen recording functions as well as options to save these videos securely through the program's cloud storage. I also had access to BlueJeans as a student at the University of Michigan and therefore chose to use the same software for the 2017-18 investigation.

Communication with the mentees was initiated by me as the researcher via email invitation to each participant (see Appendix B). I established contact with each of the mentee participants' school site administrators via email to explain the study as well as the use of video recorded teaching footage for the mentoring experience (see Appendix C). After that point, communication with the mentees commenced primarily through video conference. Phone, text message, email, and shared documents were supplementary to the video conferences. Simultaneous to the first mentoring meeting, I created secured, shared online folders for each mentee participant to access and share files with Laura and I as their mentors. These folders were intended to be a repository space for gathering and sharing teaching materials including a subfolder dedicated to sharing class video footage.

Expectations for participation. Once participants and pairings were set, a video conference meeting was arranged with each mentee to discuss the nature of the study in greater detail with me situated as the researcher. For Laura and her assigned mentees, a meeting was established with Laura, her respective mentee, and I as the researcher to describe expectations for participation in this mentoring experience as well as to introduce the mentee-mentor pair via video conference. For my mentee participants, I invited each of them to chat via video conference with me situated as mentor explaining my role as researcher. All discussions focused on encouraging mentees to reach out to their assigned mentor via text message, email, phone, or written questions and reflections through online shared documents.

Mentor response times were left flexible with an informal expectation of responding to messages within less than 12 hours in between the initial communication and the mentor's reply. Mentees were also reminded that their mentors would be checking in with them regularly through each school week during the study. Check-in communications were often through text message or email. All participants were expected to schedule and attend weekly video conferences through the study. Understanding that schedules change, if the mentees asked for more time to expand on discussions with their mentor, follow-up with questions, or discuss something new, additional video conferences were scheduled as needed.

Video conferencing, text message, and lesson review. Video conference meetings were recorded using a built-in screen recording function on the researcher's and mentor participant's computers. BlueJeans was the primary video conferencing software used for the study. This program included a screen recording function to capture the data from the meetings. These videos were saved and stored on a secured external hard drive after each meeting. Text messages were saved through screenshots to collect timestamps of the conversation. The rehearsal video

footage was recorded on mentee participants' devices available in their classrooms. Devices included: portable video cameras, laptop cameras, iPads, and cell phones. Participants recorded rehearsals and uploaded them to Google Drive for the files to be shared with their assigned mentor. After receiving the file, the mentors reviewed the footage and provided reflective notes for the mentee. The notes were emailed as well as stored in Google Drive for mentees to reference as needed. After review of the footage, the next scheduled video conference focused on discussing the mentee's lesson through "video-based shared reflection" (Tochon, 2007) in combination with review of written observation notes from their mentor. This strategy was employed based on the integration of this form of teaching footage review within my prior investigations described in Chapter II (Vaughan-Marra, 2017).

Rationale for the design of the environment: Personal narrative from Jessica. In June of 2015, I began the process of saying goodbye to my middle school instrumental band and orchestra program in California to begin my Ph.D. coursework at the University of Michigan. During the final weeks of school, I wrapped up instrument selection interviews and assisted colleagues with the necessary transitions for my departure. At that time, I also completed an exit interview with my district's on-site new teacher mentoring program. I had been a new teacher mentor within the program for two years as well as a site host for first year teacher observations for five years which provided me with a detailed sense of how larger mentoring programs organized support for new teachers. During my exit interview from this program, I recalled one of the program administrators asking me: "What recommendations do you have for the district's organization of our induction and new teacher mentoring?" As an "alumnus" of their program, as well as a new teacher mentor teaching music, I firmly replied: "Subject specific support and mentoring for electives educators, such as those teaching music, visual art, and foreign language,

should be more of a priority for the program." I elaborated with descriptions of my experiences as a first-year teacher and mentee in the district. I recalled how I was assigned wonderful site-based mentors with an abundance of insider knowledge about the district. Unfortunately, they lacked the knowledge to offer nuanced recommendations to help me continue to refine my practice as a novice music educator; which I was in desperate need of.

As I began the coursework towards my Ph.D. in the fall of 2015, I was simultaneously presented with an opportunity from former employer to explore remote content-specific new teacher support. Because I was being asked to design the support for new teachers, I decided to simultaneously study the digital mentoring experience from the perspective of the new music teachers. Within this study, I featured aspects of my prior work as an on-site new teacher mentor that I found helpful but adapted them for the digital space. With faculty guidance and new teachers invited to the project, I began mentoring and collecting data in September of 2015 on the experiences of two new music teachers participating my digital mentoring project (i.e. I was in Michigan and they were in California). As the year came to a close, I continued to have an interest in investigating avenues for supporting new music teachers through online mentoring. With faculty guidance I invited three more first year music teachers as well as the mentee participants from the prior year (N = 5) to participate in the digitally mediated mentoring project that I was developing. The digital communication identified in these investigations informed the intentional use of video-conferencing, asynchronous digital communication, and teaching footage review in the presently designed dissertation.

Data Sources for Study

Data for this study was categorized into seven typologies: mentoring meetings, mentor debrief meetings, digital written communication, journals, reflexive meetings, interviews, focus

group, and additional supplemental artifacts. The mentoring meetings were organized by mentor and their assigned mentee including: six months of Laura's video conference recordings of mentoring meetings (August 2017 - January 2018); 11 months of my video conference recordings of mentoring meetings (August 2017 - June 2018). Between Laura and me, we completed seven mentor debrief meeting video conferences (August, 2017 - February, 2018). Digital written communications included: six months of Laura's digital written communications collected through the study (August 2017 - January 2018) and 11 months of my digital written communications with my mentees collected through the study (August 2017 – June 2018). My researcher's journal and notes (August 2017 - June 2018) as well as Laura's mentoring journal (August 2017 - February 2018) included our reflections through the study. Lastly, two formal reflexive meetings between myself and my co-mentor participant (n = 2) as well as one semi-structured interview with each of the mentee participants (n = 4), and one focus group with the mentee participants were conducted towards the end of the investigation (see Appendice E, F, & G).

Communication Timeline

For this multiple case study, the cases were bound by the eleven months of the 2017-18 school year and the experiences of the mentors and mentees within their respective digital mentoring environments. Timing of video conference meetings depended on the needs of the mentee and availability of the mentors during a given week in the study (see Figures 4 & 5). As co-mentors, Laura and I scheduled monthly video conferences to check in with one another as well as shared digital written reflections about our experiences through a shared Google Folder (see Figure 6).

Mentoring Meetings

The video conference footage was recorded through BlueJeans, downloaded from the BlueJeans secured cloud storage, and saved onto an external hard drive. This type of data included all meetings with mentees.

Mentor Debrief Meetings

These meetings were between Laura and me and served as an opportunity to reflect on our mentoring experiences as mentors using self-study strategies along with cross referencing our journals and describing our mentoring experiences to one another.

Digital Written Communication

To provide the most comprehensive illustration of the digital mentoring environment, Laura and I also collected all text message, email, and Googledoc correspondents developed through the mentoring experience. Text messages were saved through screenshots and stored on an external hard drive while email correspondence was forwarded to me and then saved as PDFs for the data analysis process.

Journals

In my continued pursuit to develop a comprehensive investigation of digital mentoring experiences as well as new teacher mentoring, I included my researcher's journal as well as Laura's journal as data in this dissertation. The inclusion of my researcher's journal was to be reviewed with a holistic focus on my work as a mentor within these interactions. Our journals helped us explore own perceptions regarding pivotal events and experiences in the study, interpret the meaning of interactions, as well as make myself present in my account of this mentoring experience from my perspective as the researcher and mentor.

Reflexive Meetings

Due to the situated nature of my participation in this study, along with the consistent communication established through mentor debrief meetings, Laura and I dedicated two meetings to discussing our experiences within the study in a more holistic sense; the first was in February 2018 and the second was towards the end of my data analysis in August 2018. During these reflexive meetings we discussed our mentoring experiences as they related to our journal entries and notes preparing for these meeting and used the times as specified opportunities to enact the theoretical lens of self-study strategies. Laura and I examined our work to critically self-reflect as well as review how our ideas connected to the theoretical framework of andragogy (Kleinsasser, 2000). Though analysis will be detailed in the following section of this chapter, these meetings and additional data from Laura's experiences in the study helped with cross-case analysis (Miles, Huberman, & Saldana, 2013; Stake, 1995; Yin, 2009; 2014) as we reflected on our experience as mentors in this environment and our interactions with mentees (see Appendix D). During the February 2018 meeting we discussed a combination of pragmatic considerations for the digital mentoring environment as well as how we identified evidence of mentee learning through the study. We used reflexive approaches recommended within self-study literature to discuss our work as mentors. During the August 2018 meeting we situated our reflections and discussion in terms of the theoretical framework of andragogy within a second formal reflexive meeting (Knowles, 1984; Knowles et al., 2005).

Interviews and Focus Group

As mentioned earlier in the chapter, I arranged for initial video conference meetings with each mentee to explain the study in detail as well as provide information regarding expectations of their participation in the mentoring project (i.e. attending mentoring meetings and sharing

teaching footage). In addition to this initial video conference, I asked mentees to schedule an interview with me at the end of the study as well as participate in a focus group meeting scheduled for the end of the school year. Interview and focus group question protocols were sent to mentees prior to our scheduled meetings. Questions were sent in advance of the interviews and focus groups. Mentees were asked to construct written responses to their questions in addition to their answers developed during their meetings. The interviews and focus group were completed through video conference using BlueJeans. Each interview lasted around an hour and the focus group was one hour and thirty minutes in length. During the focus group, Emma experienced connectivity issues resulting in her listening to the meeting and participating via the text message while Mandy, Alison, and Megan communicated over video chat (see Appendix E & F).

August		September +		October +		November +		December	
8.24.2017	Alison 0:25	9.4.2017	Mandy 0:37	10.3.2017**	Mandy 1:05	11.01.2017	Mandy 0:52	12.05.2017	Mandy 0:57
8.25.2017	Alison 0:18	9.6.2017	Alison 0:42	10.5.2017**	Alison 1:07	11.2.2017	Alison 0:52	12.07.2017	Alison 0:34
		9.13.2017	Mandy 0:38	10.10.2017	Mandy 1:07	11.7.2017	Mandy 1:08	12.12.2017	Mandy 0:59
		9.14.2017	Alison 0:42	10.13.2017	Alison 0:47	11.9.2017	Alison 0:50	12.21.2017	Alison 0:48
		9.19.2017	Mandy 0:55	10.16.2017	Mandy 0:51	11.14.2017	Mandy 0:55		
		9.20.2017	Alison 0:53	10.19.2017	Alison 0:50	11.28.2017	Mandy 0:46		
		9.26.2017	Mandy 1:03			11.30.2017	Alison 0:55		
		9.27.2017**	Alison 0:27						

January		February		March	April	May	June
1.11.2018**	Mandy 0:50	2.15.2018	Alison				
1.16.2018**	Mandy 1:01	2.27.2018	Mandy				
1.18.2018**	Alison 0:39						

** Meetings which discussed rehearsal video footage
+ Mentee submitted a written reflection
Length of meetings indicated as hh:mm

Figure 4. Summary of 2017-18 Data Collection – Laura's Data

August		September +		October +		November		December +	
8.13.2017	Megan 0:30	9.3.2017	Emma 0:48	10.1.2017**	Megan 0:59	11.5.2017**	Megan 0:57	12.3.2017	Megan 1:12
8.16.2017	Emma 0:35	9.4.2017	Megan 1:01	10.2.2017	Emma 0:20	11.5.2017	Laura 0:45	12.6.2017	Laura 0:26
8.27.2017	Megan 1:18	9.13.2017	Emma 0:30	10.9.2017**	Emma 0:30	11.12.2017**	Emma 0:17 Megan 0:35	12.10.2017	Emma 0:20
		9.17.2018**	Megan 1:18	10.15.2017**	Laura 0:50	11.16.2017	Megan 1:16		
		9.20.2017	Megan 1:20	10.15.2017**	Megan 0:54	11.26.2017	Megan 1:00		
		9.22.2017	Emma 0:42	10.17.2017	Megan 1:10				
		9.24.2017	Laura 0:47	10.18.2017	Emma 0:41				
		9.25.2017	Emma 0:25	10.21.2017	Megan 1:18				
				10.22.2017	Megan 0:50				

Table 1

January +		February		March		April		May		June +	
1.2.2018	Megan 1:10	2.26.2018	Megan and Kara 1.35	3.5.2018**	Emma 0:35	4.17.2018**	Emma 0:25	5.3.2018	Emma 0:25	6.25.2018	Emma Interview
1.6.2018**	Emma 0:25	2.26.2018	Emma 0:20	3.14.2018	Emma 0:15	4.18.2018**	Megan 0:45	5.17.2018	Emma 0:30	6.28.2018	Megan's interview
1.10.2018	Laura 0:22	2.27.2018	Laura 1:10	3.18.2018**	Megan 0:35			5.30.2018	Megan 0:40	6.29.2018	Focus group
1.16.2018**	Emma 0:50							5.31.2018	Emma 0:50		
1.21.2018	Emma 1:30										

** Meetings which discussed rehearsal video footage
+ Mentee submitted a written reflection
Length of meetings indicated as hh:mm

Figure 5. Summary of 2017-18 Data Collection – Jessica's Data

August		September		October		November		December	
8.13.17	**00:57**	9.1.17	LAURA	10.1.17	JESSICA	11.1.17	LAURA	12.5.17	LAURA
		9.11.17	JESSICA	10.3.17	LAURA	11.2.17	LAURA	**12.6.17**	**00:26**
		9.13.17	LAURA	10.5.17	LAURA	**11.5.17**	**00:45**	12.7.17	LAURA
		9.14.17	LAURA	10.10.17	LAURA	11.9.17	LAURA	12.10.17	JESSICA
		9.16.17	JESSICA	10.13.17	LAURA	11.12.17	JESSICA	12.12.17	LAURA
		9.19.17	JESSICA LAURA	**10.15.17**	**0:50**	11.14.17	LAURA	12.21.17	LAURA
		9.20.17	LAURA	10.16.17	LAURA	11.26.17	JESSICA	12.28.17	JESSICA
		9.24.2017	**00:47**	10.19.17	LAURA	11.28.17	LAURA		
		9.26.17	LAURA	10.23.17	JESSICA				
		9.27.17	LAURA						

January		February		March		April	May		June		July	August	
1.3.18	JESSICA	2.1.18	LAURA	3.12.18	JESSICA		5.3.18	JESSICA	6.2.18	JESSICA		8.15.18	0:25
1.6.18	JESSICA	2.8.18	LAURA	3.15.18	JESSICA		5.7.18	JESSICA	6.27.18	JESSICA			
1.10.18	**00:22**	2.23.18	LAURA	3.22.18	JESSICA		5.22.18	JESSICA					
1.11.18	LAURA	**2.27.17**	**01:10**										
1.16.18	LAURA												
1.17.18	JESSICA												
1.18.18	LAURA												

Journal entries indicated by name of mentor
Mentor debrief meetings indicated in bold
Reflexive Meeting indicated by underline
Length of meetings indicated as hh:mm

Figure 6. Summary of 2017-18 Data Collection – Mentor Debrief Meeting, Reflexive meetings, and Mentor Journal Entries

Analysis

After data collection was completed**,** I analyzed the data using QRS International's NVivo (2014) qualitative data analysis computer Software. This program allowed me to closely analyze transcripts and all multimedia data used in this study. Analysis of the multimedia data included reviewing the social interactions within the video footage along with the discussions that occurred within the mentoring experience (see Image 1).

The analysis process began in May 2018 along with the transcription process. My transcription process began with reviewing the mentor debrief meeting footage followed by mentoring meetings thereafter striving to stay in chronological order. In addition to identifying nodes[2] and memos based on the analysis process, I identified moments in the data that aligned with the andragogy model in action (see Figure 7) as a priori codes. After the video footage was transcribed, I reviewed the data and generated nodes. I then: (a) developed assertions (i.e. over-all meaning or lessons learned) of the cases, and (b) completed cross-case analysis to develop and present the substantiated "patterns" to help describe this investigation (Stake, 2006; Miles et al., 2013; Yin, 2009). The color-coding was intended to help associate nodes with coding and subsequent themes back to the specific research questions including how the andragogical framework and self-study lens connected and supported findings (see Figure 7).

My analysis involved a combination of Creswell and Poth's (2018) data analysis spiral and Yin's (2009; 2014) cross-case analysis recommendations to systematically organize my nodes, codes, and themes. This included how I: (1) managed and organized the data into NVivo,

[2] Nodes are the smallest unit of qualitive data coding typically described for use with Computer Assisted Qualitative Data Analysis Software (CAQDAS) of NVivo (2014).

(2) read and reread transcripts for emergent ideas, (3) described and classified nodes and codes into themes, (4) developed and assessed interpretations, (5) represented and visualized the data, and (6) accounted for findings. I reviewed all data with the use of NVivo and organized and visualized the data into hierarchies and clusters (Saldaña, 2016; Webster, 2014) (see Figure 7).

Cross-Case analysis followed recommendations by Stake (2006) and Yin (2009; 2014) to develop detailed case reports of each mentor participant. In the reports I described their experiences and noted key events with each mentee participant based on topics discussed and reflected upon during the study. I developed mind map representations of the case reports to highlight: (a) key events, (b) issues of importance and assertions, (c) themes, and (d) main and lesser findings to further organize the information presented in the following chapters (Stake, 2006) (see Figure 8, 9, & 10). I also displayed data and themes from the individual cases to help identify similarities and differences among the cases. The findings chapters are organized as responses to each research question.

Similar to investigation about teaching and learning within traditional educational settings, the scholarly work of new teacher mentoring needs the stories of experienced mentors to identify mentoring approaches that help new teachers continue refining their teaching practices (Clandinin & Connelly, 2007; Loughran, 2007a). Therefore, to transparently represent this lens in the data, self-study was coded for to identify how the self-study practices informed the findings for this investigation (Samaras, 2019). This welcomed multiple perspectives about new teacher mentoring into the study and allowed for a deeper presentation of how mentoring approaches evolved and adjusted within the digital mentoring environment.

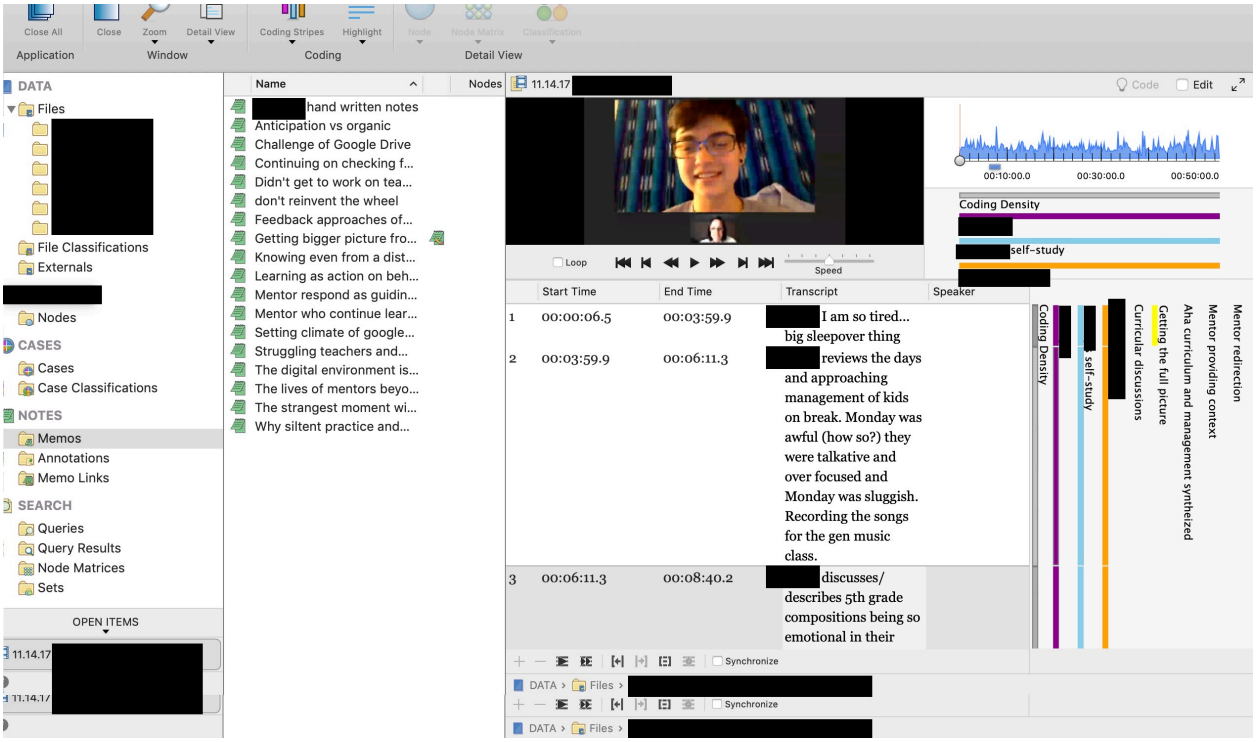

Image 1. NVIVO example

Trustworthiness

Merriam and Tisdell (2016) identify eight strategies for promoting validity and reliability: (a) triangulation, (b) systematic intentionality, (c) member checks/respondent validation, (d) adequate engagement in data collection, (e) presentation of researcher's position or reflexivity, (f) peer reviews/examination, and (g) use of an audit trail, thick description. I will now detail how I addressed each of these items during my data collection and analysis process.

Triangulation. Triangulation was achieved through the collection of multiple data points throughout the study (Anfara, Brown, & Mangione, 2002; Merriam & Tisdell, 2016; Patton, 2015) as well as by "using multiple investigators, sources of data, and data collection methods to confirm emerging findings" (Merriam & Tisdell, 2016, p. 259). The mentoring meetings were organized by mentor and their assigned mentee including: 6 months of Laura's video conference

recordings of mentoring meetings (August 2017 – January 2018); 11 months of my video conference recordings of mentoring meetings (August 2017 – June 2018). The mentor debriefs meetings between Laura and me totaled 7 video conference recordings (August 2017 – February 2018). Digital written communications included: six months of Laura's digital written communications collected through the study (August 2017 – January 2018) and 11 months of my digital written communications with my mentees collected through the study (August 2017 – June 2018). My researcher's journal and notes (August 2017 – June 2018) as well as Laura's mentoring journal (August 2017 – February 2018) spanned the length of the investigation. Lastly, two formal reflexive meetings between myself and my co-mentor participants (n = 2) as well as one semi-structured interview with each mentee participants (n = 4), and one focus group with the mentee participants were conducted towards the end of the investigation. Triangulation also occurred within and across the mentor debrief meeting footage and the individual mentoring meetings to cross-check "the consistency of information derived at different times and by different means from interviews, observations, and documents" (Patton, 2015, p. 662).

Systematic intentionality. Systematic intentionality is the deliberate and ordered gathering as well as recording of information and documenting experiences from "the inside" (Cochran-Smith & Donnell, 2006). Due to the intimate nature of mentoring and communication through video conferencing, particular attention was paid to keeping recordings of video conference communications stored separately from other shared digital documents. At the end of the final phase of data collection in June 2018, case reports were generated for each mentee participant to review (Stake, 2006). Mentor reflections were shared between Laura and I to welcome opportunities to clarify meaning within journal entries. The shared mentor reflections and case reports were used for member checks and respondent validation. Lastly, systematic

intentionality required “adequate engagement with data collection” or saturation (Merriam & Tisdell, 2016) which I noted as being achieved through the collection of 11 months of data in this digital environment (see Table 6).

Table 6:

Cumulative Representation of Data 2017-18

Description of Data	**Total**
Jessica’s video conference footage (average length 60 minutes per meeting) (Aug 2017 – June 2018)	36 videos
Laura’s video conference footage (average length 60 minutes per meeting) (Aug 2017 - Jan 2018)	27 videos
Mentor participant debrief video conference footage (30 - 45 min. in length)	6 videos
Text message screenshots/ 4 text message threads (Aug 2017 – June 2018)	4 conversation threads
Mentee digital written reflections via Google doc, word document, and email (Aug 2017 – Feb. 2018)	24 documents
Mentor provided Google folders materials (Aug 2017 – Feb. 2018)	2 folders
Mentor provided Google file materials (Aug 2017 – Feb. 2018)	4 files
Mentor provided rehearsal/lesson observation feedback (Aug 2017 – June 2018)	Over 40 documents
Laura’s reflections digital journal entries (August 2017 – Feb. 2018)	26 entries
My researcher and mentoring digital journal (August 2017 – July 2018)	48 entries
Total Potential Initial Data Sources	185

Reflexivity and peer-review. A researcher’s position or reflexivity involves, “critical self-reflection by the researcher regarding assumptions, worldview, bias, theoretical orientation, and relationship to the study that may affect the investigation” (Merriam & Tisdell, 2016, p. 259). Situating myself as the researcher prominently within a study required careful consideration of how this may influence trustworthiness. To avoid implicating the findings and

experiences of the participants being researched (Patton, 2015), I followed recommendations from qualitative scholars and moved a portion of my researcher's journal beyond the collection of field notes and included reflective activities. These writing activities regarded my interactions with mentees, past experiences as a mentee and mentor, as well as general wonderments about the investigation (Patton, 2002, 2015).

To connect with the mentees as a mentor participant, I strived to be prudent and reflect on how I situated myself as a researcher while also working to connect with participants as a mentor. As Patton (2015) stated, "neutrality does not mean detachment" (p. 58) and empathy within the work of mentoring is not only vital for collection of qualitative data but also for developing trusting relationships with mentees as they discuss their challenges, frustrations, and successes in their teaching with me. For the purpose of this study empathy was approached from my epistemological stance reflecting on how I considered myself a researcher and mentor. This reflection was to help me communicate with mentees about their experiences as well as determine how I responded and approached their needs as a mentor. In addition to enacting an empathetic approach to mentoring, I developed a caring and self-critical professional community through what Bruner (1990) referred to as "critical open-mindedness" that is at the heart of professional learning (Knowles, 1984; Merriam et al., 2007). Lastly, despite my role as group leader for this project, I sought to foster "critical colleagueship" (Lord, 1994) among the study participants. To stay accountable to these ideals, I tried to verbalize how I anticipated and may have at times exercised primary influence on what Laura and I discussed during our mentoring experiences in this project during our mentor debrief meetings. To balance this, I noted in my researcher's journal when I deferred my plans in lieu of emergent interests from Laura or mentee participants.

Contrasting its use within trustworthiness, reflexivity within self-study was defined as "process of critical self-reflection on one's biases, theoretical dispositions, preferences, an acknowledgement of the inquirer's place in the setting, context, and social phenomenon he or she seeks to understand and a means for a critical examination of the entire research process (Kleinsasser, 2000, p. 155). This was enacted in a variety of ways within the mentoring experience and helped illuminated themes and findings described through this paper. While reflexive moments emerged informally within mentor debrief meetings, two meetings were formally designed as reflexive meetings for the study. In preparation for these reflexive meetings, both Laura and I reviewed our journal reflections to discuss our overall experiences as mentors, we then discussed our reflections of the digital mentoring environment critically. To enact this form of deep reflection, I dedicated time to answering questions designed by Patton (2002) to uncover my personal epistemology about my work as a mentor and researcher.

Peer reviews/examination is the discussion of the investigation with trusted "colleagues regarding the process of study, the congruency of emerging findings with the raw data, and tentative interpretations" (Merriam & Tisdell, 2016, p. 259). Particular attention was placed on the continuous dialogue with critical friends who ask constructive questions as well as have a deep understanding of the work (Costa & Kallick, 1993). As co-mentors, Laura and I shared our journals with one another and reviewed our entries throughout the study as well as met and discussed our work as mentoring during our mentor debrief meetings. I also welcomed ideas, insights, and input from my co-mentor as well as other critical friends knowledgeable about the study. This was all to review themes and findings from the study as well as review more formalized write-ups of the study including the case reports of participants.

Audit trail. An audit trail involved a "detailed account of the methods, procedures, and decision points in carrying out the study" (Merriam & Tisdell, 2016, p. 259). Because the data for the study was stored digitally on a secured external hard drive, all documents and videos were timestamped with data created as well as dates modified. Along with a clear chronology, coding was completed through NVivo and rich, thick descriptions were represented through the narratives and journals including a description of the digital environment (see Appendix G).

Organization of Findings

After completing analysis, I considered organizing my findings by themes, cases and cross-case comparison, theoretical framework, as well as self-study as a lens to feature the voices of the co-mentor participants (see Appendix H). Next, I reviewed the findings in terms of Stake's (2006) assertions and graphic representations of cases (see Table 7).

Table 7:

Research Questions and Assertions (Stake, 2006)

(a)	How do mentors describe mentee learning in digital mentoring environments?
Assertion	Strategies mentors used to guide mentoring discussions towards hearty curricular topics included: (a) redirection, (b) balancing approaches to how mentors responded to mentees and verbalized recommendations, and (c) listening to mentee's explanations to inform mentoring.
(b)	How do mentors describe changes in mentee teaching practices?
Assertion	Supporting new teachers in digital environments who struggled is best approached with the support of multiple mentors. Including mentors helping other mentors plan and reflect on mentoring approaches.
(c)	How do mentors describe the emergence of their mentoring practices with each mentee?
Assertion	Mentors identifying evidence of new teacher learning in a digital mentoring environment is predicated on mentors guiding through: (a) review of rehearsal footage, (b) planning, and (c) and focusing mentoring on hearty curricular discussions.

I then returned in NVivo (2014) and cross-referenced nodes with the theoretical framework andragogy as well as identified instances of self-study in action within the data. This guided me to three areas of interest: (a) mentoring strategies that promote hearty curricular discussions, (b) supporting and identifying evidence of new teacher learning in digital spaces, and (c) evidence of mentee learning and planning for new teacher mentoring including altruistic outcomes for mentors (see Figure 7).

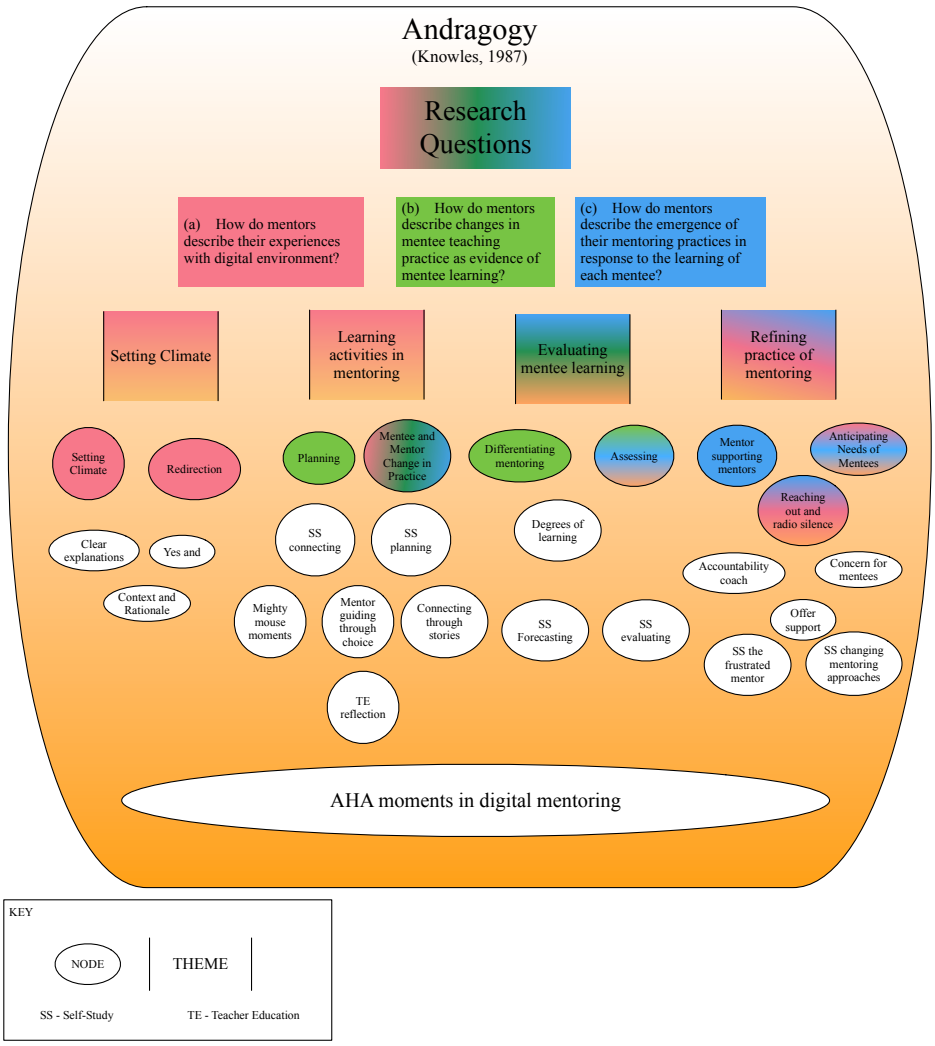

Figure 7. Representation of Research Questions, Themes, and Nodes Visualization

Within each of these areas of interest, I identified key experiences or activities (Stake, 2006) that most succinctly represented findings within digital mentoring (see Figure 8 & 9).

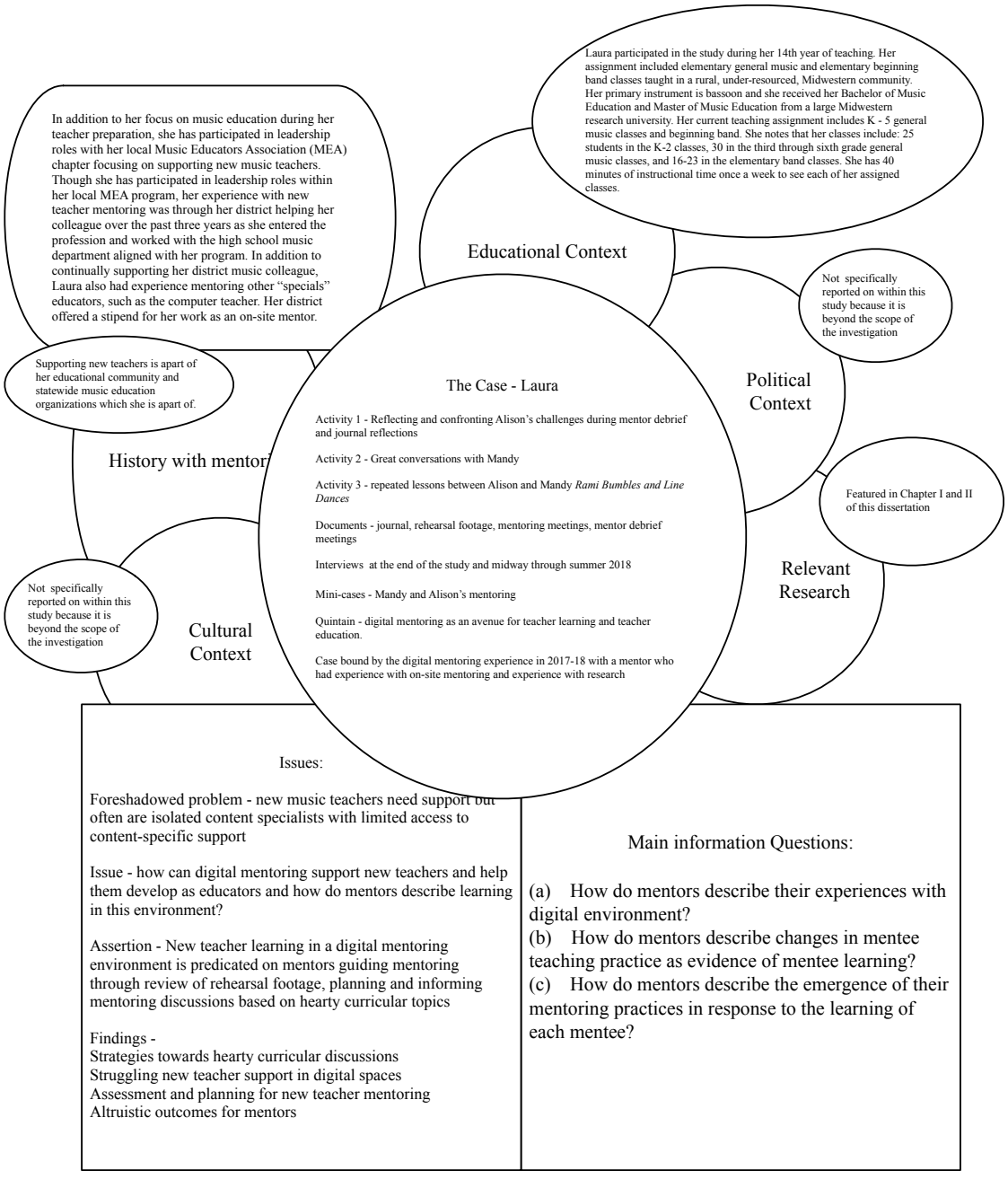

Figure 8. Multiple Case Graphic Design (Stake, 2006) Laura's Case

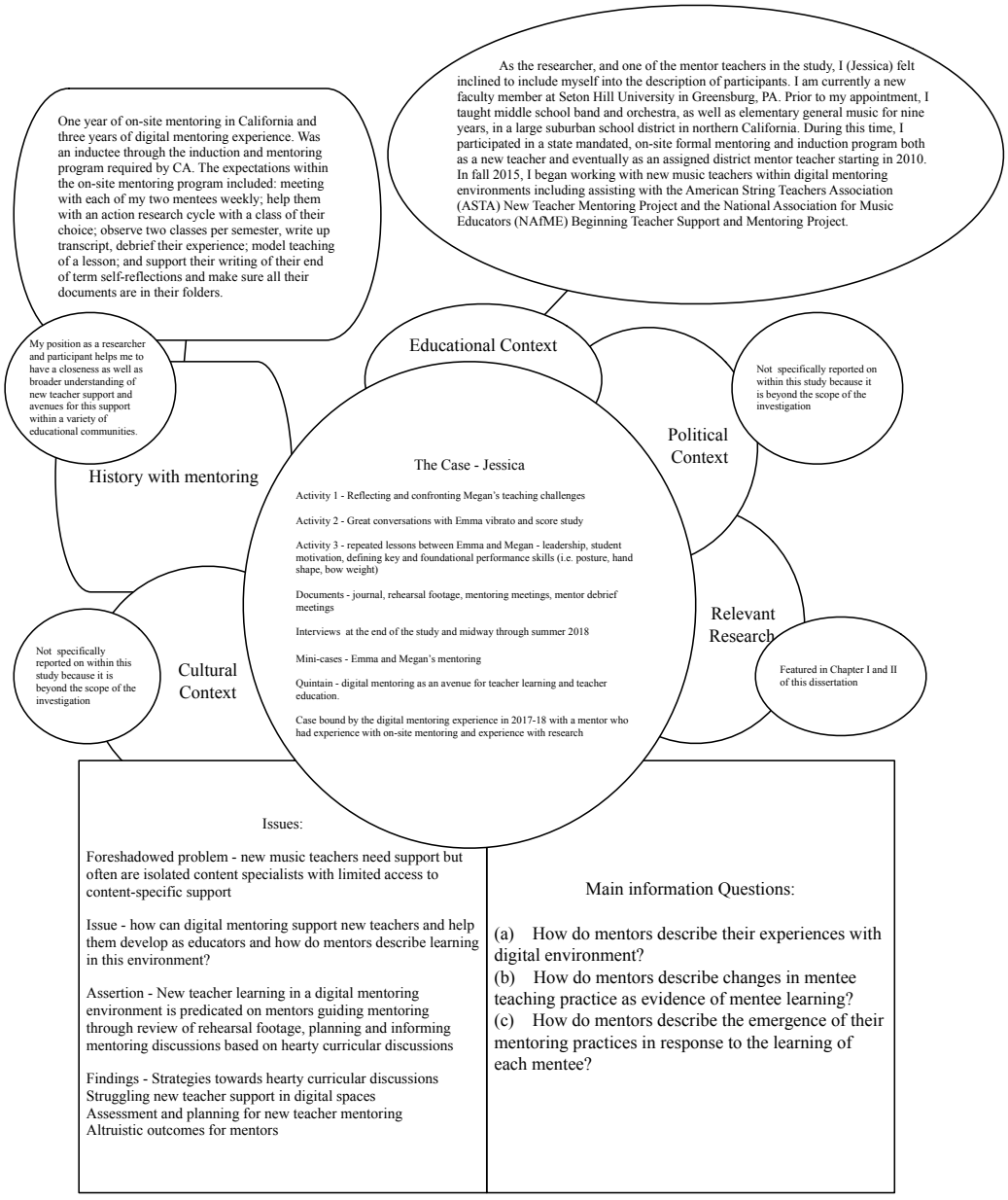

Figure 9. Multiple Case Graphic Design (Stake, 2006) Jessica's Case

Though self-study guided opportunities for Laura and me to reflect on our approaches and experiences as mentors through grappling with biases and their positionality within the work, the supporting quotes featured in the following chapters focus largely on our areas of congruency to provide a logical flow within the write-up of the findings. Therefore, the organization of the

findings in the subsequent chapters are based primarily on the research questions with an additional chapter dedicated to connecting themes to the theoretical framework of andragogy.

CHAPTER IV

Mentoring Approaches in the Digital Mentoring Environment

In Chapter IV, I will present findings connected to mentors' descriptions of mentee learning within the digital mentoring environment. In part I, I will describe the advantages of the digital mentoring environment from the mentors' perspectives including: (a) check-ins with mentees, (b) sharing of materials, and (c) flexibility of meeting times. Next, I will present the challenges mentors noted for how the digital space impacted the mentoring experiences including: (a) establishing contingency plans, (b) responding to mentees: unintentionally delayed responses, and (c) access to a fuller story: critical context of teaching footage. In part II, I will present mentoring approaches used to facilitate mentee learning including: (a) intentional redirection, (b) elaborating and expanding ideas, (c) presenting rationale, (d) mentoring through story, and (e) prioritizing curriculum. The chapter will conclude with a summary and connection of findings to past research to answer how mentors describe mentee learning within a digital mentoring environment.

Vignette of Laura and Mandy: A Hearty Curricular Discussion

Before presenting the two main sections of this chapter, I offer a vignette to depict what I identified during this investigation as a "hearty curricular discussion." The data used to develop this description was Laura and Mandy's mentoring meeting on January 16, 2018 along with their shared Google drive folders and documents. This secured folder was established at the onset of the investigation by me as the researcher.

This vignette is presented to illustrate how new teacher mentoring can be more nuanced than simply chatting, or checking-in, with new teachers. Mentoring, in this study, required planning, attention to the mentoring environment, guidance of ideas, and noticing mentees' readiness for new information. Noting mentoring moments may help further illume the innerworkings of an engaging digital mentoring environment and experience (See Image 2.). Below is a description of Laura and Mandy's January 2018 mentoring meeting. Please visit the following link for multimedia materials associated with this vignette (https://tinyurl.com/y6c3327g).

> After salutations and dialogue about Mandy's upcoming concerts, Laura pivoted their conversation. She began by asking Mandy to collaboratively plan for Mandy's general music classes. Mandy chose to discuss incorporating dances into her curriculum. Laura paused to get some of her documents, notes, and materials set on her laptop before transitioning into their discussion. While setting up, she assured Mandy, "there is a general pattern for circle dances." With that reassuring statement, Laura presented how she approached introducing hand jives, circle, and line dances. She focused on describing the activity in terms of student learning outcomes as well as considerations for classroom management. Towards the end of the description, Laura listed dances she recommended and offered how she adapted words and movements to meet her student's needs. Next, she stepped back from her desk and demonstrated a "heel toe" dance. Mandy listened intently while taking notes. She also sought clarification regarding Laura's suggested instructional language. Next, they reviewed shared resources posted to their shared Google Drive folder and discussed options for instructional language to include in the lessons. Throughout the meeting, Laura was mindful to verbally check-in with Mandy who continued to listen and watch Laura's demonstration. Midway through their discussion about dances, Mandy interjected her interest in teaching "Alabama Gal" to her third graders. Laura smiled as Mandy described a need for additional pieces to teach her second-graders. With this information, Laura offered Mandy consider teaching "Alabama Gal" without the dance to teach her second graders; since this tune was of personal interest to Mandy. As Laura reflected out loud, she introduced an additional movement activity for Mandy to also consider using with her second-graders. Laura then pivoted to demonstrating a chant and movement activity "Go go go and Stop" (Mandy and Laura, Mandy's mentoring meeting, January 16, 2018).

Image 2. Mandy's mentoring meeting, January 16, 2018

The above description is intended to highlight three characteristics of a hearty curricular discussion within a digital mentoring environment. These characteristics include a balance between: (a) dialogue, (b) emphasis on curricular content, and (c) demonstration of teaching practices. Hearty curricular discussions within this study were noted as a result of attentive and nuanced use of mentoring approaches featured in the next two chapters of this dissertation. The findings described in the next sections are intended to showcase some of the key findings linked to the "what" and "how" of digital mentoring.

Advantages

Check-ins with Mentees

For this study, "check-ins" were defined as salutations and remarks often initiated by mentors. These were intended to demonstrate care and interest in their mentees' lives and the availability of Laura and I as mentors to support them. These discussions occurred during the beginning moments of mentoring meetings as well as text message and email communications.

Instances of mentors seeking opportunities to connect with mentees were noted in 45 files of data as well as 151 references within these files. These greetings and statements were most often sent informally between scheduled video conference meetings (see Table 8).

Table 8:

Examples of Check-ins

Date	**Description**
Mandy's mentoring meeting, September 26, 2017	Laura and Mandy discussed Mandy's car trouble
Megan's mentoring meeting, September 4, 2017	Megan and Jessica discussed the forest fires in California impacting commutes and teaching
Alison's mentoring meeting, September 14, 2017	Laura and Alison discussed Alison's apartment search
Emma's mentoring meeting, December 12, 2017	Jessica and Emma chatting about Emma's apartment

The rationale for initiating these discussions during the beginnings of meetings was to establish a sense of mentors being available to mentees and a climate of care and learning. While discussions of how mentees adjusted to independent adulthood occurred during check-ins, these communications also featured content-specific support: "Good luck with making first sounds this week. Those first sounds can be alarming, so don't get discouraged. I am always a text, email, or call away" (Laura, Mandy text message, September 13, 2017). Others functioned as reminders: "I just shared a bunch of Prezi's with you and some lesson plans for middle school orchestra that may be helpful in the future" (Jessica, Emma text message, September 3, 2017). Laura and I also requested pictures of their classrooms which spurred additional comments to develop connection with our mentees:

> Emma: Here is a picture of my classroom all set up! Took a lot of dusting and reorganizing, but so happy to have it set up!
> Jessica: It looks wonderful! Isn't it nice to sometimes get rid of all the old stuff?
> Emma: So nice!! I'm a little bit ruthless…. but no more clutter! See you on Sunday!
> Jessica: I hear you! Have a wonderful and well-deserved weekend! Talk soon!
> (Jessica and Emma, digital written communication, September 1, 2017)

Laura explained how she scheduled text message communications: "In the mornings I sometimes send a quick 'good luck' text and they respond often with 'thanks' but nothing else" (Laura, mentor debrief meeting, September 24, 2017). Laura and I surmised the lack of responses we observed were their way of communicating their self-sufficiency. However, we also anticipated mentees may utilize this avenue as a means of reaching us quickly once challenges surfaced. I described to Laura how:

> I got into the habit of checking-in with her around 10 AM daily... I would say, 'I just want to check in and see how your day is going.' I felt like this communication was more with a focus on being a friend more than a mentor… expressing solidarity. Then, one day she replied, 'it's ok I am crying in the secretary's office.' Which prompted me to immediately pick up the phone and ask, 'what is going on?!, Are you ok!?' (Jessica, reflexive meeting, February 27, 2018)

While initial messages welcomed discussions, they often extended mentoring beyond formal salutations towards opportunities to support mentees. The ways mentees utilized asynchronous technology during this study also informed how mentors used these communication forms. Early in the study, Laura reflected, "There has been no email or text traffic whatsoever. …and I am not getting frantic questions at all" (Laura, mentor debrief meeting, September 24, 2017). Though I discussed similar communication patterns with my mentees, we noted how our individual approaches to integrating asynchronous technology impacted our mentees' communication styles. I reflected

> The text messages weren't on Emma's end but more on mine to say 'hey, you are not offending me if you want to chat just let me know other than our meeting' and then all of the sudden I got this 'help!' panic [message] from Emma asking for help (Jessica, mentor debrief meeting, September 24, 2017)

Message examples like this helped demonstrate that despite the physical distance, asynchronous check-ins messages helped us as mentors show our investment in our mentee's experiences, successes, and challenges.

Reaching out in radio silence. Communicating in digital spaces involved the use of a variety of communication practices to ensure response and connection. In this study, connectivity was perceived by participants in terms of response time. Mentees interpreted our availability in terms of connecting with us informally between mentoring meetings. Even though the majority of the mentoring communication in this study occurred through video conference, mentoring also took place within text messages, email correspondents, and phone calls.

If not initiated by their mentors, mentees described hesitating to send a message or call between meetings. Mentees interpreted our availability in terms of how often informal communications occurred between mentoring meetings. Despite this initial hesitation, this feeling was also noted as subsiding once they felt trust and availability from us. Text messaging then emerged as a critical communication form to connect with mentees and build trust between scheduled mentoring meetings. It was utilized as an asynchronous approach to welcome dialogue about teaching when mentees were hesitant to connect. Megan offered an explanation for this approach. Despite her challenging circumstances during her first year of teaching, Megan also described how the consistency and quick responses via text message helped her persevere. She elaborated on this idea when comparing the support provided through this study compared to the support from her friends and advisors locally accessible to her: "You were in a positive place

where my advisor was in a negative place, kind of counterintuitive, and not helpful. I needed more people and more ideas than one person can provide" (Megan, focus group, June 19, 2018).

Laura and I demonstrated our digital availability to mentees in a variety of forms. Sometimes this was through adjusting to their need for more access to our support even if this wasn't our preferred form of communication: "I did volunteer that if she needs help midday for a few days that I would be able to answer her via text if needed" (Lindsey, digital written communication, November 7, 2017). Though individualized, we balanced our digital presence through providing mentees with "space" to feel independent while being mindful to keep communication lines open.

Sharing Materials

Remote file sharing was used in this study through a pre-established, secured, cloud-based storage system (i.e. Google Drive). While on-site programs may use similar means for sharing information with mentees, file sharing in this environment became essential for content-support and discussions. Similarly, screen-sharing and mirroring functions through the video conference software (i.e. BlueJeans) also helped to guide meetings. Laura described: "Having both of us looking at the same document at the same time and discussing it" helped promote hearty curricular discussions (Laura, reflexive meeting, February 27, 2018). One vivid example occurred during Laura's January meeting with Alison where she presented themed activities and tunes for the month of March, "so this one I just started using last year… Oh yes, this is really cute. This is really good, it is called Little Leprechaun" (Laura, Alison's mentoring meeting, January 18, 2018) (see Image 3).

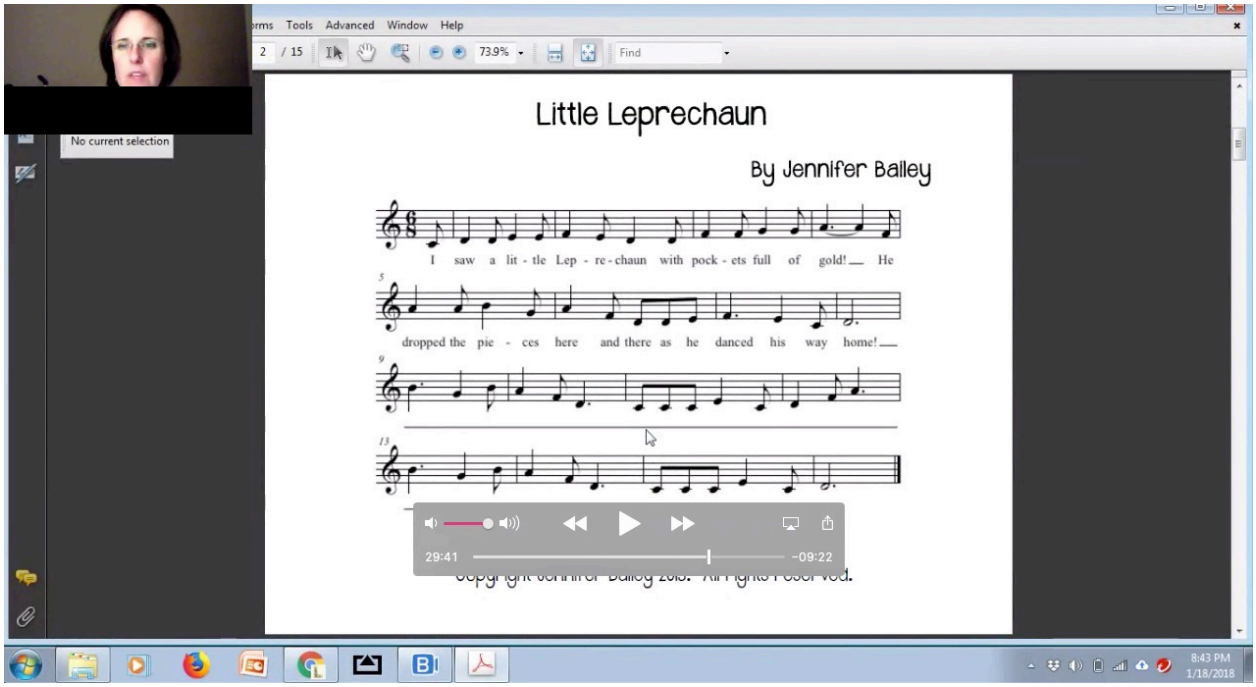

Image 3. Laura, Alison's mentoring meeting, January 18, 2018

Mentees identified access to digitized materials as beneficial. Emma described how meetings involving score analysis and rehearsal development were easier because she was provided: "materials ahead of needing them" (Emma, text message communication, June 19, 2018). Alison elaborated: "It was nice having resources from Laura because there was so much I forgot about or never thought about. I would write down on my notepad every step Laura said ….I like having that list from her too" (Alison, focus group, June 19, 2018). Despite physical distance in this digital mentoring environment, sharing of screens and documents welcomed closeness and trust needed for discussing teaching and refining practices.

Flexible Meeting Times

Due to our prior experiences as on-site new teacher mentors, Laura and I compared the flexibility within digital mentoring to on-site mentoring experiences. Comparing on-site mentoring to digital mentoring, Laura and I noted how the digital spaces welcomed flexibility for

scheduling mentoring meetings outside of the school day which seemed less feasible within the typical scheduling expectations of on-site programs.

> It was nice to be able to talk at night. We would talk at 8 pm and at that point we were done with the day and had dinner and regrouped that wasn't a sense of rush and urgency. We could take our time and were more reflective. (Laura, reflexive meeting, February 27, 2018)

Laura offers how she attended to scheduling and managing the additional logistical considerations of on-site meetings. She described her self-talk during her on-site mentoring as:

> ok, I got to get to the high school and then I am thinking about getting home on time after school and about leaving the meeting I just arrived at. That always feels more like a pressure cooker to me. (Laura, reflexive meeting, February 27, 2018)

I expressed similar time-management stress as I recalled my on-site mentoring work. I described how California's Beginning Teacher Support and Assessment (BTSA) program required weekly mentoring meetings ranging between 50 – 60 minutes in length.

> I felt like I was giving my on-site mentees less of my attention because I would think to myself [sigh] 'I have to go. I want to go home. I love talking to you; but I have to go.' I just wanted to leave the building for the day. (Jessica, reflexive meeting, February 27, 2018)

These concerns did not surface in the digital mentoring environment; mostly because meetings were mutually scheduled at times feasible for both mentors and mentees.

During this investigation, Laura and I arranged meetings with mentees in two ways: scheduled out on a weekly basis or as needed often directed by the mentees. Laura was incredibly consistent with her meeting schedule. I, on the other hand, approached scheduling as adjusting to the ebb and flow of mentee's needs. For me, this manifested in rescheduling meetings as needed. Both approaches helped mentor-mentee pairs maintain meeting schedules (See Figure 4 & 5 in Chapter III) and, from the mentee's perspective, both approaches were

helpful. Emma explained: “setting up a schedule was helpful because I knew this was allocated time” (Emma, digital written communication, June 19, 2018). Similar statements included: “I wasn't going to let that time pass because I needed those meetings” (Mandy, interview, February 27, 2018). Mandy also added the flexibility allowed her to be relaxed during meetings in ways that were not possible during the school day:

> It was nice that I could lay in bed in my PJs and even if I was tired, I could sit down and talk about everything I needed to talk about. I don't have to go anywhere. There wasn't any extra travel time and if I was at school that was fine but for the most part, I was home, and it was nice and convenient. (Mandy, interview, February 27, 2018)

Committing to a set-meeting time or scheduling meetings as needed both allowed mentees to have access to support different from on-site meeting environments.

Challenges

Establishing Contingency Plans

Though benefits of the digital environment included flexibility and opportunities to customize support, mentors also navigated technology usage and the literal distance inherent within this study. In terms of modifications to meetings due to technology, there were only a few meetings compromised by connectivity issues. For reference, four out of the 54 mentoring meetings were noted as altered or rescheduled due to weak WIFI signal or minor issues with hardware connection. In the event that a challenge emerged, Laura and I worked quickly to alleviate barriers and provide contingency plans for mentoring meetings when necessary; often by moving the meetings to phone or rescheduling. Laura described:

> Every once in a while, our internet connection would cut out and we would have to start and restart. These were the unexpected technology glitches that you wouldn't have in person. (Laura, reflexive meeting, February 27, 2018)

Despite small adaptations to the digital environment, the benefits of flexible meeting times and access to shared digital materials were perceived as more numerous than these constraints.

Responding to Mentees: Unintentionally Delayed Responses. Another challenge involved delayed responses within shared documents or email communications. As noted in Chapter III, secured Google drive folders were created to share and store teaching materials, notes, and lesson footage for the study. Early in the study, Laura described how Alison posted questions into a Google doc shared in their folder and "once I knew they were there responded. I don't think she knew I responded but I brought it up during our next weekly meeting" (Laura, mentor debrief meeting, September 24, 2017). Unfortunately, the lack of alert featured within this program added confusion for this form of communication. Similarly, I noted Megan's preference for email communication during the school day. This required I adjust my approach with her. I described to Laura: "Megan has sent me 'emergency' emails midday. They are really elaborate, and my reactions is often that I wish I saw the message sooner" (Jessica, mentor debrief meeting, September 24, 2017). Navigating technology use and learning to optimize communication in this environment required adjusting and striving to be consistent with response times that might have been navigated differently within on-site mentoring.

Access to a Fuller Story: Critical Context of Teaching footage

Rehearsal and lesson video footage review became an important component of this mentoring experience. Due to the prominence of video-based data in this study, I will address how we used teaching footage throughout the next three chapters. In this chapter, I will provide information about how the video footage review provided access to more information about each mentees' teaching. As mentioned in Chapter III, the collection, sharing, and review of mentee teaching, and teaching footage was an expectation for participation in this study. As the study

progressed, Laura and I continued to note how important it was for us to access this footage. However, the digital space required we also remind mentees of our need for the footage. Without this footage, Laura and I felt our recommendations lacked context to our mentees' classrooms and might be more situated in what we envisioned about our teaching.

> I was rereading my journal entries a couple minutes ago I noticed a couple of times saying, 'it would be helpful if I could see a teaching video'. We can talk about this in theory but until I see it in practice, I have the vision of what would happen in my classroom. (Laura, reflexive meeting, February 27, 2018)

Laura also described:

> The videos spurred a lot of conversation and definitely context. In Mandy's case she seemed worried about her teaching and I watched it, and it was great. I think she appreciated the validation and the very specific ideas because we could dig in on detail level. And with Alison it was like 'oh boy we need to totally change course' so it was critical to see, or I would have never had any concept. …Without the video my advice was kind of pointless because it was completely in a different context. (Laura, reflexive meeting, February 27, 2017)

I concurred: "I can provide more specific feedback if I see things in action" (Jessica, mentoring debrief meeting, September 24, 2017). For example, the context from the teaching footage helped me reframe Megan's challenges in terms of instructional sequencing and pacing while also identifying the aspects Megan described during meetings. I explained:

> I saw your frustration. And I didn't think it is because the lesson wasn't working. Instead, I felt like there is an invisible barrier between you and the kids. We have talked about that but now I have seen it which makes it more tangible for me to help you. (Jessica, Megan's mentoring meeting, September 20, 2017)

Similarly, Laura contextualized Alison's struggles:

> in twenty minutes [Alison's' students] chanted a rhythm 12 times. They were trying to get rhythm sticks and that sequence took 4 minutes to get them. Then somebody clicked a stick, I didn't even see it in the footage. She, then went 'no, we know the rule on that. You can't rub the sticks together. You will chip off the

> paint' and took the sticks back before they were even allowed to play. (Laura, mentor debrief meeting, October 15, 2017)

The "window" into their classrooms was a vital part of how we formulated recommendations.

Despite Laura and my desire to gather more details about our mentee's classrooms, we noticed that acquiring lesson video footage was difficult at different points in the school year. In some cases, the lack of footage became an obstacle. At first, Laura noted: "I asked this week about videos and they weren't interested" (Laura, mentor debrief meeting, September 24, 2017). To mitigate this barrier, I became adept at sending text message reminders to new teachers about ways to manage the logistics of recording during classes. These reminders were noted as helpful by mentees.

> Jessica: Hey Emma, I know you are out and about today, but I didn't want to forget to communicate about this… I think we might want to do a recording of a rehearsal soon. I can give better and more specific ideas to incorporate or reassure you to keep doing what you are doing if I see it in action. Let's chat about it on Monday but I think that might be a reasonable means to helping in your classroom
> Emma: Okay!
> (Jessica and Emma, digital written communication, September 22, 2017)

By October 5, 2017 Emma shared footage which I reviewed. I typed and sent feedback back on October 8, 2017 and we discussed the notes in our next video conference meeting on October 9, 2017. This form of a feedback loop was important for keeping momentum focused during the mentoring experience.

It was also important to note that though the video footage required mentees to arrange, record, and share, access to the footage was important for mutual planning as well. For example, while working on reviewing Emma's teaching footage we discussed a variety of other topics via text message. Between September 22, 2017 and October 4, 2017, we covered a variety of topics including: listening activities for her general music class (Text message communication, October

2, 2017); GarageBand activities (Text message communication, October 3, 2017); as well as sectional and leadership meetings with her seventh and eighth grade orchestra (October 4, 2017). There was no hierarchy associated to these discussions but instead the optics were steered by the needs Emma presented. What became important was demonstrating flexibility and allowing conversations to evolve as needed including gathering and reviewing teaching footage.

Part I - Summary

In Part I, advantages and challenges of the digital mentoring environment were presented. Flexibility in terms of scheduling meetings, communication, and sharing materials were all noted as advantages of the digital environment. Some of this compared directly to on-site mentoring. Specifically, how flexibility in scheduling allowed mentors to focus on supporting new teachers while also attending to their own workday and personal commitments. Along with these positive attributes, some challenges emerged as mentors navigated and connected with mentees. This was especially apparent coordinating and scheduling observation opportunities. These challenges situated some of the responsibility of mutual planning on the mentees. Teaching footage was noted as providing mentors with the critical context of mentees' teaching. This helped mentors organize recommendations and discussions during mentoring meetings in a timely manner and keep discussions focused on their teaching. When footage was not available, access to footage became a topic of discussion during mentor debrief meetings. Though discussions continued without the footage, the context acquired through the footage was the priority for the mentors. In Part II, I will address the mentoring strategies which guided and supported mentee learning in terms of: (a) intentional redirection, (b) elaborating and expanding ideas, (c) presenting rationale, and (d) focus on curriculum.

Part II – Mentor Descriptions of Their Mentoring Strategies

In this section, I will present mentoring strategies enacted through this study. These included: (a) intentional redirection, (b) elaborating and expanding ideas, (c) presenting rationale, (d) mentoring through story and (e) prioritizing curriculum.

Intentional Redirection

For the purpose of this investigation, mentor redirection was defined as a mentor's intentional guidance of conversations with mentees. This often involved shifting discussions towards topics such as curriculum development, lesson planning, and teaching. The vignette presented at the beginning of this chapter provided a glimpse into what a hearty curricular discussion looked like in this digital mentoring experience and how mentors noted mentees' reflections to guide meetings. In addition to consistent use of this approach, intentional redirection also evolved through the study. First, redirections started as mentors presenting questions to mentees and evolved to more specific recommendations and statements of ideas for mentees to directly implement into their teaching. In the following section, I will describe the strategies and approaches related to intentional redirection including: (a) elaborating and expanding on ideas, (b) providing rationale, and (c) prioritizing curriculum.

Initially, redirections were identified as questions prompted by mentors to steer towards particular curricular topics during mentoring meetings. Examples of these types of transitional statements included:

> Do you have any lesson plans you want to talk through?
> I was thinking that we might be able to think through a lesson together that you are in the middle of writing or one you wrote and weren't sure about and we can go back through and review it?
> Are you writing for next week already or what is your schedule for writing lesson plans? (Jessica, Megan's mentoring meeting, November 26, 2017)

Out of context, these statements appear as disjunct or fragments of conversations. However, these inquiries helped mentors refocus discussions back to student learning and teaching without overtly focusing on the strict agenda of a meeting.

For example, after Megan described feeling apprehensive about returning to work after Thanksgiving break, I offered: "So, for tomorrow, I know you wrote out what you want the kids to work on, but what should we prioritize so you feel successful?" (Jessica, Megan's mentoring meeting, November 26, 2017). By focusing back to the most immediate challenge (i.e. lesson planning for the first day back from break), the conversation moved beyond descriptions of stress to reflection and development of actionable items for the week. Redirections were also noted by mentors as a means to propel discussions. Laura reflected on how both Mandy and Alison seemed exhausted by their busy teaching schedules in the fall. Instead of forgoing a mentoring meeting, Laura reflected: "I forged ahead with sharing some sure-fire lesson activities" (Laura journal, October 19, 2017). These statements helped move Laura and my mentoring beyond gestures of solidarity and support to specific discussions about teaching while also acknowledging our mentees various needs for support.

Elaborating and Expanding Ideas

How mentors elaborated and expanded on mentees' ideas aligned with many social constructivist approaches towards teaching but also functioned as a form of redirection in this study. These were featured by Laura and me when we provided mentees with positive praise and acknowledged their ideas while also offering ways to extend further instead of imposing our recommendations upon them. This approach was used during mentoring meetings as well as within check-ins via text message. During a discussion regarding classroom set-up and procedures, Megan offered how she envisioned creating procedures for her classes. She

explained, “I am thinking of having students create their own on the first day we come back from break.” With this information, I concurred but also expanded on her ideas. I proposed she consider involving her students in the development of class norms using pedagogical inquiry instead of leaving the activity completely open-ended (Jessica and Megan, Megan’s mentoring meeting, October 1, 2017).

Along with adding to mentees’ ideas, mentors also elaborated in the form of questions or explanations to prompt brainstorming or offer a different perspective. Laura and Alison frequently discussed integrating dances and folk tunes into Alison’s lessons. During discussions, Alison described hesitating to include dances based on what she described as her student’s adverse reactions to the activities. Instead of insisting Alison use Laura’s ideas, Laura offered she focus on their interest in popular music as a bridge to folk dance experiences: “folk songs are going to sound really simplistic [and therefore] you might have a discussion about the music they like and why they like it.” After this explanation, Laura detailed how she explained this idea to her own students: “When you are at school you learn about math or solar science in music our literature is folk music because that is passed on from generation to generation” (Laura, Alison’s mentoring meeting, October 5, 2017). After listening, Alison asked: “so, Kinder and first grade should be good classes to begin with integrating the dances” (Alison, mentoring meeting, October 5, 2017). Pivoting mentee’s attention away from the day to day challenges, such as student behavior, towards larger philosophical ideas helped refocused mentees on larger curricular implications to their lesson planning.

Elaborating and expanding on mentee’s ideas also invigorated brainstorming for mentors. Laura reflected, “Mandy asked for ideas about how to extend lessons and incorporate additional musical ideas beyond simply learning a song by rote. I gave her some examples for a random

song which got the brainstorming process started" (Laura, journal, October 16, 2017). Similarly, I enacted this through text message with Megan.

> Megan: Tomorrow we are going to practice with bows on open strings and see how that goes. Then we will do some exercises in the book.
> Jessica: That is perfect. Definitely model and do echoing back and forth. Focus on reminding them to bend their thumb at two knuckles and give them time to watch their bows during the exercises.
> (Megan and Jessica, digital written communication, January 15, 2018)

Both approaches welcomed mentors to present advice and recommendations without overtly imposing these ideas on what mentees presented. Elaborating and expanding on mentees' ideas, as well as intentional redirection, acknowledged their ideas without discounting them while beginning to move teaching beyond immediate struggles.

Presenting rationale. Mentors balanced reflective opportunities with more direct presentation of recommendations. In the example below, Laura and Alison discussed Alison's teaching. Laura identified how Alison's challenges may be more associated with the complexity of the tasks Alison planned in her lessons rather than classroom management or individual students exhibiting "bad behavior."

Excerpt from Laura and Alison's Mentoring Meeting September 14, 2017

> Laura: How do you have your lesson structured for the last fifteen minutes of class? What kind of content is going on at that point?
> Alison: I have been going off of Quaver. So much of the beginning of my lesson is listening to the activity through the program and then 'doing' the activity together in-class. Kind of, 'here is an example let's do it'. So, based on the amount of time I have with them, I gave them a song called 'Shake your sillies out' at the beginning of the lesson so they can get it out of their system…. So, we are singing that sitting in a circle and everyone has a blue rhythm stick and I am like 'ok we are going to take the stick up above our head, hit it on the ground, and grab your partners stick.' [Alison sings and models the movement she described]. And that was the hardest thing for them to do. We weren't even singing, and it was towards the end of the lesson. I am trying to keep them active [during the lesson] but I don't know at this point.

> Laura: That is a really hard skill for kids. It wouldn't matter when you did that in the lesson, that is a struggle. [Alison smiles showing relief] By third grade they are ready for that, but it is hard. So, don't feel too bad about that. I am also wondering if you need to do something with movement to get the wiggles out of their system and then have another movement activity half way through? You might want to think about having the kids lay on the floor for the end of the lesson, sing a book to them. Song books like This old man or other familiar folk songs.
> (Alison's Mentoring meeting, September 14, 2017)

Another example involved Alison and Laura discussing elementary general music literature. Laura inquired about which pieces Alison planned to introduce to her students. During their exchange, Alison reflected on how she presented a similar tune to what Laura described and demonstrated how she integrated body percussion and partner work during the introduction of the tune. Energetically, Laura used this description as a means for providing more approaches for Alison to consider.

> that is a great idea…and I am uploading something for you right now. Tell me when you see it there. So, I basically print three pages of them for a class. I put up the pictures on the screen and the class sings minor third and [Laura points to the picture on the screen]. Whatever the children are holding they reply with echoing the minor third. That is a good way to hear if they are in their head voice through call and response. I actually have those for all the different holidays. (Laura, Allison's mentoring meeting, November 2, 2017)

During yet another exchange, Laura presented lesson plan ideas and infused classroom management strategies into her descriptions.

> I am almost thinking that if we choose a dance you can demo with one student they will focus. The way I build these is that two students are added into the process and I will be honest that I do this with kindergarten as a first circle dance and make it harder each year. But because they haven't done this it would be a good place to start. We can jazz it up to make it less baby like. (Laura, Alison's mentoring meeting, January 18, 2018)

Mentoring through Stories

Laura and I used story as a means to communicate humility and empathy to our mentees (i.e. I have been there too and struggled too, or it gets better). In our October 15, 2017 video conference, Emma and I discussed brands of shoulder rests for her students. Instead of jumping into recommendations of brands for Emma to consider purchasing, I began by offering my own experience including confusion over shoulder rests brands. This discussion extended into an opportunity for me to review violin and viola "instrument to body" activities with Emma. This led Emma to inquire further about the rationale for purchasing particular shoulder rests and finishing the order for her program (Jessica, Emma's mentoring meeting, October 15, 2017). During a discussion about Mandy's participation on a curriculum writing committee, Laura expressed understanding: "you are right on and this is new for me too" (Laura, Mandy's mentoring meeting, September 26, 2017). Laura vulnerably described to Mandy how she changed her approach to teaching vocal health and assessing student's singing voice based on observations of one of her student teachers.

> So, my kids were super shouty for a long time and to be honest it was one of my student teachers from four or five years ago who came in really politely and said, 'we need to put them in their head voices.' And I was like, 'yep.' She made it happen and I am forever grateful to her. And since then I have zoned in on that and maintained it. So, I think once you make the shift it is easy. (Laura, Mandy's mentoring meeting, October 16, 2017)

Stories provided an avenue for mentors to normalize mentee's struggles and challenges while describing them in terms of similar challenges or continued struggles as veteran teachers.

Prioritizing Curriculum

Laura and I noted how we balanced our unabashed enthusiasm to directly share materials with the importance of providing mentees with space to describe their needs and choose what

they found to be important. Laura explained: “I have shared things. They didn't ask for them. I just offered them up.” I concurred: “They [mentees] don't have to use it [the resources] but I also want to avoid them ‘reinventing the wheel’. There is so much universal stuff” (Laura and Jessica, mentoring debrief meeting, September 24, 2017). I also reflected on this idea in terms of on the topics I generally bring up to my mentees based on the time of the school year and the ensembles they teach.

> During mentoring I am always thinking ‘where are [mentees] transforming through their teaching footage?’ What’s the best way to say this [to the mentees]? How should we work through this [with the mentees]? And as I explain ideas to my mentees about teaching my values and beliefs about music teacher education become more salient leading me to be sometimes even more insistent about an approach or recommendation to a problem. Simultaneously, there are times where my mentees bring something up and I think, ‘I never thought of it that way!’ (Jessica, mentoring debrief meeting, September 24, 2017)

Prioritizing curriculum was also evident in a review of the topics discussed through all the mentoring meetings during the study. An overarching content-review of topics discussed in the meetings featured: unit plan design, scaffolding of embouchure introduction, introduction of bow to string activities, vibrato activities, seasonal activities for general music classes, vocal warm-ups for general music classes; all within the purview of a webcam (see Image 4).

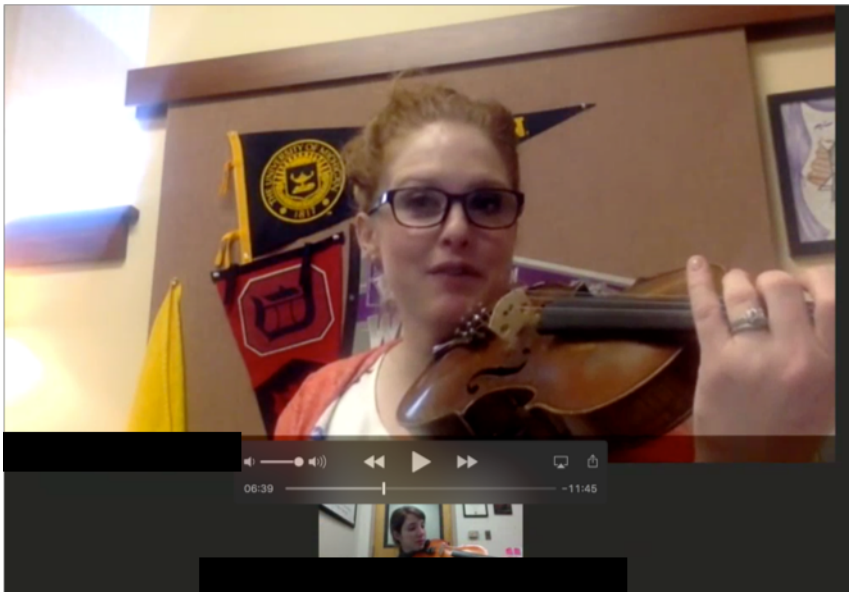

Image 4. Emma's mentoring meeting March 14, 2018

Summary and Discussion

The findings discussed in this chapter focused on mentoring approaches in the digital environment. This was primarily to address the first research questions of this dissertation: (a) How do mentors describe their experiences with digital environment? The digital environment findings included: (a) flexible check-ins with mentees, (b) sharing of materials, and (c) flexibility of meeting times. Additional findings included: (a) establishing contingency plans, (b) responding to mentees: unintentionally delayed responses, and (c) access to a fuller story: critical context of teaching footage. While featured mentoring approaches involved: (a) intentional redirection, (b) elaborating and expanding ideas, (c) presenting rationale, (d) mentoring through story, and (e) prioritizing curriculum. The findings associated with the digital mentoring environment suggest there may be specific aspects of the video-conferencing environment that require attention from mentors to develop a productive mentoring experience. In addition to the digital environment, findings also suggest that there are some mentoring approaches that occur

within mentoring dialogue that can help refocus discussions back to teaching while continuing to attend to the trust and caring new teachers need to share.

Check-ins with Mentees

Check-ins involved a series of communications often initiated by mentors. These communications developed an environment of trust by demonstrating availability outside of the scheduled mentoring meetings. Sometimes mentors inquired about mentees lives while other instances were text or email communication to offer reminders or send anticipatory statements about how a particular curricular experience could be expected to go. Mentors noted that mentees' responses evolved over time; at first passively reading the comments to using this asynchronous communication between mentoring meetings. When mentee demonstrated less activity within the asynchronous communication, mentors continued sending messages to demonstrated availability within the digital mentoring environment.

Mentors, like educators, need to identify ways to demonstrate caring and compassion for their mentees to develop trust within the partnership (Berg & Conway, 2016; Cothran et al., 2009; Dawson, 2014; Feiman-Nemser, 2001; Maor & McConney, 2015; Shore & Stokes, 2006; Wiemer, 2017). This includes beginning mentoring meetings with discussions of mentees lives was noted as a form of check-ins (Maor & McConney, 2015; Shore & Stokes, 2006). Within the digital mentoring environment, demonstrating availability to mentees helped diminish the sense of isolation associated with new music teachers entering the profession (Conway 2001a; 2003; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004; Feiman-Nemser, 1996; Gold, 1996). Though scholars prioritized trust within mentoring relationships, how mentors help build this relationship over time, let alone while attending to the barrier of

physical distance added to the digital experience, is not described thoroughly within current scholarship (Bell-Robertson, 2015; Cheng, 2008; Meagher, 2010; Weimer, 2017).

The use of text message and email correspondence, in conjunction with the regularly scheduled video conferences, was a particular function the computer mediated communication worth noting in this study. This combination helped to develop a mentoring environment positioned around trust and care on behalf of the mentors (Bierema & Merriam, 2002). In past research, text-based communication typically featured options for anonymity which lead to a lack of personal connection in these studied mentoring experiences (Cheng, 2008; Hunt et al., 2013; Klecka et al., 2004). One reason why these asynchronous communications may have evolved to be helpful in the present study was due to the combination of regularly scheduled video-conference meetings supplemented by text-based communication.

Scholarship on digital mentoring varied in how the mentoring environments were defined with much of the research focused on chatroom and online mentoring spaces (Babinkski et al., 2001; Bell-Robertson, 2015; Cothran et al., 2009; Klecka et al., 2004). Developing a mentoring relationship within a digital environment required accounting for the physical distance between the mentors and mentees. The challenges identified within this present dissertation paralleled some of the experiences featured in past literature. These included how meetings were adjusted when technology became a barrier as well as how communication styles were modified to meet mentees' needs. And though the findings in this chapter featured how mentors adjusted their communication approaches for the digital space, these approaches may also be transferrable to other digital mentoring environments including those with more anonymity.

Sharing Materials

In this dissertation, sharing materials was noted as an advantage of the digital mentoring environment. Materials were shared electronically during and between meetings as well as through the use of screensharing functions. From the mentee's perspective, there was a desire to collect and gather as much as possible even if the review and discussion of these materials isn't needed within the time frame available for mentoring. The ability to look at the materials and review them simultaneously during mentoring meetings was also an asset of this mentoring environment.

The sharing of materials was not new to the mentoring experience, in fact much of the mentoring literature referenced sharing as a central tenant of new teacher support (Dawson, 2014; DeLorenzo, 1992; Maor & McConney, 2015; Nam, Seung, & Go, 2013; Smith, 1994). How materials were shared between and during mentoring meetings was worth noting in this study because few scholars have isolated this particular feature of digital mentoring and technology-based environments within mentoring literature. These materials welcomed curricular discussions into the mentoring experience.

One challenge of new teacher mentoring was in identifying approaches that promoted discussions of teaching. In past research, this was often challenging because of the complex web of needs described by new teachers which made it difficult for mentors to discern what support they needed (Achinstein & Athanases, 2006; Feiman-Nemser, 2012; Fuller & Bown, 1975; Moir et al., 2009; Ryan, 1974; Veenman, 1984). Scholars investigated digital mentoring and noted how there was a lack of curricular discussion within much of the digital mentoring experiences (Nam et al., 2013). Sharing materials was described in this present investigation as one component of this mentoring experience that welcomed curricular discussions. This was because

it allowed for what participants described as an effortless collaboration on topics during meetings as well as review of materials at times that were convenient to the mentees.

Flexible Meeting Times

The digital mentoring environment featured in this study allowed mentors and mentees to plan regularly scheduled meetings at times that were convenient to them. Sometimes this involved shifting the date and time of meetings on an as needed basis, other times flexibility was demonstrated by what time of day meetings occurred (i.e. after school, in the evenings, or during prep periods). Mentors compared their experiences working in this digital environment to on-site mentoring. Mentors agreed that the digital space was more accommodating to the busy schedules of music teacher mentors and mentees who find meeting during the school day challenging and, in some ways, distracting to the mentoring experience. Mentees concurred that their mentors were available in ways that differed from their on-site support; often noting they communicated with their digital mentors more and were determined to make their video conference meetings on a weekly basis.

Flexible meetings times was identified as a benefit of this environment from a mentor's perspective in terms of scheduling outside the school day to help focus on mentoring instead of mentoring amongst a full day of teaching (Berg & Conway, 2016; Conway & Holcomb, 2008; Dawson, 2014; Pickering & Walsh, 2011; Reese, 2015; 2016). Though not always noted, formalized mentoring programs often required scheduled meetings between mentors and mentees. These often occurred during the school day; however, there may also be additional required events for these programs (Shore & Stokes, 2006; Moar & McConney, 2005; Nam, Seung, & Gao, 2013). For new music teachers, these types of expectations were often described particularly challenging to add to their already busy schedule due to the co-curricular nature of

rehearsals and event planning expectations for music programs at large (Conway & Holcomb, 2008; Conway & Zerman, 2004). In this present dissertation, the flexibility inherent within digital mentoring allowed for meetings to be adjusted to accommodate mentees busy schedules and continued to be an advantage of this mentoring environment (Vaughan-Marra, 2017).

Establishing Contingency Plans

Along with the advantages that surfaced within this study, challenges also occurred as mentors navigated and adjusted to the physical distance inherent in this type of mentoring experience. Similar to the scholarship on digital mentoring, technological barriers occurred through this present study and were adjusted for and navigated as needed (Burrack, 2012; Eberle, 2003). First, data revealed that weak WIFI signal interfered in four out of the 54 mentoring meetings and was quickly addressed by redirecting the meetings to phone, restarting computers, or rescheduling. In conjunction with findings presented as advantages of this environment, mentors described a need for navigating and understanding how various forms of asynchronous technology functioned within digital mentoring. For example, if mentees posted questions in the collaborative document or emailed their mentors mid-day, mentors expressed concern that their response time, and subsequent relevance of their recommendations, may be compromised by their unintentional delay. Establishing contingency plans allowed for participants in this investigation to avoid the potentially negative impact of this barrier through many of the advantages addressed earlier in this chapter and discussion section.

Access to a Fuller Story: Critical Context of Teaching footage

In a school building, communicating with colleagues may be a matter of walking down a hall or sending a quick email. And often, the expectation may be that even if the colleague did not reply, there was a likelihood of seeing them in passing through a day. In this study, mentors

felt limited in their ability to provide content-specific support that was contextualized to their mentees' classrooms when teaching footage was not shared. Mentors noted that the digital mentoring environment positions more of the responsibility on the mentees to share information about their classrooms compared to on-site mentoring experiences. To navigate this challenge, mentors sent mentees reminders for sharing footage through the week as well as presented the rationale to mentees during mentoring meetings for why the footage was important and that it was non-evaluative.

Review of teaching footage and class observation have been touted as important bridges for helping educators reflect on and change their teaching practices (Achinstein & Athanases, 2006; Blair, 2008; Conway 2002, 2013; Conway & Holcomb, 2008; Feiman-Nemser, 2001; Israel et al., 2009; Wyatt & Arnold, 2012). While music education literature featured logistics of video conferencing and recording rehearsals for review and discussion (Burrack, 2012; Eberle, 2003), the finding addressed in this chapter focused on challenges that parallel those featured in mentoring literature. Developing a non-evaluative and trusting environment for sharing footage was, and continued to be, a challenge within new teacher mentoring (Feiman-Nemser & Parker, 1990; Feiman-Nemser et al., 1993; Wyatt & Arnold, 2012). Observation experiences within new teacher mentoring have been described by researchers as important for expanding mentoring beyond emotional support (Darling-Hammond & Rothman, 2015; Olebe, 2001; Wilson, Darling-Hammond, & Berry, 2001; Wyatt & Arnold, 2012). These challenges transcended comparison between on-site and digital environments but were potentially more restricted in the digital space when mentees were not able to, or willing to, share their footage.

Intentional Redirection

Understanding the approaches mentors enacted to guide, and in some ways teach, through mentoring required an immersive experience in the act of mentoring as well as thorough review of mentor meeting video conference footage. The nuance demonstrated by Laura and I to acknowledge our mentees' concerns and needs while simultaneously anticipating their future challenges, and potential need for refocusing conversations, was enacted through intentional redirection. This included demonstrating support and care for mentees while guiding through discussions about teaching and learning. Intentional redirection worked in tandem with elaborating and expanding ideas as approaches which helped focus discussions on teaching and learning instead of isolated instances of classroom management. Through the study, this approach evolved as the mentoring relationships developed. In some ways, this was presented as scaffolded redirections which started with mentors presenting questions to mentees to spark discussion and over time moving to more directed suggested of ideas for mentees to consider.

Much of the scholarship on new teacher mentoring contended that a metaphorical curtain may prevent complete transparency in how mentors help mentees (Blair, 2008; Feiman-Nemser, 1998; Feiman-Nemser & Parker, 1990). Sometimes this was noted in terms of mentor perceptions that new teachers were simply not ready to discuss teaching in conjunction with the other challenges and stress they faced entering the profession (Feiman-Nemser, Schwille, Carver, & Yusko, 1999; Feiman-Nemser, Parker, Zeichner, 1993; Conway & Holcomb, 2008; Griffin, 1999; Huling-Austin, 1990, 1992, 1994). Other opportunities involved mentors and mentees discussing their thoughts about teaching (Feiman-Nemser, 1998). These reflective discussions were guided by the mentees' needs but also by how the mentors described their teaching and demonstrated ideas to their mentees (Schwille, 2008). In order to understand how mentors

supported new teachers beyond emotional support towards refining teaching, the complexities of the mentoring experience such as how mentors guide discussions and demonstrated care and support for their mentees need to be identified (Feiman-Nemser, 1998, 2012; Schwille, 2008). The approaches of intentional redirection, elaborating and expanding on ideas, and presenting rationale were more specific mentoring approaches that parallel much of what has already been identified as cognitive modeling (Costa & Garmston, 1993; 1994; Orland-Barak, 2016; Rogoff, 1990) and educative mentoring (Feiman-Nemser, 1998, 2012; Schwille, 2008).

Elaborating and Expanding on Ideas

This finding was featured as a key mentoring approach in how mentors utilized this strategy. Instead of avoiding suggestions or overwhelming conversations with recommendations, elaborating and expanding mentees' ideas provided entry points for refining teaching. These approaches helped mentors balance reflective opportunities for their mentees with more direct recommendations. Discussing teaching could be a vulnerable experience for new teachers. However, mentors who demonstrated a sensitivity to the needs of others may also sense hesitation or caution in discussing teaching and learning (Feiman-Nemser et al., 1993; Maor & McConnely, 2015). This could be further conflated by the personal connection educators feel to their philosophy of teaching as well as approaches in the classroom (Raschdorf, 2015). Music education scholars nod to this rift in the community that may at times present a dogmatic dedication to a particular approach (Hibbard, 2017). Other scholars noted that mentors struggled to identify approaches that balanced a clear presentation of recommendations for their mentees without completely discrediting their ideas or making the mentees into "mini" versions of their mentors (Berg & Conway, 2016; Orland-Barak, 2016). These ideas developed unintentional barriers for discussing teaching and learning. Similar to developing a reciprocating relationship

(Raschdorf, 2015), the approach of elaborating and expanding on ideas featured in the present study helped to provide an avenue for generating discussion between mentors and mentees instead of thwarting them.

Mentoring Through Story

Story was used as a means to communicate humility and empathy to our mentees (i.e. I have been there, I struggled too, or it gets better). They provided an avenue for mentors to normalize mentees' struggles and challenges while describing them in terms of similar challenges or their continued struggles as veteran teachers. And, in some ways, this form of solidarity mirrored that which Neito (2005) defined as "remembering what it was like to be a child" (p. 207). The use of story within mentoring has been presented within past literature and was also an attested approaches enacted in this study (Carter, 1990; Cheng, 2008; Feiman-Nemser, 1998; 2012; Feiman-Nemser et al., 1993; Meagher, 2010; Nam et al., 2013; Naseem, 2014; Peterson & Comeaux, 1987; Shore & Stokes, 2006).

Prioritizing Curriculum

This finding encapsulated how mentors balanced their unabashed and enthusiastic desire to directly share materials with mentees while also providing the new teachers space to describe their needs. An overarching content-review of topics discussed in the mentoring meetings during the study featured some of the following: unit plan design, scaffolding of embouchure introduction, introduction of bow to string activities, vibrato activities, seasonal activities for general music classes, general music line and circle dances, and vocal warm-ups for general music classes. All of these topics were discussed and demonstrated within the purview of a webcam.

Much of the scholarship on new teacher mentoring contended that mentoring experiences retained new teachers in the profession and helped to provide much needed emotional support (Achinstein & Athanases, 2006; Moir et al., 2009; Fuller, 1969; Fuller & Bown, 1975; Ryan, 1974; Veenman, 1984). More recent scholarship in music education continues to support these findings (Conway, 2015; Raschdorf, 2015). However, in music education the topics addressed within mentoring often varied. If mentees sought support, it was typically for topics that revolved around the management of a music program as well as the classroom and positioned less emphasis on refining curriculum with the support of a mentor (Conway, 2015; Benson, 2008; DeLorenzo, 1992; Jones, 1978). The mentoring approaches identified in this chapter contrast to some of the findings featured in past mentoring literature in that curricular topics were present throughout the study. And though the approaches were described as separate approaches, they were often enacted in tandem with one another (Feiman-Nemser, 2001, 2012; Koerner, 2017; Maor & McConnelly, 2015; Raschdorf, 2015). This fluidity in how mentoring approaches were enacted often helped guide discussions towards hearty curricular discussions about teaching and learning. This aligns with the past scholarship that noted how mentors may have a bi-focal focus on the needs of the mentees and what the mentor also identified as important for them including discussions about teaching and learning (Achinstein, 2006; Achinstein & Athanases, 2006; Feiman-Nemser, 2012).

Conclusion

In Chapter IV, I presented findings on mentee learning within a digital environment. Findings highlighted how mentors supported mentee learning. In the subsequent chapters, I will provide details regarding how mentors refined, adjusted, and changed practices to support mentee learning.

CHAPTER V

Mentee Learning and the Mentor

In Chapter IV, I presented findings on mentee learning within a digital environment. Findings highlighted how mentors supported mentee learning. In the subsequent chapters, I will provide details regarding how mentors refined, adjusted, and changed practices to support mentee learning. In Chapter V, I present how mentors adjusted mentoring practices to support mentees. Specifically, how mentors discussed, reflected, planned, and reevaluated their mentoring practices. In the first part of this chapter, I will feature themes associated with changes to mentoring practices. These include: (a) flexible preparation, (b) mentors second-guessing themselves, and (c) mentors seeking support. After a summary of Part I, the second section of the chapter will include a description of how mentor's noted mentee learning through the study. Themes include: (a) evidence of mentee learning: what they do and say matters and (b) differentiating mentoring.

Vignette of Jessica and Emma: Planning and Responding to Mentee Needs in Action

Mentoring practices evolved through discussions and reflections with mentees as well as conversations with a co-mentor. Therefore, featuring findings in this chapter in isolation of one another may inadvertently diminish the rich connections between themes. Due to the social nature of new teacher mentoring, the vignette in this chapter is intended to illustrate how I, as Emma's mentor, planned and responded to her needs. The description was developed through the review of Emma's mentoring meeting footage (Emma, mentoring meeting, November 12, 2017)

in conjunction with the written feedback I provided to her (Jessica, written communication, November 12, 2017). In addition to describing the dialogue of our meeting, my reflections as a mentor were summarized based on journal entries and review of the footage from the study. The summaries of my thoughts were intended to illuminate how I planned support for Emma through reviewing her teaching footage and discussed ideas with her during mentoring meetings (see Image 5). Please visit the following link for access to the multimedia materials associated with this vignette (https://tinyurl.com/y35pbm3c).

By November Emma and I were into a rather predictable schedule with her mentoring meetings. We decided to switch her meetings from after school to during her prep period which she informally noted as helpful for her. These prep period meetings were quick from my perspective; however, I adjusted and continued to note the rich discussions we accumulated during our time together. During these meetings, she asked pointed questions about her most pressing concerns and challenges with her teaching. She often finished the meeting with a quick recap the ideas we just discussed to confirm that she had "her plan" for walking into her next class.

For Emma's first mentoring meeting of November, I planned based on the review of her teaching footage. However, I needed to acquire the footage to begin my planning. As I drove to work during the week of November 6, 2017 I thought, "Oh! I have to text Emma and Megan when I get into my office. I haven't seen their classrooms in a few weeks." Before beginning my own classes that morning, I quickly sent my text messages to both of them and went about my day. Emma replied later that afternoon confirming that her plan for recording a class. She shared the footage on November 8, 2017. I reviewed it on November 12, 2017 and we discussed it later

that same day. That particular weekend was a whirlwind for me, so I reviewed her teaching footage the morning of our mentoring meeting at 9:35 AM EST.

During my review, I quickly noted topics to discuss with her. Emma displayed so many strong aspects already in her lesson planning and ideas about teaching. She was caring and attentive to her students. She also enacted a clear sequence of activities including stretches, warm-ups, and a through rehearsal. It was all quite strong. However, as a veteran educator and her mentor, I saw a few areas we could refine. And though we were about to discuss how she could continue improving as a teacher, her demonstrated strengths situated her for trying some new teaching ideas. As I watched her footage, I opened a word document and typed stream of consciousness notes about her teaching. Along with watching the rehearsal in sequence, I scrolled through the footage jumping between sections of the lesson to see if I caught everything that I wanted to note for her. I placed these notes into a separate document and emailed the information to Emma for future review (Jessica, rehearsal review notes, November 12, 2017). Because of my work as a mentor over the last three years I expected she may not read the notes immediately. New teacher mentoring is not student teaching; these notes are not for a formal evaluation. These are ideas, resources, opportunities for me to congratulate her on the great work she is doing. And, most importantly, help me remember the big ideas I wanted to discuss with Emma during her mentoring meeting. Based on the footage, I decided to plan for beginning our video conference with offering suggestions for how her classroom management approaches maybe refined through adjusting some of the presentation of information and specifically identifying how instructional timing could be tweaked (Jessica, researcher's journal, November 12, 2017).

Jessica's notes from Emma's Teaching Footage Review November 12, 2017

3:15 - GREAT giving them clear information about where they need to set their bow and left hand. I would add something like "I really like how quietly the cellos are setting" I don't hear their strings yet:)" Also adding with the command of "playing position" "upper bodies tall, hips rolled forward on the edge of the seat" will help them get their knees out of the way so they bow hand and torso are not compromised for the stretch of setting at the tip of their bow.
3:30 - great use of the drone, you can turn it down just a bit so they are forced to not play as loudly. Their goal is to hear themselves and the tuning note so only hear themselves:)
Yeah as they continue tuning they are getting louder:) which just means they need more reminders about the process:) Nothing major just continuing to refine
Though I know you are trying to get a lot done, I would have silence between each pitch so they can refocus themselves and not be tempted to play random things:)
6:13 - you do a really nice job with the stretches
6:23 - YAY for getting their posture reset:) The next step is to acknowledge chunks of the room that are doing that.
6:47 - you are telling them AWESOME info… I might add "Can someone repeat back what I just said" it will slow you down for a moment but it will also make them "think" instead of just go through the motions.
As you are modeling and explaining the stretches I might add "quiet instrument please" not as a punitive measure but as a reminder for the students tempted to play right now.
"pull into the fingerboard SO your thumb relaxes" - they need to repeat the second part of that instruction to REALLY get it!
7:55 - Do you want their bows set then they are listening? I think personally they should be set on the string so everyone starts to together. That will keep momentum and help with starts of notes for the group.

I referenced these notes as Emma and I discussed her experiences in the classroom. My unspoken focus during this meeting was to discuss and provide opportunities for Emma to reflect on how she could provide her students with more rational for her rehearsal sequencing. We discussed this in terms of informal verbal check-ins to increase student engagement in the learning process. Knowing that Emma was a conscientious musician and new teacher, I was careful and intentionally chose to reinforce what she did well before asking her to reflect on reframing information.

Jessica: Everything is going really well. So, I am going to zoom in on 8th grade and these ideas are going to look different for 7th and 6th. How are you feeling with the threshold of random sounds in the room?

Emma: It is driving me insane, every three minutes, and one day I got really sassy with them.
Jessica (offered support by relating Emma's frustrations to stories about my own teaching experiences): I have gone through getting mad, getting sassy, and trying to manage through negative consequences. What you need to consider: is if you as the teacher have something important to say, get the instruments on their laps and bows on the stands so they aren't distracted.
Emma: I was wondering if I am not saying it right or are they just not interested in getting help?
Noting Emma's inquiry and recalling similar concerns as a new teacher, I focused on describing strengths I noticed in her footage:
Jessica: all the non-verbal parts of your instruction were perfect. However, all the random instrument sounds were due to your students needing clarity as to when you wanted them to start and finish playing. …They need technical language to remind themselves of what they need to attend to when they aren't practicing.
When I realized this in my own teaching, I refined how I transitioned during rehearsals. For instances, using phrases like 'everyone circle bow' instead of 'instruments up.'
Emma: So, on Monday should I make a list of warm-ups?
Jessica (nodding in agreement): They already know what the warm-ups are. But I might diminish your stretching to allow sometime for you to explain some things here. For instance, the class is really good at 'being chickens hatching eggs.' They sit quietly but as students they need to be more than that.
Emma (nodding): Ok, I am going to write some of this down… so 'chicken'… 'you have a bigger job than that'… I like that. (Emma, mentoring meeting, November 12, 2017)

Image 5. Emma's mentoring meeting November 12, 2017

Though I used the teaching footage and my planned discussion points in advance of the meeting, I also adjusted responses and recommendations to Emma's verbalized needs. Through the study, I became more aware of how to affirm Emma of her hard work in addition to noting how she might adjust and refine her teaching. The exchange described above led to more thorough discussions of eighth grade student development, student motivation as well as continued reflection on how Emma may refine rehearsal strategies. This individualized support highlighted Emma's strengths evident in her planning and sequencing of lessons while also addressing the challenges I surmised based on review of her teaching footage.

Changes to Mentoring Practices

Mentors adjusted and, in some instances, changed their mentoring approach through the study. This was featured within a cycle of reflections, communications with mentees and other

mentors, and descriptions of evidence of mentee learning. Flexible preparation and collaborative brainstorming often occurred during meetings as a means to note this and adjust mentoring approaches as needed. The catalyst for how mentors changed their approaches often stemmed from how mentees described their challenges, while the approaches featured in Chapter IV were often based on mentees' successes. Changes to mentoring practices evolved as mentors grappled with how mentees struggled or succeeded in the classroom. Mentors described mentee learning within three main themes: flexible preparation, mentors second-guessing themselves, and mentors seeking support.

Flexible Preparation

Mentoring approaches adjusted as materials were prepared for mentoring meetings. Sometimes planning occurred in preparation of a meeting: "I have a whole list of activities. I thought we could figure out and try a little bit together kind of like what you did this week to try to tip the balance between online material and your teaching" (Laura, Alison's mentoring meeting, October 19, 2017). It also involved organizing materials and topics for review: "I reorganized our 'resources' folder and added additional Thanksgiving lesson materials. During our next meeting, we will look through the materials, and I will continue to demonstrate more interactive lesson ideas" (Laura, journal, November 2, 2017). Other examples of planning involved scheduled action items for future meetings: "how about each week this month I will try to bring a couple Thanksgiving ideas to our chats, and we can test them out together here. I will try them out before our meeting, so we can experiment with them and they will be waiting for you" (Laura, Alison's mentoring meeting, November 2, 2017). Along with organizing and planning, mentors demonstrated flexibility and adjusted topics based on mentee's needs: "As I reflect on Megan's experience, and the great divide between her and her students, I found my

advice shifted to be less of a focus on making changes to her teaching to more of an emphasis on preserving the peace in her classroom" (Jessica, journal, May 22, 2018). Planning with attention to flexibility was a central tenant of how Laura and I prepared for mentoring meetings and supporting mentees.

Collaborative brainstorming. Brainstorming with mentees occurred as we adjusted mentoring based on how mentees verbalized needs and presented topics of interest during meetings. Other forms of brainstorming were initiated when mentees expressed enthusiasm for a particular curricular topic. Mandy demonstrated this energy:

> I have a million questions, I got out a bunch of the songs and they were super into singing the bass lines. So, I wanted to ask you about... I know the pieces vary and the units are different but how long do you spend on the mini chunks within a lesson? (Mandy, mentoring meeting, October 16, 2017)

This particular reflection sparked a detailed discussion about how ideas like this might be sequenced within lessons. Laura noted how discussions prompted by mentees generated more ideas for her to share. She reflected:

> Mandy asked for ideas about how to extend lessons and incorporate additional musical ideas beyond simply learning a song by rote. I gave her some examples of random songs which got the brainstorming process started. Mandy will certainly develop her own repertoire of activities once she has borrowed and tried someone else's suggestions for a while. (Laura, journal, October 16, 2017).

Similarly, Emma's self-reflections provided context or me to plan our brainstorming sessions:

> my strength is the day to day. But the admin stuff I am having a tough time wrapping my head around. In terms of keeping all the information together. And, I want to think about the curriculum, but I feel so beaten down. (Emma, mentoring meeting, January 16, 2018)

I used this description to develop a meeting for Emma and I focus on collaborative lesson planning. Collaborative brainstorming in this instance involved me setting intentions and purpose for meetings:

> all I am going to do is ask you questions, and you answer the questions. Let's block off time to work on that. I know the questions to ask to fill in the blanks. Coast through the macro stuff this week, get the scholarship thing figured out, and let the planning thing wait till Sunday. (Jessica, Emma's mentoring meeting, January 16, 2018).

Similar to providing a class with learning goals or objectives, Laura and I became comfortable providing our mentees with context and goals for each meeting through collaborative brainstorming: "I was thinking that maybe we can work through a lesson together that you are in the middle of writing or one you wrote and weren't sure about and we can go back through and review it?" (Laura, Alison's mentoring meeting, September 27, 2017). These collaborative experiences were the essence of us adjusting in the moment to our mentees needs.

Accountability coach. Coaching within mentoring emerged as mentees became comfortable asking for direct advice or recommendations. In a coaching role, flexibility was enacted in terms of sending reminders and communicating recommendations to mentee in advance of a meeting. Emma identified support as an "accountability coach" in terms of how I helped her plan and reflect on evolving her teaching practices. She described this as we discussed planning her concert calendar, curricular goals, as well as rehearsal plans. I reflected on how she identified my support as an accountability coach:

> Based on how she described her need for prioritizing her to-do list, I switched gears again and offered that she and I could spend time during a mentoring meeting simply 'talking through' her concert calendar for the rest of the school year. As soon as I offered that support, she added 'can we also look at this score together, plan my May concert, and then think about vibrato academy?' I replied with an affirming 'yes' and let her select the time of our next meeting. It was funny how our chat tonight was more emotional support but also focused on 'taking some of the stuff off her plate' through prioritizing and reorganizing her

> time. She was more engaged in preparing for her rehearsal and teaching after we discussed and enacted this plan. We finished the chat with her describing how much our upcoming mentoring meeting was like having an 'accountability coach.' I never considered that the impact of mentoring, but I like that role as well. (Jessica, researcher's journal, January 17, 2018)

Mentors Second-Guessing Themselves

Along with following our instinct as mentors through redirection as well as elaborating and expanding on mentee's ideas, Laura and I also discussed our perceived competency as mentors. This involved noting when we felt confident in our mentoring approaches as well as how we questioned our mentoring practices especially when mentees described or presented challenges in their teaching. Reflections began as benign and hinted at second-guessing in terms of our interactions with mentees: "Tonight, I felt as though I interjected too many ideas in response to her stories and questions. It's such a hard 'balancing act' because I want to give her the room to talk, but I also want to provide helpful nuggets of information along the way" (Laura, journal, October 13, 2017). This theme also surfaced in response to how we observed and understood our mentee's levels of engagement during meetings. For example, Laura offered how Alison presented "good questions" but also pondered: "it just makes me curious when she doesn't take notes. Is she actually wanting my advice or is simply listening politely with no intention of using the ideas?" (Laura, journal, October 5, 2017).

Checking our assumptions. As Laura and I grappled with these feelings, we often reflected on our assumptions about the way mentees demonstrate learning and what we expected from them based on our reflections on our own experiences as music educators. Sometimes these reflections presented as: "I don't know how to help her. Sometimes I wonder if her challenges are rooted in her lack of understanding specific teaching practices or if it is the teaching environment?" (Jessica, journal, November 26, 2017). As Megan's mentor, I often reflected on,

and second-guessed, my mentoring approaches and felt simultaneous frustration and empathy for her struggles. Frustration stemmed from my perceived lack of positive impact on her teaching.

> Megan sent me a long email on Thursday about needing to meet with admin about her temper when she responds to her student's challenges. I don't want to 'babysit' her because she knows she shouldn't lose her temper. However, she continues to do so… (Jessica, journal, October 23, 2017)

Laura experienced similar moments where the lack of change caused us to question our approach.

> Alison and I spent quite a bit of time during our previous meeting creating a list of sure-fire activities for her to try in various grade levels so she can begin to tip the balance of her lessons away from Quaver and towards actual instruction. … However, when I asked more pointed questions, I discovered that she didn't try any of the activities I compiled and shared. She had two weeks to incorporate any number of activities, and she didn't even use a hello song to greet her students and start the class with live music…. I'm pulling out my hair right now! I calmly suggested that she might do the same freeze dance movement activities while singing to her students and demonstrating the movements rather than using videos. (Laura, journal, November 2, 2017)

In addition to supporting mentees through rich discussions of ideas with my co-mentor and critical friends, sometimes ideas were generated simply by gathering new resources to share with mentees. For example, I sought and reviewed literature including music education scholarship to share with Megan in hopes that the perspectives featured in these resources may help her reflect. Next, I pondered whether my concerns and approaches to supporting her misrepresented her struggles.

> As a mentor I realize I can't control the learning of the mentees. However, I find I am wanting to see changes in their teaching, classroom management, or organization of lesson plans. And the change I often desire to note is based on my recommendations or advice. When I don't see change, or mentees feel worse about their teaching, I second-guess myself. During this year's mentoring experience, I noted second-guessing based on my lack of first-hand experience teaching in under-resourced school environments. My self-talk during meetings with Megan would be "well, I know this would work for my students, but will it

> work for her students?" This is especially true when Megan I discuss classroom management. There seems to be this focus on wanting to be a 'drill sergeant' and 'leader' of the class through punishment even when that isn't her true teacher persona. My 'gut' tells me that she needs to focus more on being predictable and connecting with her students and less on punishing them for poor behavior. With Megan, she is willing to try new ideas but clearly getting exhausted. Her text messages to me were the most intriguing today because she wanted to try new procedures with her students but got defeated by their behavior. Because I sense her desire for change, I feel more asserted in just saying 'do this' instead of "try this" to see if we can change how she is approaching her classroom. Yet, at the same time, I feel like I need more information about teaching in under-resourced school environments to better situate my support and plan for Megan. (Jessica, journal, October 16, 2017)

Second-guessing mentoring approaches in terms of mentees' challenges, struggles, and barriers, resurfaced as we self-reflected and noted evidence of mentee learning through discussing their teaching. And in some cases, these reflections culminated in Laura and I also seeking additional support from each other as well as other new teacher mentors.

Mentors Seeking Support

As Laura and I discussed our mentoring practices, we sought advice from one another as well as other new teacher mentors, trusted teacher friends, and veteran music educators. These discussions helped Laura and I gather more ideas for how to support mentees based on a general sense of their student teaching placements or simply brainstorming mentoring approaches based on our experience as mentors. Laura noted how she took steps to acquire more information about Alison's student teaching experiences: "I asked around and heard that it should have been a good experience based on her co-op teacher" (Laura, mentor debrief meeting, October 15, 2017). Mentor debrief meetings and discussions with trusted teacher mentors also provided opportunities to discuss adjustments to our mentoring practices:

> I wonder if you could watch your video simultaneously with Alison? Then you can freeze the frame and ask her what she sees and hears in the example. That might spark new ways to welcome an opportunity for you to provide insight into

> what you see as an educator 10 to 12 years into your career. (Jessica, mentor debrief meeting, October 15, 2017)

I used reflections like these to consider how Megan's challenges were similar to Laura's description of Alison's struggles.

> Laura: [Alison] is calling her principal in to handle management issues left and right…. I want to think that her principal doesn't want to be called to her classroom all the time.
> Jessica: [Megan] is also struggling and described instances to me where she is upset at the class resulting in swearing. As she mentioned this I thought, 'no, not even if you are upset may you swear when speaking to kids'…. [reflecting] It seems like both Alison and Megan don't have all the tools to work with students who are struggling. (Laura and Jessica, mentor debrief meeting, October 15, 2017)

In an effort to continue helping Megan, I enlisted the help of Kara[3] who was a trusted music educator friend with 13 years of teaching experience at a large under-resourced community in Pennsylvania. I reflected:

> Kara's recommendations reassured me that I was providing Megan with the right ideas but that modifications may need to be made in how these ideas are implemented into Megan's teaching environment. For example, the relevance of the concert pieces is important to consider. Megan expressed concern to me regarding repeating the concert rep from the prior school year. While Kara offered that repeating the concert pieces might be a positive motivator for Megan's students. This was something I didn't quite consider until she mentioned it to me. Additionally, Kara reminded me of how important it was for Megan to develop positive relationships with students and pick battles wisely. (Jessica, journal, February 23, 2018)

[3] Through the critical reflections inherent within this investigation, and desire to support the mentees, Kara participated in a single mentoring meeting to provide Megan with an additional perspective regarding teaching in an under resourced community. Kara was selected because she was a veteran music educator who also taught at an under-resourced school site for thirteen years and a trusted colleague. Similar to bringing in guest lecturers or clinicians to work with students, Kara's specific combination of experiences as a veteran music educator leant her well to contributing more ideas for Megan to consider for her teaching.

From here, Kara, Megan, and I participated in a mentoring meeting in dedicated to Kara and I offering advice and support for Megan as a team. Megan was also encouraged to ask questions and acquire Kara's perspective on her challenges. More details about this particular meeting will be featured in Chapter VI. The support from additional mentors helped Laura and I continue to adjust as well as affirmed our mentoring decisions regarding our practices to our mentee's needs while also reinforcing practices we felt were critical to this digital mentoring experience.

Part I – Summary

Though Laura and I were able to identify similarities in our mentees' teaching journeys, we also highlighted how our mentees' needs were situated within their own teaching environments. These discussions helped us connect what we review in our mentees' teaching, what we noted as their learning and how it translated into their work, as well as how their learning related to their prior experiences as preservice music teachers. This unique feature further supported the notion that there is no "one size fits all" approach to mentoring. The adjustments we made to our mentoring approaches were noted in terms of our reflections and discussions with one another as mentors in combination with other mentors and our mentees. Just like teaching in isolation is not ideal for continuing to refine practice, we sought opportunities to connect with other mentors to avoid mentoring in isolation. As Laura and I adjusted our mentoring practices to our mentees needs, the mentoring experiences became more relevant to refining mentees' teaching practices.

Evidence of Mentee Learning: What They Do and Say Matters

Mentees' descriptions of their successes and challenges informed how Laura and I approached supporting them. Evidence of mentee learning were gathered based on: (a) mentor perceptions of mentee's challenges as they aligned with mentee's descriptions and action; and

(b) how mentor and mentee perceptions did not align with what was observed during mentee's teaching footage.

Laura and I reflected on mentees' descriptions of teaching to develop a clearer understanding of how our mentees learned as educators in their classroom. Sometimes learning was evident in the fluid discussion of ideas with mentees. Laura noted the ease of discussing teaching with Mandy early in the study: "It was such a treat to watch her teaching video that I spent a lot of time complimenting her classroom management, pacing, and meaningful interactions with students. She seemed proud of herself and very appreciative of my feedback" (Laura, journal, October 3, 2017) Teaching footage also supported mentee's descriptions:

> Mandy sent a text about topics to discuss during meetings. Mandy is doing great. Her video is great. I was expecting something totally different, but she is in really good shape. Of course, there are things she can improve but she gets it. She is ready to work on curriculum and her day to day instruction is solid enough that we can look at the bigger picture. Which we started doing this week. (Laura, mentoring debrief meeting, October 15, 2017)

Similarly, Emma often presented lists to me during mentoring meetings and described her needs using pedagogical terminology: "I organized how to tackle the Berlioz. I also sequenced pieces, sequenced vibrato, and selected potential repertoire for the May concert, as well as for solo and ensemble" (Emma, mentoring meeting, January 16, 2018). As was depicted in this chapter's opening vignette, Emma's teaching footage provided additional data for refining her teaching; but she already had many dispositional and pedagogical strengths. The instructional and pedagogical language she used to describe her work informed how I approached recommendations and follow-up questions to help her.

Review of Mandy's mentoring meeting with Laura, in conjunction with Laura's journal entries and our mentor debrief meetings, suggested Laura saw potential for Mandy to discuss,

reflect on, and integrate a variety of teaching practices early in the school year. First, Laura mentioned an interest in seeing Mandy's teaching:

> I will be interested to see a video of her teaching to watch how all that transpires. I am impressed with her ability to relate to the older students so early in the year. From what Mandy has shared, she approaches them with a realistic attitude, and she treats them like young adults. I'm sure they appreciate her respectful and 'real' approach. (Laura, journal, September 19, 2017)

Next, Laura informally assessed and planned for future mentoring meetings with Mandy through noting evidence of readiness for more information:

> Mandy and I had a good time discussing curriculum, lesson planning, and current events. …Mandy is definitely ready to tackle curriculum planning, and she has a good approach in mind. Over time we will chip away at the process and refine her ideas. …Mandy is a solid teacher and will do well! (Laura, journal, October 3, 2017)

Evidence of mentee learning was interpreted based on how mentees showed interest or engagement during mentoring meetings. Laura reflected:

> As I rattled off ideas and comments, Mandy highlighted cells in her file so she could work through the material after our meeting. I really appreciate when she acts on my suggestions, either by taking notes or marking her files. It makes me feel like she values my ideas and appreciates my effort to share materials. (Laura, journal, October 10, 2017)

Moments like these occurred throughout the study for Laura and Mandy and were noted by both participants as being the catalyst for helping Mandy refine her teaching practices. During our focus group, Mandy offered:

> I remember at the beginning of the year she [Laura] said it is totally ok to come up with stuff to get your through the lessons and then we will talk curriculum. Then in January she was really pushing me to think about curriculum she said pick a grade and have one grade done and fill out what you want them to know and back it up from there. I remember thinking we can only teach this song because it is a third-grade song because in some elementary method class that is what we are taught. But she said what do you want to teach them you can teach by

> concept and teach billions of songs it could be anything that is relevant or irrelevant to focus on the concept. That changed how I viewed all of this. Thinking concept first and then where we want to go from there. (Mandy, focus group, June 19, 2018)

Supporting mentees became more challenging when mentor's perceptions of mentees' needs did not align with how mentees described their experiences. During mentor debrief meetings, Laura and I discussed how descriptions of negative teaching experiences informed our support. I shared: "Megan is becoming self-deprecating in how she describes her challenges to me. It is often in terms of how she feels she can't change things at her school site" (Jessica, mentoring debrief meeting, September 24, 2017). Similarly, Laura reflected on her understanding of Alison's experiences:

> Alison (pause) I am a little concerned. Her district uses Quaver. I don't know if you watched her video, but it was scary. I get the impression that at the start of the lesson she turns on Quaver and she kind of is in charge of turning it on and off and the program just does it. That might be an exaggeration, but she isn't even doing vocal warm-ups. The kids are just following the screen and I am like well no wonder you are having management issues, you are a 'button pusher'. (Laura, mentoring debrief meeting, October 15, 2017)

Differentiating Mentoring

As noted in the prior section, differences became salient through discussions of pedagogical practices and review of their teaching footage. How mentees explained their teaching in conjunction with shared teaching artifacts informed how we noted evidence of their learning.

Slow and steady. Sometimes identifying change required reflections on and identifying mentee's challenges to select the mentoring approaches to best fit their needs. Even when Laura and I enacted mentoring strategies highlighted in Chapter IV, supporting Alison and Megan felt more arduous than supporting Emma and Mandy. The slowness in the mentoring process was

followed by an even slower process for identifying evidence of mentee learning or changes to their teaching for Alison and Megan. Instead of focusing on changes to teaching as evidence of learning, Laura and I focused on noting progress with Alison and Megan in terms of how they maintained consistent communication with us as well as their responses to pointed inquiry during discussions about their challenges and struggles. Pointed inquiry helped Laura uncover some of the missed connections between what Alison described as progress in her teaching during their meetings compared to what occurred in Alison's teaching footage. Laura summarized:

> During our meeting this evening I asked how the activities went, and Alison explained how pleased she was with her new Feierabend books. However, when I asked more pointed questions, I discovered that she didn't try any of the activities I compiled and shared. She had two weeks to incorporate any number of activities, and she didn't even use a hello song to greet her students or start the class with live music. (Laura, journal, November 2, 2017)

Another barrier for Alison involved balancing the use of her available general music curriculum with recommendations provided by Laura. Though Alison and Laura determined early on that Alison was not required to use *Quaver* as the primary curricular resource for her class, Alison consistently referenced how she planned to integrate the program into her lessons during mentoring meetings (see Table 9).

Table 9

Discussions of Quaver

Date	General description of discussions
September 20, 2017	Alison describes using the program during her lessons but also mentioned that she feels like the program is "getting old" to her students
October 5, 2017	Alison uses the screenshare function to show Laura the lessons within Quaver and describes what lessons she uses
October 19, 2017	Alison and Laura discuss Laura's teaching footage and tunes Laura uses in her curriculum. Alison is excited to integrate these pieces to "fill the time" between Quaver activities
November 2, 2017	Alison asks for activities to use as "rest or silence" between Quaver lessons

The gap between what Alison described and what was observed in her teaching further complicated how Laura planned and identified evidence of Alison's learning through the mentoring experience.

Postulating and working through pragmatic and philosophical differences. As challenges and successes unfolded in mentees' descriptions and teaching footage, Laura and I adjusted accordingly. When challenges conflicted with our approaches to teaching we felt conflicted as to how to support them. Sometimes this required identifying ways to ask our mentees about the concerns we noticed while other times we continued reflecting on how the differences we noted might be a matter of teaching method rather than insisting mentees adjust.

As Laura mentored Alison, she reflected on Alison's descriptions of her struggles teaching: "Alison seems very focused on how the homeroom teachers and principal can step in to help with various management problems" (Laura, journal, October 13, 2017). Alison's approach appeared problematic to Laura in terms of how much it contrasted from her management

approach: “I keep thinking ‘don’t call the principal’ unless a child is bleeding or has a broken arm, don’t call the principal. That is my gut reaction” (Laura, mentor debrief meeting, October 15, 2017).

Similarly, Megan’s journey featured moments of discrepancy between what she perceived as challenges in her teaching and what I noted as evidence of mentee learning. First, Megan often initiated requests for help after she encountered a challenge or frustration particularly during teaching episodes. During these informal descriptions of lessons what she identified did not align with what I felt were best practices. She described: “my best rehearsal was when I cleaned the front desk and they played” (Megan, mentoring meeting, October 22, 2017). She also described “waiting” for the classes to “settle down” or “packing up early” (Megan, mentoring meeting, September 13, 2017; September 20, 2017). On one occasion she encountered a particularly difficult class: “I told them, ‘you need to pay attention and start working, because this shit is ridiculous.’ I don’t want to swear but they don’t do anything. They stare at me like I am stupid” (Megan, mentoring meeting, September 20, 2017). Based on these descriptions, I reflected: “Her experiences are getting worse by the day. She is discouraged and frustrated with her student’s behavior during class” (Jessica, journal, February 23, 2018). Laura and I reflected on Alison and Megan’s teaching journeys as being riddled with challenges, barriers, and struggles in terms of lesson planning, consistency with routines, and connecting with their students. Their mentoring required more intricate approaches to support their needs.

Courageously and empathetically confronting mentees about their challenges became important to mentoring Alison and Megan. Laura and I approached their challenges by asking them tough questions. Instead of ignoring issues, Laura and I got comfortable addressing them:

> you mentioned the swearing and I know you know you shouldn't do that. So, as a mentor I didn't feel like I needed to berate you about it…. Moving ahead, I think

> you might need to meet with your administrator and describe a typical day to them as you are having very few good days in your classroom. (Jessica, Megan's mentoring meeting, October 22, 2017)

In terms of Alison's journey, Laura finally noted differences in Alison's approach to her classroom based on intentional interventions to initiate more collaborative note taking and seeking support from other mentors. Laura described:

> Alison and I had a great conversation tonight! She put away all the Quaver lessons this week and actually taught and interacted with her students. From all accounts, this approach worked well as the students were responsive and engaged. She seemed willing to take risks and be spontaneous with her instruction based on how the students were grasping the material. Alison also had a number of questions for me, so we brainstormed on quite a few related topics. She took notes, seemed eager to try my suggestions, and might even purchase a few materials from a shop I suggested on Teachers Pay Teachers. I think Alison may have turned a corner in terms of instruction and materials. … In general, I feel so much better about where Alison is headed! (Laura, journal, November 9, 2017)

Summary and Discussion

The findings presented in this chapter focus on how mentors prepared for and attended to the varied needs of their mentees. These findings addressed the second and third research questions: How do mentors describe changes in mentee teaching practice as evidence of mentee learning? as well as How do mentors describe the emergence of their mentoring practices in response to the learning of each mentee? Mentors adjusted their practices through: (a) flexible preparation, (b) mentors second-guessing themselves, and (c) mentors seeking support. The second section of the chapter included a description of how mentor's noted mentee learning through the study. Findings include: (a) evidence of mentee learning: what they do and say matters and (b) differentiating mentoring. The findings suggested that mentors informally gathered information about mentee learning based on the needs presented by their mentees as well as what they anticipated as needs. Furthermore, when mentees struggled to enact

recommendations or described challenges during meetings, mentors reflected on their approaches and recommendations in tandem with the support of other mentors. These practices helped mentors cater support to the needs described by mentees as well as what was observed within their teaching.

Flexible Preparation

Mentors in this study attended to preparing prior to mentoring meetings as well as adjusted approaches based on mentees' descriptions of needs. Planning during mentoring was identified within this study as preparing for but also anticipating needs. Collaborative brainstorming emerged as an approach that helped make these adjustments present to mentees through using the digital spaces of shared documents for note taking take and discussing teaching. An extension of this idea developed in the form of reminders and communicated recommendation in advance of meetings as well as designing meetings around mentees needs.

Mentoring approaches were enacted in preparation of, and response to, observations of mentee learning. This simultaneous focus on preparation and response evoked a need for flexibility including gathering materials as well as explaining materials and concepts in the moment along with adjusting discussions to future meetings based on mentees' needs (Conway, 2001; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004; DeLorenzo, 1992; Kreuger, 1999; Schmidt, 2008). Scholars identified cognitive modeling and reflective inquiry as two approaches mentors used to guide mentees during discussions about teaching (Feiman-Nemser, 1998, 2012; Schwille, 2008). Collaborative brainstorming paralleled these approaches while also utilizing asynchronous technology to enact them.

Mentors Second-Guessing Themselves and Mentors Seeking Support

Mentors second-guessed during mentoring when their approaches appeared to help mentees but also when mentees described or presented challenges in their teaching. This also surfaced in response to how we observed and understood our mentees' levels of engagement during meetings. This particular iteration on this finding appeared as unique to the digital mentoring environment. When mentees described or presented consistent challenges, the lack of unrestricted access to our mentees' classrooms surfaced as a reason for why the mentors second-guessed their approaches. This lack of physical access caused us to begin considering whether our recommendations were out of context of their teaching environment and school site. Second-guessing mentoring approaches in terms of mentees' challenges, struggles, and barriers, resurfaced as we self-reflected as mentors and noted evidence of mentee learning through discussing their teaching.

Though integrated into this study for self-study purposes, the findings of mentors seeking support emerged as mentors sought advice from one another as well as other new teacher mentors, trusted teacher friends, and veteran music educators. Sometimes this was to gather more ideas for how to support our mentees or simply brainstorming mentoring approaches based on our experience as mentors. Enlisting the support of other mentors occurred as a means of connecting mentees with mentors whose teaching environment paralleled theirs.

This theme was supported by past scholarship that featured the mentee's perspective and described the various stressful and unexpected experiences that new music teachers encountered during their first year in the profession (Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Garlock 2004; Schmidt, 2008). Berg and Conway (2016) as well as Schmidt (2008) featured similar themes summarized by mentors in terms of second-guessing mentoring

approaches. Meagher (2010) described similar mentors' reflections and adjustments that were based on the mentor's perception of how their feedback impacted their mentee's teaching. In this present study, mentor participants reflected on their practices as a group.

Evidence of Mentee Learning: What They Do and Say Matters/Differentiated Mentoring

Though teaching footage provided context for noting mentee learning, identifying evidence of mentee learning through observation was most notable when combined with descriptions of mentees' work. There was an ebb and flow of reflecting, planning, discussing, and assessing mentoring approaches in terms of mentee learning. This was a complex web of experiences. Evidence of mentee learning was most easily identified in terms of how mentees discussed their ideas in tandem with changes in their practice. In more challenging circumstances, like those described by Megan and Alison, change was most easily identified by Laura and me in terms of how our mentees integrated our ideas.

Though past literature highlighted the lengths mentees will go in digital spaces to gain access to customized support (i.e. circumventing large group discussions to seek one on one support) (Klecka, Cheng, & Clift, 2004), some scholars investigated on-site environments and described similar challenges to supporting individual needs of mentees (Feiman-Nemser, 2001; Feiman-Nemser & Parker, 1990; Schimdt, 2008). Listening to, observing, reflecting, and responding to mentees' descriptions and lessons all helped identify learning and adjust practices to mentees' needs (Achinstein & Athanases, 2006; Feimen-Nemser et al., 1993; Feiman-Nemser et al., 1999; Maor & McConney, 2015; Strong & Baron, 2004).While some scholars identified key characteristics of effective mentors (Feiman-Nemser, 2001; Schmidt, 2008), others identified how mentors unintentionally assume or ignore subject matter discussions with new teachers based on an ambiguous lack of trust or support (Feiman-Nemser & Parker, 1990; Feiman-Nmser,

Parker, Zeichner, 1993). The findings described in this present dissertation provided a depiction of how support may look in a digital mentoring environment to address content-specific needs of mentees through mentors planning, reflecting, and responding to mentee needs.

Conclusion

In Chapter V, I presented findings on how mentors changed their mentoring practices as well as how mentors described mentee learning. In Chapter VI I will present how the findings aligned with the theoretical framework of Andragogy. In Chapter VII, I will summarize the findings of this study, offer a conclusion, as well as practical implications for this investigations and recommendations for future research.

CHAPTER VI

Findings in Connections to Andragogy

Chapter VI begins with an examination of findings which intersected with the theoretical framework of andragogy (Knowles, 1984; Knowles, Holton, & Swanson, 2005). Specifically, how mentees met many of the characteristics of adult learners described by Knowles et al. (2005) and how mentors developed an environment for learning based on this same scholarship. I will first present how mentees in this study met the Six Assumptions about Adult Learners (Knowles, 1984). Next, I will offer how these assumptions intersected with main andragogical principles (Knowles et al., 2005). In Part II, I will feature The Critical Elements of Adult Learning (Knowles et al., 2005) as well as Andragogy in Practice (Knowles et al., 1998) to organize findings and further describe how mentoring is as much about teacher education as it is about supporting them.

Part I - New Music Teachers as Adult Learner

As stated in Chapter III, mentee participants were three first-year music teachers and one second-year music teacher participating in a digital new teacher mentoring program focused on content-specific support and mentoring. Though they shared some common experiences as novice music educators, including feelings of isolated and stressed as they entered the profession, the mentees were also varied in their prior experiences as musicians and preservice music educators. For example, though Emma and Megan attended the same institution, Emma participated in a dual degree music education and performance program. Though similar, a dual

degree is a different from ones Mandy, Megan, and Alison completed. This is one of many examples of how their individual stories were unique to their past experiences as preservice music educators. Along with their prior experiences, each mentee's teaching assignments were uniquely situated in terms of the student populations they served, communities, resources, and expectations of their music programs.

Using the andragogy model as a framework for this investigation on new teacher mentoring required new teacher mentoring be defines as a form of adult education. Additionally, this framework also required that mentees be identified as adult learners and mentor participants as educators. To organize the connections between the study and the theoretical framework of andragogy, I completed the recommended analysis worksheet to guide my reflections (Knowles, 1984). This worksheet helped me determine the extent to which the andragogical principles fit this mentoring experience. Knowles et al. (2008) described that this worksheet included the following:

> The six core assumptions are listed in the left-hand column and comprise the rows in the matrix. Each of the two outer rings and the six groups of factors contained within the andragogy in practice model are shown in the other six columns. Thus, each cell of the matrix represents the potential effect of one of the factors on a core assumption. The analyst using the andragogical lens should first assess the extent to which the andragogical assumptions fit the learners at that point in time and check the appropriate ones in column 2. Then, he or she must determine the extent to which each of the six groups of factors would impact on each of the six core assumptions. That impact might be to make it more important, less important, not present in the learner group, and so on. Deviations and potential changes should be noted in the appropriate cell of the matrix. (p 157-158)

The worksheet was completed as instructed to help organize the following sections of this chapter and feature data to help support these ideas within the description of themes and findings.

After review, I noted how the mentees in this study met most of the assumptions highlighted in the adult learner analysis grid (Knowles, 1984; Knowles et al., 2005). The grid helped me feature the findings from this study as well as reference additional data as it connected with: (a) the goals of the mentoring experience in the study, (b) the anticipated needs of mentees from the mentor's perspective, and (c) expressed needs of the mentees (see Appendix I). Next, I will feature each of the six assumptions as described by Knowles (1984) and how these assumptions aligned with the data and findings in this study.

As a Person Matures, His or Her Self-Concept Moves from Being Dependent on Personality Towards one of a Self-Directing Human Being

Similar to other social constructivist definitions of learning, the andragogical model defined learning as involving "a process of mental inquiry, not passive reception of transmitted content" (Knowles et al., 2005, p. 35). A mentee's self-concept was associated with "being responsible for their own decisions" (p. 67) and desire to be seen by others and treated by others as capable of self-direction with their learning. Lastly, this definition described how adults bring more of their personal experiences accumulated from their lives into their learning during adulthood. Self-direction then involved the adult learner planning, implementing, and collecting evidence for their own learning that is threaded to their personal experiences.

In this investigation, evidence of learning was noted by mentors in terms of how mentees described their teaching experiences along with how they sought new ideas during mentoring meetings. These ideas were featured specifically in three findings from this study: elaborating and expanding ideas, differentiating mentoring, and evidence of mentee learning: what they do and say matters. Mentees presented their self-concept in how they chose to incorporate, or not, recommendations and teaching practices presented and discussed during mentoring meetings. In

this investigation Laura and I often described how evidence of learning, and changes to mentee teaching, were slow but continued to occur. A reason for this slowness may be rooted in an adult learner's self-concept; and therefore, learning was ultimately in their hands.

Instead of focusing on discrete instances of change, Laura and I prioritized seeking opportunities for our mentees to reflect on, discuss, as well as demonstrate teaching within the digital mentoring environment. Discussions did not have to be lengthy to focus on our mentees' needs. For instance, once Emma's meetings transitioned to her prep period, the length of her meetings adjusted to be around 30 minutes in length while Laura's meetings with Mandy stayed consistently around an hour in length. What was noted in the prior chapters that associated with this assumption is how mentors noted evidence of mentee learning.

Similar to formal formative assessment in a traditional classroom, the "role of the teacher can be to engage in a process of mutual inquiry with [adult learners] rather than to transmit his or her knowledge to [adult learners] and then evaluate their conformity to it" (Knowles et al., 2005, p. 40). Laura and I enacted mutual inquiry through the mentoring practices identified in the earlier chapters. These included: (a) intentional redirection, (b) presenting rationale, (c) prioritizing curriculum, as well as (d) flexible preparation. We practiced strategies supported by the andragogy model in how we tried: "to discover ways to help adults [mentees] examine their habits and biases and open their minds to new approaches" (Knowles et al., 2005, p. 66). For example, during Megan's tumultuous journey I identified, and she described how she lacked opportunities to change her teaching. However, her self-concept still adjusted based on her experiences and reflections on her year. She described her experience as an opportunity to "think about the teacher I want to be" (Megan, focus group, June 19, 2018).

As Laura and I encountered challenges supporting our mentees, we reflected on our role, influence, and support. We noted an ebb and flow within new teacher mentoring that resulted in less than clear evidence of learning. These reflections were featured within the themes of: mentors second-guessing themselves and mentors seeking support. The experience of grappling with our role as mentors is also supported in the writing of adult learning scholars: "the result is a growing gap between the need and the ability to be self-directing, which produces tension, resistance, resentment, and often rebellion in the [adult learner]" (Knowles et al., 2005, p. 62). What could have easily been career changing experiences for new teachers like Megan turned into a lesson in moving forward into a new teaching position. Though this framework was not originally intended for use with mentoring, the notion of self-directed learning and socialization of learning was also supported by social cognitive and motivational theorists who positioned relevance, agency, and self-determination, as some of the central tenants of motivation (Bandura, 1997, 2006; Deci & Ryan, 2000, 2008a, 2008b; Ryan & Deci, 2000). In terms of supporting new teachers, this assumption may help mentors prioritize their mentee's perspectives and potential motivations for seeking support and learning about teaching within the mentoring experience (Feimen-Nemser, Parker, Zeichner, 1993; Conway, 2015).

Adults Accumulate a Growing Reservoir of Experiences, Which are a Rich Resource of Learning

Simply due to having lived longer than their preservice teacher counterparts, mentees as adult learners engage in learning with a wider variety of prior experiences compare to youth (Knowles et al., 2005). The range of differences means that adult educators need to focus on more individualized learning experiences for adult learners. This individualized learning was also ideal for mentoring. Andragogy scholars specify that discussions, simulation exercises, and

problem-solving activities all helped adult learners bring their rich experiences to their current learning more so than transmittable techniques.

Scholars also caution:

> But the fact of greater experience also has some potentially negative effects. As we accumulate experience, we tend to develop mental habits, biases, and presuppositions that tend to cause us to close our minds to new ideas, fresh perceptions, and alternative ways of thinking. Accordingly, adult educators try to discover ways to help adults examine their habits and biases and open their minds to new approaches. (Knowles et al., 2005, p. 66)

As mentees enter the profession, biases manifested when they encountered conflicting information between what they experienced in their classrooms, their memory of their undergraduate teacher preparation, and the recommendations provided by their mentors. I reflected on these conflicted ideas in terms of Megan's experience:

> With her orchestras she defaults to conducting when she really needs to just model getting an instrument set and ready to play. She is scared to model when the music is above a Grade 1 (which I get). She just needs to hold an instrument and often doesn't want to. She does want ideas and wants to implement them but her frustrations with her students are getting the best of her. She relies on the book to lesson plan and does not really break ideas down enough. I have found that when she tried my ideas, they work… it is just about keeping her going with implementing them. She isn't refusing she just forgets… or something. (Jessica, journal, October 1, 2017)

At the end of the school year Megan reflected on the disconnects in her teaching and what I observed: "I understand the idea of fast-paced classes, implementing it on my side was way more difficult" (Megan, final interview, June 28, 2018). In this way, mentees' needs were contextualized to their teaching environment. Sometimes this manifested in a complex web of barriers towards changing practices. This is similar to their development as preservice music teachers; where early on they are focused on a binary representation of recommendations and approaches (i.e. "the right or wrong approach").

In addition to barriers within teaching, mentees also unveiled additional needs including learning to be independent adults. This particular need changed how they internalized the support provided through this study. Balancing their needs as young adults and young professionals emerged as mentees described how the mentoring experience intersected with their daily lives. Mandy reflected:

> to be honest I think the hardest part was that everything is new and not just what is in your life is new. I am 24 and I lived last year entirely alone. Trying to get on my feet to be an adult. You are an adult. Laura was also helpful for just listening when other stuff was going on in my life. When I felt on top of my life, I felt on top of my work which made me feel on top of my life. (Mandy, focus group, June 19, 2018)

Megan elaborated on the idea of balance:

> balancing everything as a first-year director and adjusting what you originally thought would happen to what really happened. And aligning what you thought you could do with what the school expectations are. That was really difficult for me. (Megan, interview, June 28, 2018)

Grappling with needs of the job as well as transitioning to independence as young adults influenced how mentees accepted, saved, or integrated ideas into their teaching.

Scholars investigated new teacher mentoring and examined a variety of mentoring environments through the years. Some of these are individualized mentoring experiences focused on discussions about teaching in a dyad with a mentor. Other scholars involved a variety of mentors in addition to connecting mentees with new teacher peers (Bell-Robertson, 2014; Cheng, 2008; Conway, 2015; Conway & Holcomb, 2008). Additionally, scholars who studied digital mentoring also featured group mentoring experiences (Bell-Robertson, 2014; Cheng, 2008; Klecka, Cheng, & Clift, 2004). The varied experiences of adult learners can add challenges to optimizing the mentoring experience for their needs. From a mentee's perspective, prior

scholarship continued to confirm their desire for individualized support as they situate their needs as unique to their experience and their students (Conway, 2001a, Conway & Zerman, 2004). The mentoring dyads in this study allowed for mentors to focus on contextualizing support to mentee's experiences both in and outside of school.

The Readiness of an Adult to Learn is Closely Related to the Developmental Tasks of his or her Social Role

Coping with experiences was a main focus within this assumption. Knowles et al. (2005) described developmental relations:

> Adults do not become adults in an instant— it is a developmental process. In addition, researchers now understand that development does not end when adulthood is reached, but rather continues to progress in a variety of ways. Adult development theories have a profound influence on thinking about adult learning because adults' learning behavior varies considerably due to developmental influences. (p. 221)

The timing of learning experiences was recommended to be associated with development.

Though mentors noted the collection of video footage of rehearsals as critical for providing mentors with context to individualize support, mentees grappled with the relevance of this activity and the self-discipline required to record and share recordings of their classes as new teachers. Even though the mentors needed the footage to individualize support, the new teachers struggled to collect the data on a logistical and emotional level. Mandy described:

> The biggest problem with recording my classes was getting the guts to press record and record my classes….to be honest I don't think there is anything that can be done because that was a me thing. I had recorded it before getting observed and I thought oh my god someone else is going to see this. I think that it was knowing that someone is going to pick apart what you are saying. But, after I read the feedback I felt better about it. So, I think I don't know what it is. For on-site observations, I also get a bit uncomfortable having a colleague who comes in the class. I am like, 'he is listening to what I am saying.' (Mandy, interview, February 27, 2018)

Emma echoed a similar hesitation during mentoring meetings associated with rehearsal review: "it takes a certain kind of humility to want to go back and refine after being exhausted from the school day" (Emma, mentoring meeting, November 12, 2017). Megan offered different logistical barriers and considerations influenced by her complex teaching situation, "once my kids figured out the camera was on, they fought it every time. Keeping the video camera on wasn't an option because the kids were distracted, and things got stolen" (Megan, interview, June 28, 2018). Despite these barriers, sharing footage with digital mentors was a matter of readiness for learning:

> It is about having the confidence to say are you doing it right and doing what you need to be doing. maybe just recording a lot of classes so I didn't feel like there was so much pressure from one video. (Mandy, interview, February 27, 2018)

In the end, readiness for learning within mentoring was summarized well by Emma as she reflected on her first year of teaching. She compared her on-site mentoring support to the digital mentoring experience. She described how knowing her onsite mentor (Susan) and respecting and revering her on-site mentor's teaching, "made me nervous to share my teaching with her" (Emma, interview, June 25, 2018). She elaborated on inviting guest clinicians into her classroom throughout the year and how these experiences made her feel nervous in the same ways she felt sharing her work within the digital mentoring experience. However, "reaching out to Susan was a more difficult task… Seeing what Susan's kids can do throughout the year… and she isn't going to ignore me… it is more my own stuff" (Emma, interview, June 25, 2018). Despite this barrier with on-site mentoring, Emma shared how her thoughts differed in terms of her willingness to share her footage within the digital mentoring experience. First, Emma noted that with a reminder:

> I would just put it up there and I didn't care really. That was really helpful. I could use whatever footage I had collected too. And I remember feeling in November when I sent my first couple recordings, there was stuff I had to get over. (Emma, interview, June 25, 2018)

She elaborated, “I could ask you a lot of questions that I didn't want to share with my on-site mentor being starry eyed. This was really helpful because I could get ways to help my classroom and my teaching” (Emma, interview, June 25, 2018).

Entering the teaching profession occurs for many new teachers when they are in the throes of young adulthood. Within this investigation, mentees readiness for learning based on rehearsal video footage review became a reflection on how they set themselves up for self-reflection and feedback along with other logistical considerations of camera placement. Negotiating feelings as new teachers, young adults, and professionals culminated around this vital aspect of the digital mentoring experience.

There is a Change in Time Perspective as People Mature - From Future Application of Knowledge to Immediacy of Application. Thus, an Adult is More Problem-Centered than Subject Centered in Learning.

Knowles et al. (2005) described this assumption in relation to subject-centered orientation. This was described as typically aligned with learning expectations within traditional learning environments. The authors differentiated this subject-centered approach with the needs of adult learners based on their focus towards “life-centered (or task-centered or problem centered)” learning (p. 67). One important note the authors offered was that this assumption can be less about the content and more about how the content is organized for adult learners. For example, literacy courses and university extension courses focused on adult learner populations, the need for providing foundational experiences and introduction to specific knowledge bases.

However, repurposing the activities for adult learning, and more practical application, may be a matter of how the information is packaged:

> A course titled "Composition I" in the day program became "Writing Better Business Letters" in the evening program; "Composition II" became "Writing for Pleasure and Profit"; and "Composition III" became "Improving Your Professional Communications." And it wasn't just the titles that changed; the way the courses were taught also changed. While students in "Composition I" still memorized rules of grammar, students in "Writing Better Business Letters" immediately began writing business letters and then extracted principles of grammatical writing from an analysis of what they had written. (Knowles et al., 2005, p. 68)

Within this above example, the focus of the activity was on real-life application through introduction to foundational content within a subject area.

Changes in perspective occurred as mentees reflected on their evolution as young professionals and music educators. Specifically, what they felt they needed from their mentors and how mentoring compared to their teacher preparation, needs, and wants. In reference to the mentor's support in this study Mandy offered:

> I like when Laura would say: 'This is what I did. Here is the dance. Here is how I lined them up… boom boom boom'. As for context there is only so much that she can provide because her classroom runs a certain way and mine is different and I have to adapt. All the steps she provided were very helpful though. (Mandy, focus group, June 19, 2018)

Similarly, Alison described how her mentoring meetings with Laura welcomed her to continue reflecting on age-appropriate teaching strategies:

> I would say progression in style and conversation. When teaching the little ones, I was realizing that the way I was explaining things was too complicated for them to understand. Breaking things down was a big thing we talked about. And also, with the little ones, when you say something, and they repeat it back it isn't that they are having a conversation out of context it is their brain registering what you just said. The vocal feedback after I explain "ta" or "ti ti" that is them registering. Those types of things in conversation with Laura were helpful. (Alison, focus group, June 19, 2018)

Emma listed the aspects of mentoring that were most helpful to her as a new teacher: "when my mentor anticipated the hurdles and provided guides before the event happened (i.e. has a lot of data on what the usual patterns and needs are) … helps keep practice of meetings and setting up meetings…provides materials ahead of time, willing to share anything needed" (Emma, digital written communication, June 19, 2018). Direct support and recommendations presented as beneficial opportunities for reflection and brainstorming.

Within new teacher mentoring, scholars grappled with how the knowledge of teaching could be integrated into mentoring and whether this was about reflection and discussion or sharing of materials (Achinstein, 2006; Feimen-Nemser, 2012, Schwille, 2008). There was an additional emphasis on content-specific support, which further encouraged scholars and mentors to find ways to discuss content with mentees beyond the emotional support inherent in mentoring. The findings featured in this section align with how Knowles et al. (2005) considered presenting information for adult learners. It was possible that due to the already present urgency for immediate application of challenges into practice within new teaching, that mentees appreciated having opportunities to reflect on but also sought direct advice for implementing ideas into practice.

Motivation to Learn

Knowles (1984) described motivation to learn in relation to core adult learning principles as a focused on the intrinsic value of learning and personal payoff for investing time in the learning process. Within educational psychology, Brophy (2010) also featured motivation to learn and defined it as:

> a student's tendency to find learning activities meaningful and worthwhile and to try to get the intended benefits from them… motivation to learn is primarily a

> cognitive response involving attempts to make sense of the activity, understand the knowledge it developed, and master the skills that it promotes. (p. 208)

During Emma's final interview she detailed the levels of support offered to her both on-site and through the study. She elaborated on the circumstances that helped her to integrate new ideas into her teaching:

> For me, my gauge of learning is really based on my level of awareness. How much more information can I take in or how much less was coming through the funnel? And I think when I was feeling less overwhelmed and felt like I knew how to do things, I integrated more…. I was always worried that my awareness is maxed out and my 'CPU' is maxed out. So, when I felt like I wasn't missing things and knew what was going on and what was about to happen that was when I felt like I could accomplish something. It really felt like I was building a new processing system in my brain the first couple months but now it feels like it is a part of my normal way of being. (Emma, interview, June 25, 2018)

Megan's motivation to learn presented itself differently and was best described during her final interview. She summarized her desire to incorporate new ideas and recommendations from the mentoring experience but felt limited by her teaching circumstances. She chose to frame the mentoring as an opportunity to "store ideas." "It is stored. And, I have a better understanding of the elements of music teaching that I want to work on for future teaching positions. … It gave me a better idea of how I will sequence it for a future class" (Megan, interview, June 28, 2018).

Mentees were conscious of which ideas they could feasibly integrate into practice immediately. However, they did not shy away from the collection of information during the mentoring experience. The readiness for learning was not always apparent to the mentors but that did not hinder, or limit, what information was offered to mentees through a school year. To understand how this intersects with activities for learning, learning activities within mentoring will be discussed in the second section of this chapter. Having said this, learning within digital mentoring required mentees to be ready and willing to reflect on their experiences as teachers in

their classrooms. Emma's and Megan's experiences, in conjunction with their reflections on their first year of teaching, provided critical insight into how motivation to learn informed their new teacher mentoring experience.

Summary

In Part I, I synthesized how new teacher mentees met many of the characteristics that are used to describe adult learners. In addition to the learner's experience, the learning environments as well as the teachers within those environments establish a climate for learning. Mentees saw themselves as learners but in different context than their prior learning experiences in traditional learning environments. They often acknowledged and advocated for how they felt they learned best. The next section will provide a description of how the digital mentoring environment aligned with the andragogy model to promote a learning environment for adults.

Part II - Digital Mentoring Environment as a Learning Environment

Along with assumptions about mentees as adult learners, mentors also played significant roles in how the digital mentoring environment was organized and used to connect with mentees. The andragogy model was intended to help represent the *how* of adult learning within a particular environment. To note the *how* of adult learning, the learner, educator, and environment need to be defined. Knowles (1980) suggested adult education include organized sets of activities, educational objectives, and social practices. Though this model listed a set of assumptions addressed in Part I of this chapter, Knowles (1984) advocated for flexibility in its application (see Figure 11). Unfortunately, this flexibility also welcomed ambiguity. However, this may be more realistically aligned with how the principles of andragogy were enacted in real life. Due to the focus of this study and the mentoring experience within it, formulating program objectives were not featured in the below descriptions as this was outside of the purview of this

dissertation. The following sections gestured to the other critical elements of adult learning (Knowles, 1984; Knowles et al., 2005) and how these ideas were enacted within the digital mentoring experience featured in this study (see Table 2 in Chapter III).

Preparing the Learner

The notion of "learning how to learn" was described as a range of activities provided to adults with information regarding: proactive and reactive learning, resources for learning, and potential opportunities to engage in mini-projects (Knowles, 1995; Knowles et al., 2005). The rationale for these additions to the andragogical model stemmed from the work of Knowles (1995). He highlighted a need for introducing adult learners to the increased independence of learning needed within andragogical approaches. Knowles et al. (2005) then divided preparing for learning into four sub-descriptions which involved: providing information, preparing for participation, helping to develop realistic expectations, and helping to begin to think about content. Upon review, these features were also enacted through the mentoring approaches Laura and I utilized during this study. I will now elaborate on how these features intersected with findings from this investigation.

Providing information & preparing for participation. Providing information was featured within three major findings in this investigation: sharing materials, elaborating and expanding ideas, and presenting rationale. Laura and I enacted these within our mentoring practices as well as how we provided information to our mentees. Though developed and presented organically within this study, mentees were provided similar experiences which were gradually catered to their individual needs over time. First, each mentee participated in an initial meeting with me, situated as the researcher. Next, they attended an additional meeting to discuss how they could prepare to "get the most" out of the mentoring experience. Topics such as: note

taking, communicating with mentors, logistics of recording ensembles, and anticipated challenges and barriers of sharing of recordings were discussed in these meetings. I featured these topics in these meetings based on my prior mentoring studies and my experience as a mentor during the 2015-16 and 2016-17 school years.

Additional examples of how mentors engaged mentees in opportunities to learn evolved through the study. For example, Laura described how she used Google docs as a means of demonstrating note taking practices during mentoring meetings. Laura detailed:

> Mainly, I typed notes for Alison after our meetings. I assumed that she would write or type while we were talking but once I realized she wasn't after we finished I would go back in and type those notes and eventually one or two weeks later I said 'hey I have this going for you why don't you type this week while I talk' and that was the moment where she began to take on more of that role. (Laura, interview, September 15, 2018)

Similarly, I helped prepare mentees to participate in meetings by reaching out to them when participation was less than stellar. During one particular meeting with Alison, I provided a rationale for why mentors need to hear about mentees' progress through the mentoring experience. I offered, "Don't be afraid to let Laura know when things aren't working. That helped me in mentoring because I am constantly thinking did that work? If something doesn't work but I know that I have twenty other things waiting" (Jessica, Alison's mentoring meeting, November 7, 2017). This informal intervention was noted as positive by Laura:

> I am encouraged by [Alison's] intentions to implement the 'pop bottle marbles' system you suggested in your meeting earlier this week. Reinforcing positive behavior coupled with interacting with her students might be the magic combination to help Alison win over her students and feel successful. Thank you for your suggestion. In general, I feel so much better about where Alison is headed! (Laura, journal, November 9, 2017)

Taking time to describe how participation and communication were enacted in digital mentoring experiences helped participants optimize their learning in ways that were more visible to Laura and me through the study.

Help develop realistic expectations. There were several instances when Laura and I presented ideas or recommendations to mentees in terms of realistic expectations. This was often in response to the stream of consciousness lists of events, ideas, lesson plans, and needs mentees generated during meetings. An example of how I prioritized realistic expectations during meetings was featured in my journal reflections.

> Though Emma felt concerned about logistics, what I focused on during the conversation included the following… I told her to pull the *Brandenburg* (Isaac arrangements), *Miniature Symphony*, and *Crystal City March* from her library. I explained that these are easy pieces, so she can use them to teach the 7th and 8th graders her teaching and rehearsal expectations. I gave her examples of writing on the board the various ways she will be asking the class to break down the music (i.e. vocalizing, pizzicato, air bow). I also offered that she should not play the piece through during the first rehearsal but instead scaffold the rehearsal of it to set them up for success. … We continued and chatted about not worrying about a big warm-up during the first few rehearsals of the school year but instead focus on something by rote that maybe her teaching assistant could review with her so that she is using something the kids are familiar with. In addition to this recommendation, I also added that even if she does exactly what the old teacher did the kids may still say it is different. (Jessica, journal, September 17, 2017)

This review of discussion points from my meeting with Emma helped illuminate how I balanced recommendation with the presentation of realistic expectations for enacting these ideas into teaching. This included: (a) anticipating specific transitional challenges with her as the "new teacher", (b) recommendations of pieces, and (c) expectations for warm-up experiences.

Laura featured similar emphasis on realistic expectations. For instance, Laura described to Mandy what she may try to plan and scaffold for warm-up sequences organized by grade level.

> These could be vocal exploration, call and response, and rounds… with second grade I have them sing melody and bass lines so you might want to review or introduce that as well to get ready for rounds. And then in terms of movement, I start to get them used to simple folk dances. I mean they probably did play party games in K-2 like simple circle dances and such but they should be able to do circle and long way sets tends to work well. [Laura paused and waited for Mandy to finish typing her notes] My third grades are also working on singing technique like diction, posture, and good singing habits as well as reinforcing identification of tonic and dominant chords. Theoretically, I introduce the string family, but I rarely get to it... however, it is on the curriculum. (Laura, Mandy's mentoring meeting, September 19, 2017)

Moments like these described above helped mentees brainstorm and take notes. Statements such as "I need to write this down and now I can delete the big 'I don't know' from my lesson" (Mandy, Mandy's mentoring meeting, September 19, 2017) were indicators during meetings that mentees needed rich context for planning including realistic expectations for their lesson planning.

Begin thinking about content. Learning was contextualized within learning environments. Therefore, mentoring required mentors be aware of mentees' teaching context and the larger context of the mentees' prior teaching experiences. Sometimes hearty curricular discussions were seamlessly transitioned to during mentoring meetings while other times these discussions evolved over the course of a few meetings. For example, Megan's experiences were highly situated to her classroom and her prior teacher preparation experiences. This led Laura and I to note other challenges and barriers for supporting mentees. While other times, we also reflected on when mentees were "ready" for new information about teaching. At first, reflections included providing mentees with space. Laura described:

> I want Alison and Mandy to have the space and time to unload while I listen. While I am eager to jump in with ideas and suggestions, it might be better for me to save my advice unless they ask for feedback. On a similar note, less is probably more at this stage when it comes to advice. I get excited when colleagues want to talk about curriculum, but I need to remember that Alison and Mandy are simply

> trying to navigate the school day at this point, and the thought of comprehensive curriculum planning is probably overwhelming. (Laura, journal, September 7, 2017)

At the same time these acknowledged where the mentees were at that moment in terms of planning and anticipating. This also played roles in how Laura and I noted opportunities to discuss content with mentees "My goal next week is to listen and answer specific questions with fairly brief responses that are easy to remember and implement in a pinch" (Laura, journal, September 7, 2017). And when those moment arose; our journal entries reflected those opportunities:

> We finally got to the meat of teaching, pacing, transitions, lesson planning, and classroom management. It's fun to hear what she's experiencing, think of ideas that might work, and share what I can offer. I spend so much time creating ideas and documents for my own classroom that it's exciting when someone else can potentially use the materials. (Laura, journal, September 26, 2017)

As noted in Chapter V, barriers such as second-guessing our mentoring practices were associated with the noted differences in our mentees' prior teaching experience and teacher preparation compared to our own. After we acknowledged these barriers through our self-reflection and mentor debrief meeting discussions, we prioritized content through hearty curricular discussions and used mentoring strategies highlighted in Chapter IV. Specifically, the themes of elaborating and expanding ideas and prioritizing curriculum.

Establishing a Climate Conducive to Learning

Mentors guided mentoring meetings with a focus on hearty curricular discussions and teacher learning. Laura and I enacted specific approaches to mitigate the distance inherent within digital mentoring and enhance content-specific support for our mentees. As stated in Chapter IV, these practices and strategies included: intentional redirection, inquiry and constructive

approaches to promoting dialogue during mentoring through elaborating and expanding on ideas, and balance of constructive and didactic approaches to mentor recommendations through presenting rationale and prioritizing curriculum. With these practices in mind, mentors became facilitators and teachers to their mentees while also attending to many of the assumptions and principles featured in andragogy (Knowles, 2005). These included being trusting and mutually respectful, informal and warm, collaborative, supportive, open and authentic.

Trusting and mutually respectful. The physical properties of a learning environment and how people interact in the digital environment impacted how collaborative, supportive, open, and authentic they were with one another (Bandura, 1997, 2006; Bronfenbrenner, 1994; Deci & Ryan, 2000; 2008a; 2008b; Knowles, 1995; Knowles et al., 2005; Ryan & Deci, 2000; Wenger, 1999). The digital environment itself involved considerations for the physical components that help support learning. Therefore, how physical space was organized and dedicated to each meeting, as well as the purview afforded through the video-conferencing software, was important to consider. As a mentor, I became adept at situating myself in well-lit and quiet spaces to optimize my attention during meetings. This involved where I set my space for meetings at home as well as in my office. Though Laura did not specifically dedicate reflections to how she organized the physical space for mentoring, she demonstrated consistency in where she chose to set-up her mentoring space. This helped to establish an environment for trust largely based on how Laura and I dedicated quiet space to our mentoring to reduce distractions. Mentees recognized this as:

> I think what helps the most was that the advice you were giving really was helping the classroom. To build that trust just to see that even with this information, and all the people wanting to help me, you ended up being the person who really made a difference in my classroom. You saw what I was doing, you were giving me the materials. (Emma, interview, June 25, 2018)

The notion of trust was described by Emma in terms of how she as a mentee began to see the digital support as helping her students and her teaching.

Climate was further developed through the intentional organization of mentoring conversations. Laura noted this as discussing "'life' before starting the meat of the meeting" (Laura, email correspondents, August 15, 2018). We did this through discussions of pleasantries and inquiring about mentees' days. Trust evolved through two avenues: (1) discussing our prior experiences and (2) openness to hearing mentees concerns about teaching without judgement. This relaxed, trusting, informal nature sometimes developed unintentionally through the natural interruptions of meetings from our pets or children in our video-feed as well as our mentees' videos.

Informal and warm. The environment created in this study was identified as informal and warm through the flexible focus on the needs of the mentees including adjusting discussion topics and meeting times. Our flexibility afforded more in-depth discussions of topics noted as relevant to our mentees. Mandy described: "I think this environment is convenient and consistent. It was nice that I could lay in bed in my PJ's …and even if I was tired, I could sit down and talk about everything I needed to talk about. I didn't have to go anywhere" (Mandy, interview, February 27, 2018). Showing our lives in our work and home spaces normalized how the mentees situated themselves during meeting (see Image 6).

Image 6. Emma's mentoring meeting May 3, 2018

Collaborative, supportive, openness, authenticity, and humanness. The use of collaborative digital spaces like Google docs and informal communication via text message and email during the day, helped enhance the collaborative and supportive environment for the mentees.

> The material was already PDFs. … And, I just loved that I could go 'do you have this thing?' and you would send me a beautifully formatted thing that I could just go and use. It was great! And, just talking more [as mentor and mentee]. So that once I got through that first recording you essentially said to me a lot of times 'it is going to be fine, you are doing great'... just hearing that many times helped me accept the support more. (Emma, interview, June 25, 2018)

Authenticity was demonstrated through the use of stories in our mentoring. As mentors, we described our own struggles as new teachers as well as demonstrated understanding of mentees experiences. This became common practice for Laura and me (see Table 10). Megan affirmed these practices as important and compared the digital mentoring support to her on-site

support. Specifically, how the on-site support lacked understanding of her content area and extreme challenges she faced with student behavior in her teaching environment.

> I think what was different was the online support understood what I was trying to do and teach. And the online mentoring knew where I was struggling and that helped me try to become a better music teacher even though I couldn't really teach. (Megan, interview, June 28, 2018)

Openness was noted in how Laura and I willingly integrated mentees ideas into our own teaching or recommendations for other mentees. This openness was demonstrated by us as mentors as we expressed interest in the sharing mentee's ideas with others. Along with providing Emma additional resources for vibrato activities, I journaled:

> She was very receptive, and she also showed me how she planned to keep the low strings involved during the high string vibrato activities. … This was great, and I even got an idea for a cello pre-vibrato activity from her. I even used it with my preservice string methods course later that day. (Jessica, journal, March 22, 2017)

Laura experienced a similar reciprocity and exchange of ideas with Mandy and reflected on how her role as a mentor changed with this openness: "Mandy is able to dream, create, and look ahead. Given her many strengths, I view my role as a consultant. She shares and reflects during our conversations, and I primarily listen and offer occasional suggestions" (Laura, journal, November 28, 2017).

Table 10:

Mentors' stories of their struggles as teachers

Date of Meeting	Mentor	Description
January 6, 2018	Jessica	Describing a parent email exchange regarding advanced orchestra chair placements. 'now, at thirteen years in the profession, I can say I rectified the parent concern in the morning but why did I get so stressed about it. But, in the moment, I was so worried I couldn't sleep the night I read the email (Jessica, Emma's mentoring meeting)
October 18, 2017	Jessica	Describing how she became more aware of violin and viola shoulder rest placement based on experiences with clinicians working with her beginning orchestra (Jessica, Emma's mentoring meeting
October 1, 2017	Jessica	Described to Mandy how she brought in administrators to talk to her first intermediate band about their behavior at their concert (Jessica, Megan's mentoring meeting)
September 20, 2017	Laura	Describing to Alison a parent email concern that became resolved through opening up communication between the student's homeroom teacher, administrator, and Laura (Laura, Alison's mentoring meeting)
November 1, 2017	Laura	Describing her experience integrating new professional development ideas into her teaching along with her colleagues in the music department (Laura, Mandy's mentoring meeting)
December 5, 2017	Laura	Reassured Mandy that what she was experiencing is completely normal, and that Laura still had the same doubts and struggles about my own teaching today (Laura, Mandy's mentoring meeting)

Creating a Mechanism for Mutual Planning

Mutual planning was a balance of collaboration and noticing the needs for direct recommendation specifically through describing the rationale for learning (Knowles et al., 2005). Andragogy scholars were quick to separate teaching from facilitating learning in an attempt to better understand the role of the learner within each associated definition. Mutual or collaborative planning took the form of preparing goals collaboratively or through offering choice during learning. And though choice was important, it was also necessary to note that this was not completely free of guidance nor was it completely rigid. The ultimate goal was auto-didaxy and defined as "taking control of the goals and purposes of learning and assuming ownership of learning…. [leading] to internal change of consciousness in which the learner sees knowledge as contextual" (Knowles et al., 2005, p. 186). With adult education, an adult learner may choose a high degree of autonomy to learn within a highly teacher-directed instructional approach. This may be due to convenience, speed, and their learning style. Autonomy and relinquishing personal control over learning were not mutually exclusive and nor was the assumption that self-directed learning was completely independent of didactic means.

The challenges Laura and I experienced balancing constructivist and didactic approaches to mentor practices was also supported by extant mentoring scholarship (Schwille, 2008). Simply stated, different subject matters required different learning strategies (Knowles et al., 2005) and adults may be less inclined to learn in a self-directed manner when confronted with complex technical matters. "Introducing unfamiliar content to a learner will require a different teaching/learning strategy…. not all subject matter can be taught or learned in the same way" (p. 153). For instance, the didactic and sequential explanation of sequencing a general music lesson

or rehearsal seemed just as beneficial to mentees in the present study as was more open-ended and philosophical discussions about teaching.

During this investigation, Laura reflected on the notion of mutual planning in terms of activities she enacted during her mentoring. She listed the following: "(a) shared lesson plan templates for use if desired; (b) brainstormed ideas for upcoming lessons; (c) mentees and mentors typed ideas in various documents during meetings; and (d) reviewed lesson plan(s) in advance of being taught" (Laura, journal, August 15, 2018). During our final reflexive meeting, she elaborated on the idea of openly and willingly sharing materials. Similar to student teaching support:

> I generally share lesson plan templates with student teachers, so they have a framework for which to work from or context for what I am talking about. For student teachers they have to use it, but for a mentee it was like 'here is a template, if it works for you great, if not modify it or trash it or whatever but at least you have something to go off of' but sharing of the template was organic in terms of sharing for the sake of sharing. But purposeful in the sense of I know that I would start there with student teachers. (Laura, reflexive meeting, August 15, 2018)

She also summarized this as "listening to mentees' fears, complaints, and concerns" (Laura, journal, August 15, 2018). Initially, Laura welcomed both Mandy and Alison to direct the course of their mentoring meetings. Laura acknowledged this approach in her journal, "It took Alison no time at all to launch into questions about classroom management, room arrangements, and curriculum. …Alison drove the conversation by recounting her experiences and asking for advice" (Laura, journal, September 7, 2017).

Mentees echoed the desire to continue collecting materials developed from their mentors. Emma offered, "I just needed somebody to help me make decisions" (Interview, June 25, 2018). Mandy added, "I like when Laura would say 'this is what I did'" (Focus group, June 19, 2018).

Mentees also noted how the direct recommendations provided by their mentors were obviously situated within their mentor's teaching environment though this was not a limiting factor. With this in mind, Megan offered, "I like both methods of talking through some ideas and getting direct feedback on things" (Focus group, June 19, 2018). This topic was also summarized by Mandy, "what I learned and the amount I learned are no different because you are learning what works and doesn't work and why. Every moment is learning about you, your classroom, your surroundings that is always a good question to ask" (Focus group, June 19, 2018).

Diagnosing the Needs for Learning: Mutual Assessment

Knowles et al. (2005) described diagnosing needs of adult learners in terms of assessing their learning. For this present study, assessment was aligned with identifying evidence of mentee learning. The rationale for the emphasis on evidence over assessment, even within educational environments, stemmed from the conundrum many educators encounter when formalizing an identification of growth or change based on learning. As described in Chapter III, this multiple case study did not include formal evaluations or observations. The aspects of the experience that seemed evaluative in nature (i.e. sharing of teaching footage) was consistently introduced as non-evaluative. Though assessment is inherent in the work of education, and in turn mentoring, the notion of assessment was more to help mentors continue to refine their practices and meet their mentees' needs. As was featured in Chapter V, evidence of learning was noted through how mentors differentiated mentoring and listened to their mentees' descriptions of their teaching experiences.

Designing a Pattern for Learning Experiences

Though mutual planning was enacted often through this study, mentors also sought to design learning experiences based on topics identified by them as important for mentees to

reflect on or discuss. Andragogy featured the design of learning experiences and focused on the use of suitable techniques and materials within them. Though unit plans for mentee learning were not specifically designed within this dissertation, readiness for learning was noted within a larger mentoring cycle. To note readiness for learning, mentoring practices such as elaborating and expanding on ideas in conjunction with identifying evidence of learning helped Laura and me "design" and prepare for particular meetings. I thought of these planned experiences as "mighty mouse" mentoring moments. I noticed my planning for these moments and meetings based on my mentees' need at particular times of the year. I described in my journal:

> I just finished my woodwind methods class and quickly checked my phone. I saw an email from Megan. It stated:
>
> Hi,
> I just struggled hard core with getting my trumpets to play their first pitch on their instrument. Do you have any suggestions on how I can start this?
> I am really feeling unprepared to teach the beginning band now.
> Megan
>
> Thoughts that entered my mind…
> I knew it… though we haven't discussed the beginners in a while, this moment is one of the toughest to plan for and teach. Because of her crazy start date of August 1, 2017, I didn't even think to ask about first sounds on the instrument at this point in the school year.
> My second thought was, 'yay for me, bad for her!' Once again band is just as confusing as teaching orchestra for first year teachers. I immediately sent her a text saying I am ready to help. Whenever is most convenient for her. She mentioned that she was available by phone. I reinforced that this discussion is important to have via video conference so that she could see how I address these issues. We scheduled a meeting after this exchange.
>
> (Jessica, journal, September 19, 2017)

Sometimes these designed experiences went as planned, while other times they were rescheduled.

> Last evening, I prepped my conference space including grabbing my viola so that I would be ready for any potential modeling I may need to do for Emma in terms of vibrato sequencing. As I answered the video conference Emma mentioned in passing how she was still bombarded by an overwhelming to do list as well as a variety of what I identified as micro-political challenges. Some included: submitting scholarship material, private teachers commenting about her teaching and lesson planning, as well as attending a baby shower at the house of her predecessor the week prior. (Jessica, journal, January 17, 2018)

This particular meeting described above was adjusted to a discussion about how Emma and I would plan an additional future meeting around mapping out lessons and rehearsals. Regardless of whether it was enacted right away or scheduled for a future meeting, as mentor I planned to be ready for both the emotional needs as well as introducing sequenced recommendations and activities as needed. Laura also identified how she designed learning activities as broader experiences that happened regularly during mentoring meetings. These included: "(a) described and demonstrated activities while mentees typed notes; (b) listened to their ideas and offered additional suggestions or revisions; and (c) shared document and materials via Google Drive" (Laura, digital written communication, August 15, 2018). This became a cycle of planning, preparing, describing and presenting, but also featured how we anticipated mentees' needs to guide our mentoring.

Evaluating the Learning Outcomes and Re-diagnosing the Learning Needs

Within this study, evaluation of learning was threaded to how mentors identified evidence of mentee learning and differentiated mentoring to meet their mentees' needs. Upon review of the andragogy framework to the themes and findings of this investigation, mentoring practices were noted as connecting well to descriptions of differentiated support and customized learning experiences in this study. For example, Laura adjusted how she collected, reviewed, and structured mentees' note taking through the study to meet their individual needs.

> In our meeting notes, do you see lesson activities? I set it up by categories and some activities for each category and added materials into the resources folder. I think if you try one or two of these per class. I also think they will go across grade levels. (Laura, Alison's mentoring meeting, October 19, 2017)

The notion of evaluation and assessment were terms Laura and I grappled with and avoided integrating into our mentoring practices. As researcher, but also mentor participant, I described how I was conflicted over this idea: "There is a sense of formative assessment in mentoring in thinking, 'how do I know if this is helping at all?'" (Jessica, reflexive meeting, August 15, 2018). Laura also reflected on how she conceptualized assessment in mentoring and offered how she stated with mentee's descriptions and "nudged their ideas forward" over time.

> I found assessment tricky too. I definitely wanted to listen to them and go with what they felt they needed that day. But Alison wasn't making the clearest connection between classroom management as a result of lesson planning and implementing ideas. I felt like I had to circle discussion back to prevention of management instead of discussion of management. As the semester went on, I became more assertive and stronger with suggestions because I was thinking 'ok now we talked about this' but I didn't want to start there. So, it ramped up over time. Evaluating was hard to do though because I didn't watch much video footage of either of them. You know in this setting it is up to them to want to record it, take the initiative to record it, and do it. And even if they want to do it, it is an extra step in their day, they have to fiddle around with technology. So, I didn't have much footage to watch and frankly was ok in terms of time, but the footage was valuable. The video was really beneficial. It would have been helpful to have a video at regular intervals. I wouldn't even need to watch all of it or take detailed notes. I could just watch chunks of it to give me more information to go on in our next conversation. (Laura, reflexive meeting, August 15, 2018)

Access to teaching footage, and the potential barriers developed when the footage was unavailable or infrequently shared, became discussions points for Laura and me as mentors in connection to mentee learning. We noted how the footage helped us understand our mentees' teaching and played a role the mentoring experience. We brainstormed how mentors and mentees

may consider sharing teaching footage mutually and how a schedule could be developed to alleviate some of these challenges within digital mentoring.

> Jessica: Some years I shared footage of my own teaching with my mentees. This year it didn't seem as critical for some reason but you (Laura) did share your teaching footage. Both Mandy and Alison mentioned how they loved seeing your footage because they felt they couldn't get out to observe teachers even though they felt it would benefit their teaching. And, thinking on a mentor program development level, having a formal expectation for sharing footage between the both mentors and mentees recording may help situate the recording process more as mutual planning rather than recording footage for review. Regular sharing of footage could also welcome opportunities for mentees to see their mentor's as 'human' and trust in the mentoring experience because 'bad lessons happen for mentors too'
> Laura: and encouraging mentors and mentees to share footage at regular intervals through the school year. That would be beneficial because it just happened that that one lesson went really smoothly for me. That isn't necessarily 'real life' on a regular basis for my classroom. And this could be intimating if this was the only video footage mentees saw of my teaching. But since we didn't have it, I would go back and talk about lessons they had done and reflect on those before we started designing the next round. What can we modify or change for your teaching context? So, that kind of falls under assessment too.
> (Jessica and Laura, reflexive meeting, August 15, 2018)

Uncovering the need for developing more formalized expectations around the recording and sharing of lesson video recording helped refine future digital mentoring programs. This adjustment also helped us design learning activities and assist with mentor preparation by using footage to identify evidence of mentee learning.

Summary and Discussion

In this section, I described how the Critical Elements of Adult Learning (Knowles et al., 2005) further illuminated findings from this investigation of a digital new teacher mentoring environment. Though some of the elements presented less vivid connections to the findings (i.e. formulating objectives), the elements also helped to align this form of mentoring with teaching in terms of adult learning and andragogy. In the next section, I will present how these connections may help highlight how this form of digital mentoring is a form of educative mentoring.

This investigation welcomed a concentrated reflection on how mentoring practices can support mentee learning. The theoretical framework of andragogy helped to further illuminate key definitions of mentoring as a learning environment. These included: defining mentees as adult learners and identifying how the mentoring practices featured in this investigation were components of educative mentoring. A digital mentoring cycle then involved an amalgamation of the above described elements in action both during a mentoring meeting as well as during the time between meetings as mentees reflected and explored integrating ideas discussed during meetings into their teaching. Simultaneously, mentors continued reflecting on and planning for future meetings based on synchronous and asynchronous communications with mentees in conjunction with review of video footage. This cycle depicted below is intended to illustrate the overlapping and sometimes intertwined experiences that occur during digital mentoring (see Figure 11).

Though situated within adult education, many of these ideas paralleled how educators demonstrate care and solidarity for their students in P-12 learning environments. Neito (2005) defined solidarity as "remembering what it was like to be a child" (p. 207). In this study, Laura and I demonstrated our solitary for our mentees in a variety of ways but our focus on mentoring through story helped create a sense of community for learning. Similarly, the notion of improvisation was one of the main qualities of caring and committed teachers. This was described for teaching as "learning to go beyond the template, or even question the template" (Neito, 2005 p. 211). Similar to teaching, our mentoring approaches also involved preparing for uncertainty and being adept at letting ideas unfold as they may.

Past research also offered that online community-based mentoring can be a means to welcome opportunities for mentees to reflect on: (a) their own work, (b) their student's learning,

and (c) the stage of their career (Wang et al., 2010). Mentor reflection was featured in the form of how these reflections supported the selfless potential of mentoring for mentors (Maor & McConney, 2015). Additionally, mentee participants in general education scholarship also noted similar, and in some ways closer, connections to their digital mentor compared to the support and regularity of communication from the traditional on-site mentoring programs. In this, mentoring supported career development as well as psychosocial needs of mentees (de Janasz & Godshalk, 2013). Mentors and mentees noted that intentional flexible check-ins and regular meetings, along with timely communication in the digital mentoring environment, allowed for opportunities to build relationships through discussion and reflection (Walther, 1996). The consistency demonstrated by Laura and me to commit to scheduled meetings, while also demonstrating flexibility to mentees' needs, aligned well with theories beyond andragogy to adult learning scholarship that also featured feminist paradigms of teaching and learning (Tisdell, 1995, 1998, 2000). Though initial investigations of new teacher mentoring cautioned scholars about the impact of mentoring on mentee teaching (Reynolds, 1992), others note that intentional mentor planning and differentiation of support and assist with helping teaching practices evolve that appear to parallel the experiences in this present dissertation (Feiman-Nemser, 2001; Schimdt, 2008).

Expanding mentoring beyond emotional support required intentional focus on content and teaching. For this investigation, hearty curricular discussions became the axis around which all other mentoring practices and experiences circled. If mentoring was a form of adult learning, then mentoring was a form of teaching. Therefore, moving new teacher mentoring closer to an "educative mentoring" experience may help frame the relevance, strategies, planning, and assessing of new teacher learning. To help define educative mentoring, I asked mentee

participants to describe what they thought educative mentoring meant to them. Based on their experiences in the study, Mandy defined this as "supportive growth" (Mandy, focus group interview, June 19, 2018). Alison offered "personalized instruction" as her interpretation of educative mentoring (Alison, focus group interview, June 19, 2018). Emma described: "emotionally supportive, create space to talk through where mentee is at and someone with a depth of knowledge of behavior of kids of all age groups in music" (Emma, text message thread, June 19, 2018). As scholars studied new teacher mentoring and continued to grapple with how mentoring experiences can be structured, educative mentoring helped define how mentors prepared and structured/organized their time in the experience. The goals and purposes of adult learning then served to shape and mold a learning experience for new teachers in this study (Knowles et al., 2005). In this digital new teacher mentoring study, the goals evolved but situated around supporting new music teachers through opportunities for rich discussions and reflections on teaching practices.

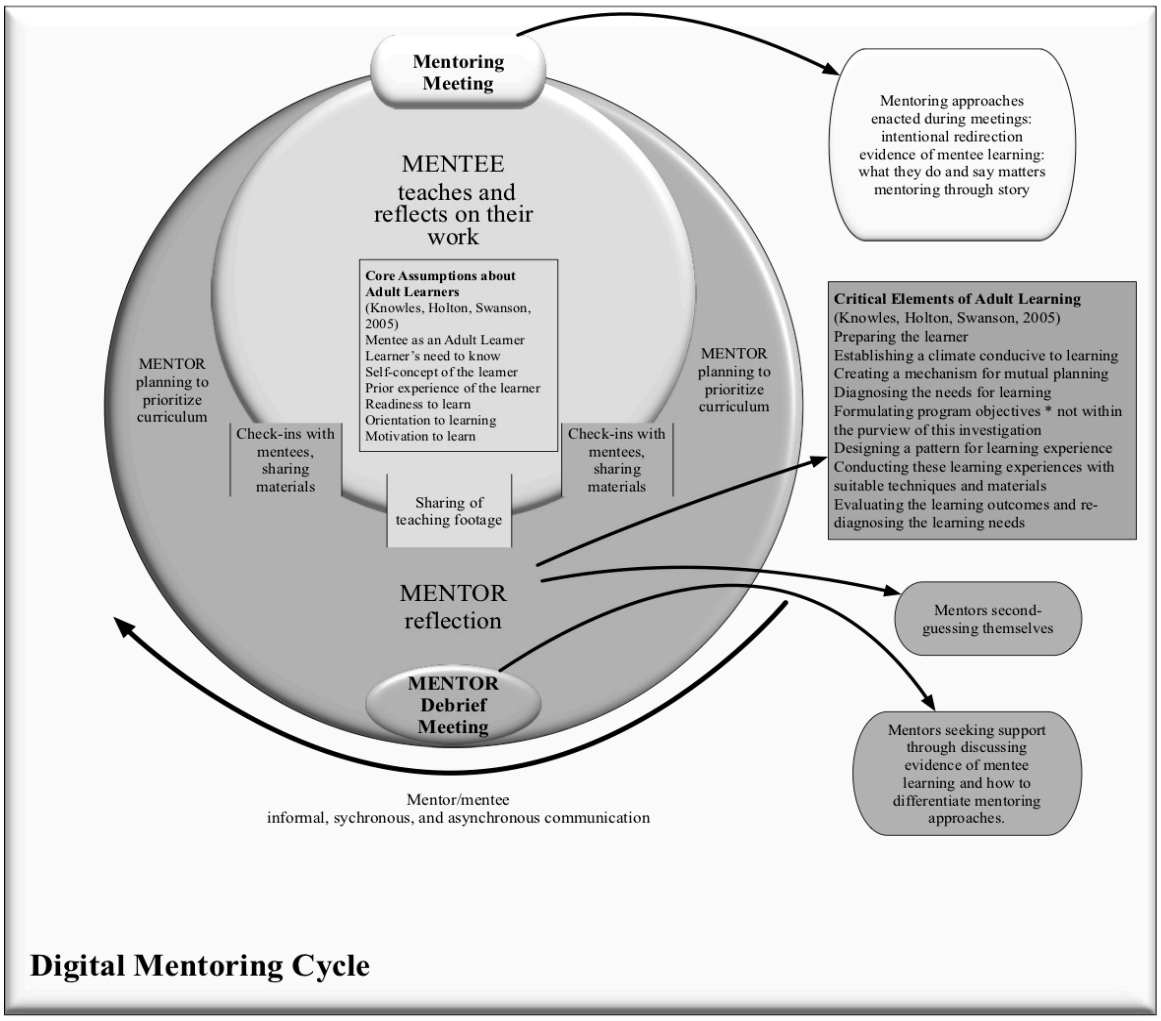

Figure 10. Visualization of digital mentoring cycle and andragogy in practice

Conclusion

In Chapter VI, the theoretical framework of andragogy was used to strengthen confidence to findings in connection to the frame. New teachers as mentees can be defined as adult learners within this framework and further new teacher mentoring can be a form of adult education. As such, mentoring is more than psychological support but can also be educative and a means of continuing to refine teaching practices with the support of a mentor. In the final chapter of the dissertation, Chapter VII, I will present a summary of the study as well as implications for this investigation for mentor program design and future research.

CHAPTER VII

Summary, Conclusions, and Recommendations

The experiences, and needs of, new teachers entering the profession continued to be a focus for teacher educator scholars (Achinstein & Athanases, 2006; Maor & McConney, 2015; Moir, Barlin, Gless, & Miles, 2009; Wang & Fulton, 2012; Wang, Odell, & Clift, 2010). What began as an interest in identifying ways to reduce attrition and stress of this population of educators (Fuller, 1969; Fuller & Bown, 1975; Ryan, 1974; Veenman, 1984), expanded to discussions about the challenges new teachers face upon entering the profession (Fogarty, Wang, & Creek, 1982; Pitton, 2006; Porther, 1998; Ryan, 1974, 1979; Veenman, 1984; Villani, 2002). All of this inquiry involved an overarching focus on advocating for mentorship or induction of new teachers. Unfortunately, this scholarship also identifies that support is disparate and often focused on socializing into a school site or district which does not necessarily align with content or curricular support (Achinstein & Athanases, 2006; Shore & Stokes, 2006).

Content specific support was a more recent topic of scholarly interest in the fields of: physical education, special education, foreign language education (Cothran et al, 2009; Hunt, Powell, Little, & Mike, 2013; Maor & McConney, 2015; Nam, Seung, & Go, 2013; Naseem, 2014; Shores & Stokes, 2006; Wyatt & Arnold, 2012), and music education (Bell Robertson, 2015; Benson, 2008; Conway, 2001b, 2015; Conway & Garlock, 2002; Conway & Zerman, 2004; DeLorenzo, 1992; Kreuger, 2003, Smith, 1994; Weimer, 2017). Digital mentoring environments then emerged as a means for connecting new teachers with content-specific

support that was either not available or limited due to their teaching assignment (Cheng, 2008; Hunt et al., 2013; Jones, 2013; Meagher, 2010; Schlager & Fusco, 2003). Similar to counterparts in physical education and special education, music education scholars acknowledged that new music teachers were often isolated as school-site specialists which limited opportunities for them to access on-site mentoring that also coincided with content-specific support (Berg & Conway, 2016; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Holcomb, 2008).

Mentor programs for music teachers are currently being designed by The National Association for Music Educators (NAfME), the Society for Music Teacher Educators (SMTE) Beginning Teacher Support Area of Strategic Planning and Action (ASPA), the American String Teachers Association (ASTA), American Orff-Schulwerk Association (AOSO), and other state and national music organizations. These groups are seeking avenues to connect novice music educators with content-specific support through digital spaces (American Orff-Schulwerk Association, 2019; American String Teachers Association, 2017). Currently, a limited number of music education scholars studied digital environments for music teacher support (Bell-Robertson, 2011; Vaughan-Marra, 2017), while others provided descriptions of program design (Berg & Conway, 2016; Conway & Holcomb, 2008). Therefore, continued investigation into new music teacher digital mentoring is needed to identify, organize, and refine new music teacher support within this environment.

Purpose and Research Questions

The purpose of this study was to describe mentor perceptions of mentee learning in the digital mentoring environment.

Research questions included:

(a) How do mentors describe their experiences within a digital environment?

(b) How do mentors describe changes in mentee teaching practice as evidence of mentee learning?

(c) How do mentors describe the emergence of their mentoring practices in response to the learning of each mentee?

Methodology

This multiple case study (Barrett, 2014; Creswell & Poth, 2018; Stake, 1995, 2006; Yin, 2014) was designed to investigate the voices and perceptions of music teacher mentors working in a digital mentoring environment. The two cases were bound by the mentor communications, experiences, and interactions with their mentees during the 2017-18 school year. Due to the binding of these cases, and the emphasis on featuring mentee learning within new teacher mentoring, andragogy was selected as a theoretical framework to guide portions of the investigation and data analysis (Knowles, 1970, 1984; Knowles, Holton, & Swanson, 2005). This framework helped feature, and uncover, procedural components of new teacher mentoring for new teacher learning that may have implications for future mentor program development. In addition to andragogy, self-study was used as a lens to feature how the mentors reflected on their roles and their work as mentors. Self-study strategies such as journaling, verbal reflections, and discussions between mentor participants helped to systematically review ideas as they related to the experiences and unique perspectives of the mentor participants in this study (Berry, 2007; Clandinin & Connelly, 2007; Loughran, 2002, 2007a; Samaras, 2019).

A criterion sampling strategy was implemented for this dissertation (Patton, 2015; Yin, 2014). This sampling strategy was based on a set of guidelines and characteristics that all cases in the study met (Patton, 2015). Criteria for the sampling of my co-mentor participant included: (a) prior experience as an on-site new music teacher mentor, (b) mid-career as an in-service

teacher, as well as (c) an interest in self-study and improving practice as a music teacher, mentor, and teacher educator. The criterion of the new teacher participants included: (a) completed a traditional undergraduate music education degree program; (b) were interested in accessing formalized support from a new music teacher mentor; (c) in their first or second year of teaching music; and (d) also received on-site mentoring support organized through their school district.

Data Sources

Data for this study was categorized into seven typologies: mentoring meetings, mentor debrief meetings, digital written communication, journals, reflexive meetings, interviews, focus group, and additional supplemental artifacts. The mentoring meetings were organized by mentor and their assigned mentee. The mentor participants collected footage between six and 11 months of the school year. There was a total of seven video conference mentor debrief meetings (August 2017 - February 2018). Digital written communications spanned the length of the school ranging between six to 11 months of the school year. Mentoring and research journals were maintained by mentor participants and also spanned the length of the investigation. Lastly, two formal reflexive meetings between co-mentor participants ($n = 2$) as well as one semi-structured interview with each mentee participants ($n = 4$), and one focus group with the mentee participants were conducted towards the end of the investigation.

After data collection was complete**,** analysis involved the use of the qualitative data analysis computer software NVivo (2014). This program allowed for a close examination of transcripts and all multimedia data used in this study. Analysis of the multimedia data included reviewing the social interactions within the video footage along with the discussions that occurred within the mentoring experience.

Data Analysis

The analysis, along with the transcription process, began in May 2018. The transcription process started with a review of the mentor debrief meeting footage followed by mentoring meetings thereafter striving to stay in chronological order. In addition to identifying nodes and memos based on the analysis process, I identified moments in the data that aligned with the andragogy model in action (see Figure 7 in Chapter III) as a priori codes. After the video footage was transcribed, I reviewed the data and generated nodes. I then: (a) developed assertions (i.e. over-all meaning or lessons learned) of the cases, and (b) completed cross-case analysis to develop and present the substantiated "patterns" to help describe this investigation (Stake, 2006; Miles et al., 2013; Yin, 2009). A color-coding process was used to help associate nodes with coding and subsequent themes back to the specific research questions.

My analysis involved a combination of Creswell and Poth's (2018) data analysis spiral and Yin's (2009, 2014) cross-case analysis recommendations to systematically organize my nodes, codes, and themes. This included how I: (1) managed and organized the data into NVivo, (2) read and reread transcripts for emergent ideas, (3) described and classified nodes and codes into themes, (4) developed and assessed interpretations, (5) represented and visualized the data, and (6) accounted for findings. I reviewed all data with the use of NVivo and organized and visualized the data into hierarchies and clusters (Saldaña, 2016; Webster, 2014) (see Figure 7 in Chapter III).

Cross-case analysis followed recommendations by Stake (2006) and Yin (2009, 2014) to develop detailed case reports of each mentor participant. In the reports I described their experiences and noted key events with each mentee participant based on topics discussed and reflected upon during the study. I developed mind map representations of the case reports to

highlight: (a) key events, (b) issues of importance and assertions, (c) themes, and (d) lastly main and lesser findings to further organize the information presented in the following chapters (Stake, 2006). I also displayed data and themes from the individual cases to help identify similarities and differences among the cases. The findings are organized below as responses to each research question.

Trustworthiness

Trustworthiness was achieved through addressing the following: (a) triangulation, (b) systematic intentionality, (c) member checks/respondent validation, (d) adequate engagement in data collection, (e) presentation of researcher's position or reflexivity, (f) peer reviews/examination, (g) use of an audit trail, and (h) thick description (Merriam & Tisdell, 2016). Through reviewing the findings in terms of Stake's (2006) assertions and graphic representations of cases, I returned to NVIVO to cross-reference nodes with the theoretical framework. This guided me to three areas of interest: (a) mentoring strategies that promote hearty curricular discussions, (b) supporting and identifying evidence of new teacher learning in digital spaces, and (c) evidence of mentee learning and planning for new teacher mentoring including altruistic outcomes for mentors. Within each of these areas of interest, I identified key experiences or activities (Stake, 2006) that most succinctly represented findings within digital mentoring.

Findings

Findings for this study were organized into four main threads: (a) the digital mentoring environment, (b) mentoring approaches, (c) mentor's perceptions of their mentee's learning, and (d) mentors adjusting mentoring approaches to mentee's needs.

Advantages of the digital space were noted in relation to how this environment allowed for flexible meetings times and ease in sharing materials during meetings. The specific themes associated with these ideas were: (a) flexible check-ins with mentees, (b) sharing of materials, and (c) flexibility of meeting times. Challenges encountered while mentoring in the digital environment helped illuminate how mentor participants modified their approaches for this space. Themes associated with these adjustments included mentors: (a) establishing contingency plans, (b) responding to unintentionally delayed responses, (c) access to a fuller story: critical context of teaching footage, and (d) mentee responsibility in mentoring and mutual planning.

Mentoring strategies and approaches enacted in response to how mentors noted evidence of mentee learning included themes of: (a) intentional redirection, (b) elaborating and expanding ideas, (c) presenting rationale, (d) mentoring through story, and (e) prioritizing curriculum. Mentors changed and adapted their mentoring approaches based on how they noted evidence of mentee learning. Themes associated with changes to mentoring practices included: (a) flexible preparation, (b) mentors second-guessing themselves, and (c) mentors seeking support. Mentors noted evidence of mentee learning based on two main findings: (a) evidence of mentee learning: what they do and say matters and (b) differentiating mentoring.

Connections to Andragogy

This investigation welcomed a concentrated reflection on how mentoring approaches can support mentee learning. The andragogical model represented a process of learning within adulthood rather than the content of learning (Knowles, 1984; Knowles et al., 2005). This framework was ideal for researching mentoring approaches and mentee learning in a digital environment because it highlighted how a teacher can approach the unique needs of adult learners. Furthermore, andragogy facilitated data analysis related to the ways mentoring

approaches aligned with evidence of mentee learning. Analysis revealed connections between the set of assumptions and elements about adult learning as they related to sets of activities, assessment, and social practices of mentoring. In this present study, andragogy further illuminated how mentoring aligns with teaching.

By analyzing the data using andragogy as a framework, a digital mentoring cycle emerged. This cycle depicts the continuous process of mentor reflection and planning as a result of the communication between the mentor and mentee. Since this study also featured connections between adult education and mentoring, mentoring was considered to be a form of teaching. This form of mentoring was sometimes referred in prior research as "educative mentoring" (Feiman-Nemser, 1998, 2001, 2012; Schwille, 2008). In this form of support, mentors moved beyond "emotional or psychological support and resource procurement and base their practice on the premise that learning to teach requires creating learning opportunities that involve the mentee intellectually" (Schwille, 2008, p. 141). Educative mentoring involved professional practices of coaching and stepping in, teaching together, demonstrating teaching, brief interactions or mentoring on the move, mentoring sessions and debrief sessions, co-planning, videotape analysis, and writing (Schwille, 2008). These professional practices were used to bridge the connections between the findings and the theoretical framework as educative mentoring. Within the present investigation, these professional practices aligned with the elements of adult learning environments featured in andragogy (see Table 11). Expanding mentoring beyond emotional support required intentional focus on the content of teaching (Feiman-Nemser, 1998, 2012; Nam, Seung, & Go, 2013; Shore & Stokes, 2006). For this investigation, hearty curricular discussions became the axis around which all other mentoring approaches and experiences revolved.

Table 11

Framework, Professional Practices, and Findings

Critical Elements of Adult Learning (Knowles et al., 2005)	Professional Practices of Mentoring Educative Mentoring Schwille (2008)	Themes
Preparing the learner	Mentoring sessions and debrief sessions	Intentional redirection, differentiated mentoring, flexible check-ins, flexible meeting times
Establishing a climate conducive to learning	Brief interactions or mentoring on the move	Flexible check-ins, flexible meeting times
Creating a mechanism for mutual planning	Co-planning	Mutual planning, presenting rationale, elaborating and expanding on ideas, evidence mentee learning: what they do and say matters
Diagnosing the needs for learning	Coaching and stepping in	Intentional redirection & differentiated mentoring
Formulating program objectives * not within the purview of this investigation		
Designing a pattern for learning experience	Coaching and stepping in, co-planning, teaching together, demonstrating teaching, videotape analysis	Mutual planning, differentiated mentoring, intentional redirection, elaborating and expanding on ideas, mentoring through story, prioritizing curriculum
Conducting these learning experiences with suitable techniques and materials	Teaching together, demonstrating teaching	Elaborating and expanding on ideas, mentoring through story, prioritizing curriculum
Evaluating the learning outcomes and re-diagnosing the learning needs	Videotape analysis, mentoring sessions and debrief sessions, writing	Access to the fuller story: critical context of teaching footage, evidence mentee learning: what they do and say matters

The Lens of Self-Study

In this dissertation, self-study was used as a lens and most prominently employed within mentor debrief meetings, journaling, and reflexive meetings during the study (Kleinsasser, 2000; Samaras, 2019). Self-study strategies used within these writings and meetings included collaborative inquiry and reflecting on our past and current practices as mentor teachers. These were employed during our conversations and reflections to grapple with, and identify, contradictions as well as affirm ideas about our work as new teacher mentoring navigating the digital mentoring environment. To toggle between reflections and discussions during self-study, LaBoskey (2004) iterated that self-study scholars may employ multiple methods and, in some cases, use whatever methods may best inform the researcher's personally situated inquiry. While some scholars may debate or interpret this flexibility as a potential lack of clarity within this form of qualitative research, the use of self-study as a lens in this present dissertation afforded a clearer position of my work as both participant and researcher in this new teacher digital mentoring experience.

One important aspect of the digital mentoring cycle involved mentors reflecting and planning with other mentors. This was similar to the reflections needed for self-study and were identified as such using self-study as a lens to feature findings associated with these mentoring approaches. One of the many examples of our reflections involved how Laura and I considered our work as mentors and how it intersected with the assumptions and elements of andragogy. We also discussed these ideas using the self-study approaches of intentionally discussing our work as mentors in conjunction with journaling about mentoring and dialogue through reflexive meetings (Kleinsasser, 2000; Loughran, 2002, 2007a, 2007b; Samaras, 2019). Self-study then also helped feature andragogy but also findings in conjunction with the research questions. Despite these

connections, self-study was mostly prominently interwoven into our mentoring, and continued reflection on our work as mentors, within three themes. These were mentoring through story, mentors second-guessing themselves, and mentors seeking support.

Connections to Past Research

Connections to past research were organized into three main areas including: considerations for the digital mentoring environment, mentoring approaches, as well as adjusting mentoring approaches and identifying evidence of mentee learning.

Considerations for the Digital Mentoring Environment

Mentors, like educators, needed to identify ways to demonstrate care and compassion for their mentees in order to develop trust within the partnership (Berg & Conway, 2016; Cothran et al., 2009; Dawson, 2014; Feiman-Nemser, 2001; Maor & McConney, 2015; Shore & Stokes, 2006; Weimer, 2017). This included how mentoring meetings also provided opportunities for mentors and mentees to discuss mentees' lives. This was identified as a form of check-ins within this present study (Dawson, 2014; Maor & McConney, 2015; Shore & Stokes, 2006). Though scholars prioritized trust within mentoring relationships (Weimer, 2017), developing and maintaining this trust within digital mentoring (i.e. accounting for physical distance) was still not thoroughly described within past scholarship (Bell-Robertson, 2015; Cheng, 2008; Meagher, 2010). In this dissertation, flexible check-ins acted as just one approach that helped demonstrate availability to mentees. Furthermore, this approach helped mitigate some of the isolation new music teachers often felt upon entering the profession (Conway 2001a; 2003; Conway & Garlock, 2002; Conway & Zerman, 2004; Krueger, 2000; 1999).

The use of computer mediated communication (e.g. text message and email correspondence), in conjunction with the regularly scheduled video conferences, were also worth

highlighting. In fact, these forms of communication actually aided in the development of a trusting mentoring environment (Bierema & Merriam, 2002). While text message or social media mentoring options in the past provided a level of anonymity, some scholars noted how this anonymity could lead to a lack of personal connection to the mentoring experience (Cheng, 2008; Hunt et al., 2013; Klecka et al., 2004). In the present study, these forms of communication were found to be advantageous due to the combination of regularly scheduled video-conference meetings supplemented by text-based communication.

Scholarship on digital mentoring varied in how the mentoring environment was defined. Much of the research emphasized chatroom and online mentoring spaces (Babinkski et al., 2001; Bell-Robertson, 2015; Klecka et al., 2004) while some scholars provided more detail into video conferencing experiences (Cothran et al., 2009). Developing a mentoring relationship through digital means required accounting for the physical distance between the mentors and mentees. The challenges identified within this present study paralleled some of the experiences featured in past literature including accounting for adjustments to the meetings when technology became a barrier as well as modifying communication styles to meet mentees' needs (Klecka et al., 2004). In the present study, mentors adjusted their approaches and accommodate the digital environment and the needs of their mentees. These findings were associated with the theme of establishing contingency plans and may be transferable into other digital mentoring environments.

In combination with text-based communication, the sharing of materials was not new to mentoring experiences. In fact, much of the mentoring literature referenced sharing as a central tenant of this experience (Dawson, 2014; DeLorenzo, 1992; Maor & McConney, 2015; Nam et al., 2013; Smith, 1994). How materials were shared between and during mentoring meetings was

worth noting in this present study since few scholars isolated this particular feature of digital mentoring. These materials welcomed curricular discussions into the mentoring experience. Feiman-Nemser (1996) and Feiman-Nemser, Parker, & Zeichner (1993) suggested how identifying approaches to promote discussions of teaching may be a particularly challenging within new teacher mentoring. This challenge was described in combination with the complex web of needs new teachers present to mentors and how this web made it arduous for mentors to discern the best avenue for supporting their mentee (Achinstein & Athanases, 2006; Feiman-Nemser, 2012; Fuller & Bown, 1975; Moir et al., 2009; Ryan, 1974; Veenman, 1984). Scholars investigating digital mentoring also noted a lack of curricular discussion within digital mentoring experiences in particular (Nam et al., 2013). This absence was attributed to the structure of the digital mentoring environment; and often associated with chatroom or email communication in digital mentoring (Cheng, 2008; Klecka et al., 2004). Unlike past research, the present investigation of digital mentoring stimulated curricular discussions and provided an avenue to seamlessly share materials during video conferences.

An additional benefit of mentoring in a digital environment was the flexibility of meeting times. Formalized mentoring programs often required meetings between mentors and mentees that occurred during the school day (Shore & Stokes, 2006; Moar & McConney, 2005; Nam et al., 2013). For new music teachers, this was described as particularly challenging due to the co-curricular nature and event planning expectations often associated with music programs (Conway & Holcomb, 2008; Conway & Zerman, 2004; Weimer, 2017). Within the digital mentoring scholarship, flexibility was described in how new teachers identified times to meet with digital mentors outside the school day and how this was more conducive to their needs (Vaughan-Marra, 2017). Findings from this present study further supported this point. Mentors

and mentees in this dissertation identified how the plasticity of scheduling outside the school day helped keep the focus on mentoring at a time when both mentors and mentees were less distracted by the responsibilities of the workday (Berg & Conway, 2016; Conway & Holcomb, 2008; Dawson, 2014; Pickering & Walsh, 2011; Reese, 2015, 2016).

Nevertheless, challenges still existed in the digital mentoring environment. For example, in the present study, weak WIFI signal occasionally impacted scheduling. However, the issue was quickly addressed by redirecting meetings to phone, restarting computers, or rescheduling. Mentors also noted the need for navigating and understanding how various forms of asynchronous technology functioned and impacted mentoring. For example, the mentors sometimes experienced an unintentional delay between posted questions in email and/or collaborative document. Establishing contingency plans allowed participants in this investigation to avoid the potentially negative impact of these challenges.

Review of teaching footage and class observation has been addressed by scholars as an important bridge for helping educators reflect on and change their teaching practices (Achinstein & Athanases, 2005; Blair, 2008; Conway, 2002, 2013; Conway & Holcomb, 2008; Feiman-Nemser, 2001; Israel et al., 2009; Wyatt & Arnold, 2012). While music education literature featured some of the logistics of video conferencing and recording rehearsals for review and discussion (Burrack, 2012; Eberle, 2003), the findings addressed in this present study focused on challenges that parallel those featured more in mentoring literature (Conway, 2002, 2013; Conway & Holcomb, 2008). Developing a non-evaluative and trusting environment for sharing footage was a challenge within the digital mentoring environment in this present dissertation (Feiman-Nemser et al., 1993; Wyatt & Arnold, 2012). However, observation experiences within new teacher mentoring are highlighted by researchers as a crucial component of mentoring to

expand mentoring beyond emotional support (Darling-Hammond & Rothman, 2015; Olebe, 2001; Wilson et al., 2001; Wyatt & Arnold, 2012). On-site and digital mentoring environments both pose challenges to organizing and initiating observations. However, the potential for promoting rich discussions about teaching based on these observations made them a worthwhile endeavor to pursue. The findings from this present study supported previous recommendations to include observation experiences within digital mentoring.

Mentoring Approaches

Much of the scholarship on new teacher mentoring contended that a metaphorical curtain may prevent complete transparency in how mentors help mentees (Blair, 2008; Feiman-Nemser, 1998; 2001; Feiman-Nemser et al., 1993). In some cases, mentors perceived new teachers as "not ready" to discuss teaching in conjunction with the other challenges and stress they faced entering the profession (Feiman-Nemser et al., 1999; Conway & Holcomb, 2008; Griffin, 1999; Huling-Austin, 1990, 1992, 1994). In the present study, mentors supported new teachers beyond emotional support by enacting the approaches of featured in the themes of intentional redirection, elaborating and expanding on ideas, and presenting rationale. These approaches have also been noted in past literature as cognitive modeling (Costa & Garmston, 1993; 1994; Orland-Barak, 2016; Rogoff, 1990) and "finding openings" (Feiman-Nemser, 2001) to extend mentees ideas beyond their original conception.

In some cases, a mentor may feel a sense of conflict with their mentee when philosophical differences in teaching emerged (Feiman-Nemser et al., 1993; Maor & McConnely, 2015). Music education scholars nodded to this rift in the community that may, at times, present a dogmatic dedication to a particular approach (Hibbard, 2017). Other scholars noted that mentors struggled to identify approaches that balance a clear presentation of

recommendations for their mentees without completely discrediting their ideas or making the mentees into "mini" versions of their mentors (Berg & Conway, 2016; Orland-Barak, 2016). These ideas potentially developed unintentional barriers for discussing teaching and learning or evolving as a profession. Similar to developing a reciprocating relationship (Raschdorf, 2015), in the current study, the approach of elaborating and expanding on ideas also provided an avenue for generating discussion between mentors and mentees instead of thwarting them.

The use of story was employed to communicate humility and empathy to mentees in the present study (i.e. "I have been there too", "I struggled too" or "it gets better"). In many ways, this form of solidarity also mirrored what Neito (2005) defined as "remembering what it was like to be a child" (p. 207). Using this technique within mentoring was supported within past literature as well (Babinkski et al., 2001; Carter, 1990; Cheng, 2008; Feiman-Nemser, 2012; Feiman-Nemser et al., 1993; Meagher, 2010; Nam et al., 2013; Naseem, 2014; Peterson & Comeaux, 1987; Shore & Stokes, 2006). In the current study, story provided an opportunity for mentors to normalize mentees' struggles and challenges while describing them in terms of the similar challenges or continued struggles they faced as veteran teachers.

Much of the scholarship on new teacher mentoring contended that mentoring experiences helped retain new teachers in the profession and provided much needed emotional support (Achinstein & Athanases, 2006; Moir et al., 2009; Fuller, 1969; Fuller & Bown, 1975; Ryan, 1974; Veenman, 1984). In music classrooms, mentees may need extra support with topics that revolved around the management of a music program or classroom with less emphasis on curricular refinement (Conway 2001a; DeLorenzo, 1992; Jones, 1978; Strong & Baron, 2004). The current dissertation offered examples of how the approaches within the themes of (a) elaborating and expanding on ideas, (b) intentional redirections, and (c) mentoring through story.

These helped propel discussions into areas of reflection and changing practice. These mentoring approaches were thought to work in tandem with one another (Feiman-Nemser, 2001, 2012; Koerner, 2017; Maor & McConnelly, 2015; Raschdorf, 2015). Past scholarship also referred this as a bi-focal focus; the combination of attending to needs described by the mentees as well as providing what the mentors identified as important for their mentees (Achinstein, 2006; Achinstein & Athanases, 2006; Feiman-Nemser, 2012).

Adjusting Mentoring Approaches and Identifying Evidence of Mentee Learning

Mentoring practices were enacted in preparation of, and response to, observations of mentee learning. This simultaneous focus on preparation and response evoked a need for flexibility and included gathering and explaining materials and concepts in the moment as well as adjusting discussions to future meetings based on mentees' needs (Conway, 2001a, 2002, 2013; Conway & Christensen, 2006; Conway & Garlock, 2002; Conway & Zerman, 2004; DeLorenzo, 1992; Kreuger, 1999; Schmidt, 2008). Scholars identified cognitive modeling and reflective inquiry as two approaches often enacted by mentors (Costa & Garmston, 1993, 1994; Feiman-Nemser, 2001; Orland-Barak, 2016; Rogoff, 1990). The collaborative brainstorming in the present study paralleled these approaches while also utilizing asynchronous technology to enact them.

In addition to successes during mentoring, mentors in this study also experienced moments of self-doubt and questioned their approaches when their mentees expressed consistent struggles with their teaching. Berg and Conway (2016) as well as Schmidt (2008) featured similar themes summarized by mentors in terms of second-guessing mentoring approaches. Meagher (2010) also described how mentors' reflections and adjustments could be based on the mentors' perceptions of how their feedback impacted mentees' teaching. In this present study,

mentor participants reflected on their practices as a dyad. By having the opportunity to brainstorm with another mentors, the mentor participants were able to adapt their approaches as a result of supporting one another.

Implications for Future Mentor Program

Implications for this study may help future mentor preparation programs and workshops to continue understanding how mentors identify evidence of mentee learning within digital mentoring experiences. In regard to mentor preparation, this study provided information about approaches extended beyond caring and empathy for new teachers towards discussions of teaching. In some cases, findings in this study also provided different perspectives compared to previous literature regarding mentoring within the digital environment and a mentor's ability to provide emotional, social, and content support. However, even within content specific support, mentors continued to grapple with how to best approach supporting new teachers while providing space for mentees to make their own decisions about teaching and classrooms.

"Learning to mentor is a process of developing a practice based on a conceptual stance toward mentoring" (Schwille, 2008, p. 143). The approaches of elaborating and expanding on mentees' ideas as well as differentiated mentoring provided mentees with space to explore their own ideas while also welcoming mentors to offer guidance. These approaches work in tandem with the element of developing learning activities featured in the andragogy model. Therefore, future music education mentor programs should consider providing mentors with opportunities to reflect on how they can discuss teaching practices and encourage emphasizing approaches such as elaborating and expanding on mentees' ideas. During mentor preparation, programs should also provide mentors with the opportunity to develop learning activities that feature lessons or rehearsal strategies they identify as best practice and consistently use year to year.

The present study provided practical information and recommendations for mentors adjusting their work to computer-mediated and digital mentoring environments. These included: scheduling meetings, balancing digital availability, mutual planning, and navigating the collection of teaching footage. In this study, Laura and I committed to meeting mentees on a weekly basis and being remotely available as needed. While this was beneficial for the study, this level of accessibility may be difficult to replicate within larger mentor programs (Bierema & Merriam, 2002). Similarly, our mentees' levels of responsiveness may have been influenced simply through their active participation in a study. Though this was a possible limitation of the study, it was important to note that Laura and I did not identify our commitment levels as a challenge in terms of maintaining availability for our mentees. However, committing to the same level of mentee availability may be difficult to replicate outside of the circumstances of this investigation.

The following recommendations are offered to address these time and availability considerations. First, mentees and mentors should establish a dialogue about each person's expectations for communication. This may also help provide balance for both individuals in the mentoring experience. One possible adjustment for practicing new teacher mentors could be found in the way Laura developed clear boundaries with her on-site mentees. For instance, she described how she outlined her availability for them on a day-to-day basis. This included not responding immediately to their text messaged during the school day but instead that they could expect a response during the evening. Another option for practicing mentors could be to set an expectation for once monthly meetings scheduled out through the school year with a phone call or email communication sent weekly to check-in and service as a reminder instead of the weekly schedule maintained in this study.

One challenge identified within this present study involved the review of mentee's teaching footage. In an effort to be flexible to our mentees' needs, Laura and I provided "as needed" opportunities for mentees to share their teaching footage with us. However, upon review of this process, we decided that this flexibility became too ambiguous for the mentees and evolved into a barrier for mentees to send the footage. Previous scholarship pointed out the vulnerable nature of recording and sharing teaching footage and how this could cause new teachers to feel hesitant to share their footage with others (Hunt et al., 2013; Shore & Stokes, 2006). Based on the prior research, and findings within this study, digital mentors should consider establishing a routine including regularly dedicating mentoring meetings that align with review of teaching footage that also parallels scheduling used within on-site observation schedules (Cothran et al., 2009; Wyatt & Arnold, 2012). This approach may provide a more predictable schedule for teaching footage review while also welcoming flexibility for adjusting to the needs that occur within a school year. Similarly, determining a predictable sharing schedule for recording and reviewing teaching footage as well as mentors sharing footage of their teaching with their mentee may mitigate some of the hesitation and concern surrounding the observation process.

Though state-level Departments of Education provided recommendations and required school districts to provide new teachers with access to mentoring and support (Cegelka & Malley, 2002; Fuller, 2003; Goldrick, 2016; McQuillan, 2008; Sweeney, 1998; Sweeney & DeBolt, 2000; Wilkins & Clift, 2007; Youngs, 2002). This was not often focused on content-specific support and potentially left specialist educators, such as music educators, susceptible to a void in the vital support from a content-specific mentor (Baumgartner et al., 2015; Benson, 2008; Conway, 2001a; 2015). Unfortunately, despite much of the scholarship on mentoring for

music teachers which advocated for content-specific support (Conway, 2001a; 2015), the lack of access to this form of mentoring at a district-level left organizations looking towards digital means of mentoring without much systematic consideration for the approaches necessary for this environment (American Orff-Schulwerk Association, 2019; American String Teachers Association, 2017).

Though this present dissertation provided a detailed description of a digital mentoring environment, it also unveiled a deeper understanding of the mentoring approaches needed to foster both the social emotional as well as curricular support for new teachers. To enact this version of content-specific support, there needs to be a paralleled focus on providing mentors with opportunities to prepare for working with mentees as well as navigating the digital mentoring environment. Preparation may emphasize learning how to optimize the use of asynchronous technology between and during mentoring meeting as well as discuss teaching within a video conferencing environment. Without dedicated preparation to using these tools and working in this space, the digital mentoring experience may devolve. A diluted version of the concentrated efforts demonstrated in this present study, including the availability and attention to consistent meetings, may unintentionally exacerbate the distance inherent within digital mentoring.

As mentioned in the implications, the mentees' perceptions of their mentors' availability featured in the findings of this study required particular attention on behalf of the mentors to be available at the ready to help the new teachers. Additionally, the careful attention to how the mentors planned, reflected, and collaborated to adjust their mentoring approaches and support their mentees was time consuming. Despite this caution, the selflessness often inherent in mentoring helped to counterbalance these challenges. This was based on the positive experience

inherent in hearty curricular discussions which provided a rich opportunity to help new teachers continue refining their work. With all this idea in mind, the availability and adjustments mentors made to be available in this dissertation may not be feasible to replicate outside of this research setting. Careful consideration needs to be made for future digital mentoring program design for preparing and compensating mentors and mentees for the time dedicated to this type of mentoring program. Therefore, as state and national music teaching organizations integrate digital communication into their mentoring programs, program organizers may need to seriously consider the delicate balances addressed in this paper. Future mentor programs seeking to utilize the rich array of access and resources available within this environment may want to consider the following approaches to properly compensate mentors and mentees for their time participating in a proposed mentoring program.

First, mentors and mentees may benefit from release time and workshops dedicated to introducing these approaches as well as opportunities to reflect on how to enact them within a mentoring experience. These forms of workshops were noted as helpful by scholars in the fields of general education (Cothran et al., 2009; Shore & Stokes, 2006) and music education (Berg & Conway, 2016, 2017) yet continue to be varied in their organization (Baumgartener et al., 2015). It may be simply a matter dedicating time to featuring the nuanced needs of mentees when the mentoring environment is digital. In addition to release time, mentoring programs may consider professional development credit for mentors and mentees participating in a particular program. If educative mentoring moves beyond emotional support for new teachers (Feiman-Nemser, 1998, 2001, 2012; Schwille, 2008), similar to the findings illuminated in this study, then identifying this form of mentoring as professional development is appropriate. Monetary compensation for

mentors may also help mitigate potential barriers associated with the time and energy accumulated as they prepare for and support mentees in this form of new teacher mentoring.

Lastly, larger music education organizations such as the National Association for Music Educators (NAfME) may consider dedicating resources towards hiring full-time digital mentoring specialists. This full-time mentoring position may allocate the intense attention to availability to planning necessary for support new music teachers in this digital environment. One caveat for this recommendation would be the hiring process for these specialists. This study featured voices of two mentors; one a full-time in-service music teacher and one teaching at the university level. What was common about our mentoring experiences was our rich understanding of music teaching and interest in supporting new music teachers on a deep level. If NAfME, or paralleled organization, decided to dedicate funding towards full-time digital mentors, the job description should include requirements describing a candidate with rich experiences as a new teacher mentor and successful work as an in-service music educator.

Recommendations for Future Research

Though this study provided a rich understanding of the experiences and perceptions of the mentors working with mentees in a digital mentoring environment, the findings may not represent mentoring approaches, or digital mentoring environments, in all music education mentoring programs. Future research is needed to continue studying program design, mentor experiences, and mentee learning within on-site and digital mentoring environments.

The criterion sampling used for this study included: (a) prior experience as an on-site new music teacher mentor, (b) nine or more years of in-service teaching experience, as well as (c) an interest in self-study and improving practice as a music teacher, mentor, and teacher educator. The criterion of the new teacher participants included: (a) currently teaching in a P-12 music

classroom, (b) in their first or second year of teaching, and (c) completed a university-based teacher preparation degree program. Future investigations could involve additional criteria. For example, selecting participants in mentor and mentee roles who are teaching outside their specialization may help identify even more mentoring approaches. Additionally, future inquiry may wish to consider including mentee participants who completed alternative teaching certification. Focusing on this sub-population of new music teachers may differ from new teachers with traditional certification. Lastly, findings from this study uncovered how mentees teaching in under-resourced communities may need a wider range of support. Future research should focus on how a mentee's teaching environment may help identify digital mentoring approaches that best support new teachers.

In this present dissertation, the theoretical frameworks of andragogy and self-study were used to organize findings as well as guide discussions between Laura and I as we reflected on our experiences and mentoring approaches. In future investigations, self-study could be featured as the primary theoretical lens through a co-authored approach to investigate mentoring and mentee learning. With this new design, decisions about the research questions, methodical approach, and data analysis would be completed by co-researchers who also participated as co-mentors in the study. This position may uncover further information about the processes which mentors enact to move beyond identifying mentee learning and towards informally assessing and using this information for guidance and support.

The size of this study afforded a rich qualitative analysis of how mentors planned and reflected on their work to support mentees. However, future investigations should examine these experiences with larger groups of mentor-mentee pairs. A program analysis would allow for a longitudinal investigation into how a group of mentors navigate working with mentees in digital

spaces and are supported through formal mentor preparation. Along similar lines, studies designed to review currently existing mentoring programs using digital environments or meta-analysis may be useful. As the prevalence of digital environments continues to grow, comparison investigations between on-site and digital mentoring experiences may offer more insight into the mentoring practices that transcend these environments.

Review of teaching footage has been found to be helpful for promoting teacher self-reflection (Tochon, 2007; Wyatt & Arnold, 2012). The video-review in this study was one of the many components of the digital experience. Yet, the ways these videos were analyzed were not specifically featured in this study. More detailed analysis of video-based shared reflection experiences could help with future program design. This could include more specific analysis of post-observation discussions, the exchange of footage shared by mentors, and mentees sharing recordings of their teaching. Future scholarship should examine: (a) how teaching footage is reviewed, interpreted, and perceived within the digital mentoring environment and (b) the ways sharing of, discussion, and review of teaching footage impact mentee learning.

Lastly, future inquiry should include quantitative approaches when examining larger populations. For example, collecting and comparing the number of mentoring meetings and lengths of meetings to identify whether digital mentoring allows for greater access to mentors in terms of contact time. A longitudinal investigation comparing on-site and digital mentoring environments utilizing standard measures such as the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981) could be enlightening for assessing whether certain mentoring environments better mitigate teacher burnout. This variety and breadth of new music teacher mentoring scholarship will help to evolve the mentoring environment and continue identifying flexible means for connecting mentees with content-specific mentors.

Conclusion

New teachers face a barrage of challenges and stress when they enter the profession. As they encounter this stress, they often feel unprepared to face it alone. To help refine new teacher mentoring experiences, educational scholars must continue reflecting on how new teacher mentoring is a complex, interwoven, experience for both mentees and their mentors. This experience involves emotional support in conjunction with content-specific support. A rich literature base existed covering the challenges and stresses new teachers face, the types of support often provided within formalized mentoring programs, and the need for content-specific support (Achinstein & Athanases, 2006; Feiman-Nemser, 2012; Fuller & Bown, 1975; Moir et al., 2009; Ryan, 1974; Veenman, 1984). Content-specific support was argued as needed not only for helping new music teachers adjust and socialize into their school site culture and teaching profession (Conway 1a, Conway, 2015; Conway & Zerman, 2004), but also for the opportunity to refine their teaching beyond their undergraduate experience. Digital mentoring environments may provide opportunities for new music teachers to access this support in a way that is also flexible to their busy and varied needs.

This present study helped illuminate how new music teachers as mentees are also adult learners. Mentees are adult learners because they are self-directed and seek practical application of recommendations based on problems encountered in their work experiences. Therefore, this population of music educators would benefit from mentoring approaches situated within facets of adult education. Likewise, mentors should be identified as adult educators. From a position as an educator, a new teacher mentor can focus on building a mentoring environment around trust and care for mentees while also providing opportunities to reflect on their work through mentoring as professional development. To balance these, mentors may need to plan for discussions and

activities with mentees while also maintaining an awareness and sensitivity to adjusting the mentoring experience in the moment. When obstacles are encountered in terms of identifying evidence of mentee learning, new teacher mentors may need to direct attention to the vulnerability their mentees may feel about sharing their teaching with others.

Educative mentoring practices were featured as Laura and I focused on fostering opportunities for hearty curricular discussions with our mentees. Hearty curricular discussions moved beyond helping mentees survive their first year to supporting them as they developed as educators. Instead of hesitating to discuss curricular topics, we focused on helping our mentees implement teaching practices into rehearsals and lessons through guided mentoring meetings. Hearty curricular discussions focused on "the meat of teaching" and required our attention as mentors on planning and adjusting to mentee learning. Balancing being support systems and educators during these discussions required nuance and constant adjustments on behalf of us as mentors in this study. These adjustments became more refined as we mentored but also changed as we continued to reflect and debrief on our experiences through the study.

The formal mentor preparation programs available within the music education profession continue to be varied and disparately organized (Baumgartner et al., 2015; Conway, 2015). This lack of consistency leaves much room for interpreting what is entailed in mentoring and what mentors should plan and prepare to focus on with new music teachers. As demonstrated in this dissertation, mentoring environments which utilize digital spaces have the potential to provide targeted and meaningful content-specific support. However, this same mentoring required attention from mentors in terms of how to navigate and adjust approaches for the space. Despite the adjustments, this digital environment likely welcomed a greater level of flexibility for the mentor and mentee to connect and discuss teaching. Educative mentoring went beyond

emotional support towards hearty curricular discussions but required mentors attending to and reflecting on their work to get there. The approaches enacted in this study further highlighted how mentors need to consider their role in mentoring with the same level of intention to planning and reflection used in a traditional classroom setting. Continued development of mentoring programs should consider the approaches used in this study, not only for the retention of new teachers, but for their continued refinement of teaching practices.

EPILOGUE

As I finish typing the final sections of this study, I would be remised if I did not reflect on the holistic journey of this investigation. While using self-study as a lens through this dissertation, I grappled with my position as a researcher but also my rich past as a digital new teacher mentor. This epilogue is intended to represent some of my reflections on my work during this present study as it related to my experiences investigating and mentoring during the 2015-16 and 2016-17 school years.

This dissertation evolved out of an opportunity presented to me during the summer of 2015. I recently began my coursework towards my PhD in Music Education and my school district, and former employer, asked me to develop a project for them. I knew I would have access to technology and I also knew that two new music teachers were recently hired. With this information, I was curious about designing a mentoring experience that would provide these new music teachers with the access to content specific support that my district was not able to offer me fifteen years ago.

Through the 2015-16 school year I mentored these California new teachers while I worked in Michigan. As I listened to their concerns, challenges, stresses, and successes I reflected on my own journey as a new teacher. I noted how the recommendations and experiences within our mentoring were not to avoid challenge but help in ways I was not provided as a new teacher. This moved beyond classroom management and navigating a school

site to refining my teaching. Specifically, trying ideas touted by professors as the best practices to integrate into my teaching.

As the 2015-16 school year wrapped up, I knew I needed to continue this work, to see how the experiences were similar or different with a new group of mentees. With this idea, I initiated an extension of the first study including the 2015-16 mentees along with two other new teachers starting into the 2016-17 school year. Similar to teaching, I noted how I adjusted to my mentees needs but also anticipated discussions they may need in advance of their request. As trust developed, they asked for more pointed recommendations and ideas as well as feedback and review of their teaching.

These discussions are hearty curricular discussions, they require planning and preparing the learning space for the mentees. Sometimes these discussions emerged by simply finding a spot to chat, while other times it required grabbing an instrument or mouthpiece. Whether they integrated the idea that class period, the next month, or five years later it was that moment of discussing teaching, reflecting on ideas, and even trying them with a mentor that made the idea more feasible to enact.

APPENDICES

APPENDIX A

Initial Email Invitation Sent to Mentor Participants

Hello -

I hope you are doing well and getting a moment to relax this summer!

My Dissertation Chair and I have been chatting about my dissertation and she mentioned that you might be interested in participating in a study on new teacher mentoring.

If you are, I would love to chat with you about some of the ideas I have for a project I am working on that you would be perfect for!:)

Are you free anytime over the next two weeks?

I am looking forward to chatting with you soon!

Sincerely,

Jessica

APPENDIX B

Initial Email Invitation Sent to Mentee Participants

Hello -

I hope your first year is going well. Congratulations again on your first teaching position!

I am in the process of developing a study about the experiences of a few first-year teachers. The study is still in its beginning stages of organization. New teacher mentoring is a personal area of interest for me as I mentored teachers when I worked in California. It is now a research area for me as well. The study will be focusing on your experiences with the supports (or lack of those) provided by your school site along with other supports you have sought out. If you are interested, I will be offering to provide mentoring support through this project as well.

What I would need from you through this school year would be some written reflections as well as participation in two interviews and one focus group. I would be looking to collect data from interviews and reflections through the school year. If you are interested in participating in the mentor experiences with me then there would be a few additional things like FaceTime meetings through the school year.

If you are interested, please let me know. I hope to hear from you soon.

Sincerely,

Jessica

APPENDIX C

Email to Site Administrators Explaining the Study

Hello –

My name is Jessica and I am a PhD in Music Education student at the University of Michigan. I am currently working on gathering participants for my dissertation which is regarding first year music teacher mentoring. The study is specifically focusing on digitally mediated mentoring. This means that all the meetings between the mentor and mentee will be through video chat and as such be completed outside the school day. Along with being the researcher, I will also be a participant as one of the mentors and I am planning to mentor Megan. She and I have chatted about the project and she is interested in participating.

I have already completed two similar studies with first year music teachers in California and have found that this digital environment works well for customizing to the busy schedules first year music teachers have and their need for content specific support during their induction years into the profession. Megan's participation would be a great compliment to the on-site support she might be receiving through her school site because this project is intended to be flexible to her schedule and focused on topics she feels she needs support with.

The only component that I need your written consent for is so that Megan may record a few of her rehearsals through this fall. The recordings will guide some of our weekly video chat meetings to focus directly on her teaching style as well as provide a richer context for any issues she might be describing to me. The plan is for the video camera/tablet to be set-up in a back corner of the orchestra room with the frame focused on Megan (not the students). She would be sharing the video footage only with me through a secured digital folder. My IRB is approved and exempt without further review, but it does require that I notify and get an administrator to approve the use of this video footage in the study. As a site administrator, Megan recommended I contact you to initiate this. Please let me know if there is anyone else I should contact or if you would be willing to draft an email reply or letter approving the use of rehearsal videos in the study. I am happy to send examples of letters used by administrators for my previous work on this topic if that is helpful.

I am happy to answer any questions you have about the project via email or phone (412)-302-4319. Thank you in advance for the help.

Sincerely,
Jessica

APPENDIX D

Reflexive Meeting Questions for Mentor Participants

What barriers, problems, and dilemmas were uncovered during planning/initiation and implementation of the digital mentoring project? With the digital environment and working with mentees.

Discussions surrounding new teacher stress and specifically that around teaching outside of a specialty.

What management and coping strategies were employed to deal with the barriers/problems/dilemmas? With the digital environment and working with mentees.

How do the mentors communicate with mentees within the digital environment? With the use of the theoretical framework of Narrative Adult Learning, how do the mentors identify themselves as learning through their mentoring?

How do the mentors describe the benefits and challenges of working within a digital mentoring environment?

How do the mentors describe the similarities and differences between mentoring in a digital environment compared to their prior experiences with onsite mentoring?

APPENDIX E

Interview and Focus Group Questions for Mentee Participants

What was one of the most challenging aspects of preparing for your assignment this school year?

What questions did you find to be most pressing for your support as a new teacher?

What times of the year seemed most stressful and needing support? Can you describe it a particular experience you remember that was stressful?

Can you list the support (i.e. mentor conversation and new teacher induction) that you have been provided by the district?

What component of that support were most helpful?

What components have made a direct impact on your teaching?

What felt different about the digital support compared to the other forms of support you had access to or sought during the school year?

Can you list the support from the digital mentoring that was most helpful this year and what made a direct impact on your teaching?

Elaborate as needing on discussions surrounding new teacher stress and specifically that around teaching outside of a specialty.

APPENDIX F

Mentee Participants Written Responses

What have you felt to be the most rewarding and challenging parts of the FaceTime meetings and other digital communication from this years' experience?

When the video conferences would not work (i.e. signal issues or need to call back), how was that experience for you? Annoying, not a big deal, frustrating?

What are some examples of how your teaching has changed based on your experience in this mentoring program?

APPENDIX G

Preliminary Audit Trail

August 2015	IRB initiated at University of Michigan with faculty guidance. Mentee participants invited to the study via email. Approval from site administrator sought through email.	Summer 2015 Researcher's journal initiated
Fall 2015	Data collection began with Jessica as mentor along with mentees (*n* =2). Secured Google folders established for each new teacher	
May 2016	End of year interviews with each mentee participant, final reflection completed by mentee participants, and focus group interview with mentee participants.	
June 2016	Case reports developed for the 2015-16 data Video footage organized in an external hard drive.	
August 2016	Confirm IRB is up to date for replication of the study with the addition of two new mentees with faculty guidance.	
September 2016	Mentee participants invited to the study via email. Secured Google folders established for each new teacher	
October 2016	Data collection began with Jessica as mentor along with mentees (*n* = 4).	
May & June 2017	End of year interviews with each mentee participant and final reflection completed by mentee participants. Video footage organized in an external hard drive.	
August 2017	IRB revised to include an additional mentor participant with faculty guidance. Received approval from the Director of Graduate Studies to initiate dissertation data collection. Mentee (*n* = 4) and mentor (*n* = 1) participants invited to the study via email. Initial video conferences Approval from site administrator sought through email.	
September 2017	Video conferences between Jessica and Laura as mentors (*n* = 2) initiated. Secured Google folders established for each new teacher	
Fall 2017	Data collection began with Jessica as mentor along with Emma and Megan (*n*= 2) as her mentees as well as Laura as mentor to Alison and Mandy (*n*= 2).	Fall 2017 Laura's reflection journal initiated
January 2018	Final mentoring video conferences completed for Laura and her mentee participants. Jessica continuing to collect data on her mentoring experience with Emma and Megan.	
February – August 2018	Interviews with each participant, focus group with mentee pairs and Jessica as researcher, and reflexive meetings between Laura and Jessica.	

APPENDIX H

Multiple Case Themes, Issues, Findings (Stake, 2006)

Main information Questions:

The purpose of this study was to describe mentor perceptions of mentee learning in the digital mentoring environment.
Research questions included:
(a) How do mentors describe their experiences with digital environment?
(b) How do mentors describe changes in mentee teaching practice as evidence of mentee learning?
(c) How do mentors describe the emergence of their mentoring practices in response to the learning of each mentee?

Quintain - digital mentoring as an avenue for teacher learning and teacher education.

Themes:

Anticipating the needs of mentees (providing context/rationale, repeated recommendation, yes and, redirection)

Curricular discussions (planning and digital environment adjustments)

Evaluating/assessing/informing mentoring (listening to mentee explanation, review of footage, note taking)

Planning mentoring (reflection, adjusting mentoring practices to the mentee)

Learning activities through mentoring

Issues:

Foreshadowed problem - new music teachers need support but often are isolated content specialists with limited access to content-specific support

Issue - how can digital mentoring support new teachers and help them develop as educators and how do mentors describe learning in this environment?

Assertion - New teacher learning in a digital mentoring environment is predicated on mentors guiding mentoring through review of rehearsal footage, planning and informing mentoring discussions based on hearty curricular discussions

Assertion - Supporting new teachers in digital environments who are struggling is best approached with the support of mentors helping other mentors plan and reflect as well as flexibility to adjusting approaches to mentor based on the mentees needs.

Assertion - Strategies mentors may use to guide mentoring discussions towards Hearty curricular topics include redirection, balancing approaches to how mentors respond and verbalize and inform mentees of their recommendations, listening to mentee's explanations to inform mentoring

Main Findings
Educative Digital Mentoring

Strategies towards hearty curricular discussions
Struggling new teacher support in digital spaces
Assessment and planning for new teacher mentoring
Altruistic outcomes for mentors

Lesser Findings

Approaches enacted for connecting with mentees in digital environments (setting climate and connecting with mentees)
Strategies for gaining the full picture of mentee needs in digital environments (gaining access to the full picture)
Learning activities through mentoring manifested as informal plans determined during meetings as well as pre-planned experiences determined during mentor debrief meetings.

APPENDIX I

Andragogical Learner Analysis (Knowles, Holton, & Swanson, 2005)

Andragogical Principle	Expected influence of						
	Individual and situational differences				Goals and purpose for learning		
	Subject matter		Individual learner	Situational	Individual	Institutional	Societal
Adults need to know why they need to learn something before learning it.	X	Mentors planned for mentoring meetings with the wide range of subject matter information needed for mentee in mind. Often also identifying that mentees might not see the relevance of the information at first (Mentor debrief meeting footage, and mentor journals)		Some of the challenges experienced through the study appeared to be contextualized to the mentee's teaching environment (Megan's journey)	Mentees expressed a desire to improve their teaching to feel better prepared and more confident in their work (Mentee interviews, focus group, mentoring meetings)	The transition from preservice to in-service teaching needs a stronger bridge than is offered by the collection and review of materials from undergraduate preparation (Emma, mentoring meeting, mentee interviews, focus group)	By feeling better about their teaching, mentees were more likely to continue in the profession (follow-up correspondents with mentees, mentee interviews)

The self-concept of adults is heavily dependent upon a move toward self-direction	X	Despite familiarity to teaching assignments, the unexpected experiences encountered as new teachers required review of subject matter information with mentors (Mentor meetings, focus group)	Lower self-concept required higher support (Megan's journey)				
Prior experiences of the learner provide a rich resource for learning	X	Prior experiences in student teaching and teacher preparation will either support or present as a barrier to the information provided through mentoring (Mentor debrief meetings, Alison's story)			May have experienced few opportunities for self-directed learning within teacher preparation programs and what they did experience they might feel is less applicable to their current teaching environment (Focus group)		
Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task	X	The subject matter drives the need for information and learning because of the independence required for teaching full time (Emma's journey, Mandy's journey)	Each learner had particular areas of interest (Focus group, exit interviews)	Some of the challenges experienced through the study appeared to be contextualized to the mentee's teaching environment (Focus group)			

Adults orientation to learning is life-centered; education is a process of developing increased competency levels to achieve their full potential	X	The information provided through mentoring needed to be relevant while at the same time new information may create conflict for the mentee (Emma's journey)					
The motivation for adult learners is internal rather than external	X				High motivation due to the personal desire for success and external expectations of administration, students, and parents (Emma's journey, Megan's journey)		

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