

THESIS

STUDENT PERCEPTIONS OF ONLINE PEER LEARNING IN PRESERVICE MUSIC
TEACHER EDUCATION: MOTIVATION, SOCIAL-EMOTIONAL LEARNING, AND
CLASSROOM CLIMATE

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ABSTRACT

STUDENT PERCEPTIONS OF ONLINE PEER LEARNING IN PRESERVICE MUSIC TEACHER EDUCATION: MOTIVATION, SOCIAL-EMOTIONAL LEARNING, AND CLASSROOM CLIMATE

Music instruction has historically depended upon a master-apprentice model in which teacher-determined goals serve as the focal point of the classroom and reduce opportunities for collaboration among peers (Allsup, 2003; Green, 2008; Wis, 2002). However, collaborative learning practices, such as peer-assisted learning (PAL), have been established as effective instructional methods in a variety of music learning contexts (e.g., Alexander & Dorow, 1983; Duran et al., 2020; Goodrich, 2007; Johnson, 2013). Recently, scholars have extended investigations of collaborative learning practices into the realm of online learning environments (Altinay, 2017; Biasutti, 2011; Raymond et al., 2016; Shawcross, 2019; Thorpe, 2002). Peer-assisted learning experiences have been identified as one of many successful strategies for meeting the diverse needs of students in online contexts (Altinay, 2017; Keppell et al., 2006; McLuckie & Topping, 2004; Raymond et al., 2016; Razak & See, 2010); however, there is a lack of scholarly literature surrounding online PAL in the context of preservice music teacher education. Though online learning is not new in the realm of formal education, rapidly developing technologies have increased the impact and prevalence of online learning in many educational settings, including preservice music teacher education (Dumford & Miller, 2018; Statti & Villegas, 2020; Sandrone & Schneider, 2020). Specifically, growing health and safety concerns related to the spread of disease in a global pandemic have necessitated a shift in the

delivery of instruction from face-to-face settings to online classroom environments. Given the increasing demand for flexible online learning solutions, music educators would benefit from context-specific knowledge about the interaction of PAL solutions with online music learning environments. Therefore, the aim of this study was to explore student perceptions of an online PAL experience in a preservice music teacher education course through the self-reported lenses of student motivation (Elliot, 1999), social-emotional learning (CASEL, 2003), and classroom climate (Dwyer et al., 2004; Moos, 1979). Quantitative data were collected via questionnaire measures (Coryn et al., 2009; Elliot & Muarayama, 2008; Kaufmann et al., 2016; Kaufmann & Vallade, 2020) and follow-up interviews were conducted with four participants who were selected using a maximum variation sampling approach (Jones et al., 2013; Raymond et al., 2016). Data revealed that student perspectives were likely influenced by their individual motivation orientation, capacity for social-emotional learning, and perception of the online classroom climate. Interview participants provided further context to these findings by sharing their individual experiences with group interactions, peer feedback, student connectedness, and course structure.

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INTRODUCTION

Teaching is often touted as one of the highest forms of learning. The act of learning through teaching is frequently framed as an informal, pervasive part of everyday life (Piaget, 1936; Rogoff, 1990; Topping, 2005; Vygotsky, 1978). Music instruction has historically depended upon a master-apprentice model in which teacher-determined goals serve as the focal point of the classroom which can fundamentally reduce opportunities for collaboration among peers (Allsup, 2003; Green, 2008; Wis, 2002). Traditional teacher-centric didactic forms of instruction in formal education settings can also relegate students to fixed roles and limit opportunities for collaborative learning. An emerging body of literature indicates that collaborative learning practices are effective in a variety of music learning contexts (e.g., Alexander & Dorow, 1983; Duran et al., 2020; Goodrich, 2007; Johnson, 2013). One collaborative approach that has been evaluated in synchronous, face-to-face music education contexts is peer-assisted learning (PAL), which is defined as “the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions” (Topping, 2005). Extant research reveals that peer-assisted learning in music classrooms results in both academic and social achievement gains (Alexander & Dorow, 1983; Darrow et al., 2005; Duran et al., 2020; Goodrich, 2007; Goodrich, 2018; Jellison et al. 2015, 2017; Johnson, 2013, 2017; VanWeelden et al., 2017).

Different from teacher-centric learning, collaborative learning modalities such as PAL can enhance student learning by allowing them to occupy a multiplicity of roles. Motivation to learn can be reframed to exist on a continuum from observer to teacher, symmetrical to

asymmetrical in ability, and fixed or reciprocal in role switching dependent upon the social and cognitive relationships among students (Rogoff, 1990; Wenger, 1998).

Originally intended to be applied to face-to-face instructional realms, scholars have extended investigations of collaborative learning practices into the realm of online learning environments (Altinay, 2017; Biasutti, 2011; Raymond et al., 2016; Shawcross, 2019; Thorpe, 2002). Peer learning experiences have been identified as one of many successful strategies for meeting the diverse needs of students in online contexts; however, there is a dearth of scholarly literature surrounding online PAL in the context of preservice music teacher education (Altinay, 2017; Keppell et al., 2006; McLuckie & Topping, 2004; Raymond et al., 2016; Razak & See, 2010). Given the increasing demand for flexible online learning solutions across all subject areas, music educators may benefit from context-specific knowledge about PAL in online music learning environments.

Problem Statement

Online learning programs are not new in the realm of formal education; however, rapidly developing technologies have increased the impact and prevalence of online learning in many educational settings (Dumford & Miller, 2018; Statti & Villegas, 2020; Sandrone & Schneider, 2020). According to Bonk and Reynolds (1997), online learning environments that include challenging and interactive activities will enable learners to acquire meaningful knowledge and utilize their metacognitive abilities. Conversely, online environments can also foster feelings of social isolation, lack of immediate feedback, concerns with maintenance and sustainability, and an absence of non-verbal communication cues (Hayward, 2004; Keppell et al., 2011).

PAL has been established as an effective strategy to combat feelings of isolation and frustration online; however, educators face the difficult task of supporting numerous

psychological and environmental factors that can influence student learning in online collaborative environments (Biasutti, 2011; Raymond et al., 2016; Thomas et al., 2014). Varying perceptions of online teaching and learning that exist between students and instructors can exacerbate this challenge (Keppell et al., 2011). While examining student perspectives is perhaps the most salient way of gaining a deeper understanding of the influence of various psychosocial constructs (e.g., motivation orientation, skill related to socio-emotional learning, perceptions of classroom climate), little empirical research exists in relation to online collaborative environments (Kaufmann et al., 2016).

Notably, music educators face a unique challenge in adapting instructional methods and performance practices that can thrive in online and hybrid learning environments. The difficulty of this task is augmented due to the inherent complexities rooted in authentic delivery of music instruction (i.e., synchronous ensemble performances, artistic expression and interpretation, development and assessment of musical skills), yet there is little empirical data to guide effective instructional design choices that can positively impact music learning in online learning contexts. Further exploration of online PAL strategies in a preservice music teacher education environment will help to fill this gap in the literature base. Specifically, an examination of student motivation, social-emotional learning, and classroom climate will provide insight into student perceptions of the use of PAL in online music classrooms.

REVIEW OF LITERATURE

Peer-assisted learning (PAL) has been established as an effective instructional method for raising both academic and social achievement in a wide variety of contexts (Topping, 2005). Though PAL is supported by vast scholarly literature, there has been limited empirical research conducted in the context of online music education. The following review of literature is divided into two major sections: the first section addresses theoretical concepts underpinning peer-assisted learning and the second section contains a review of PAL research in both face-to-face and online learning contexts.

Collaborative Learning and Democratic Education

Collaborative learning is an instructional approach defined by integrative experiences that encourage conversation and conceptual learning among students (Cohen et al., 2004). Formal use of collaborative learning methods began to emerge in American classrooms in the mid 1970s; however, it may be one of the oldest forms of learning to take place informally amongst members of the human race (Piaget, 1936; Rogoff, 1990; Topping, 2005; Vygotsky, 1978). Collaborative learning differs from cooperative learning, which is typified by a division of labor approach, and is less teacher-centric than traditional instructional methods (Foot & Howe, 1998). In contrast to cooperative learning, students engaged in collaborative learning methods practice positive interdependence by working together in pairs or small groups toward a shared goal (Thousand et al., 2002).

Collaborative learning can help to bring to fruition many of the principles of a democratic education (Cohen et al., 2004; Apple & Beane, 2005). John Dewey (1859-1952), a progressive educational philosopher, conceived the notion of a democratic education as one that “enables

individuals to liberate and organize their capacities” through continual reorganization, reconstruction, and transformation of knowledge (Dewey, 1916, p. 10). Democratic learning environments stand in contrast to authoritarian, teacher-directed concepts of learning (Allsup, 2003; Dewey, 1916), which in turn may challenge the traditional lecture format found in both synchronous and asynchronous online learning environments. A democratic education should encourage the “open flow of ideas,” “critical reflection,” and sensitivity for “the welfare, dignity, and rights of others” (Apple & Beane, 1995, p. 6). Ideally, incorporating collaborative activities into online learning environments mirrors a democratic society by fostering an environment supportive of diverse student capabilities and encouraging students to explore their own opinions and understandings (Allsup, 2003; Dewey, 1916).

Facilitating a space for online collaborative learning requires the examination of traditional roles and participant structures (Allsup, 2003; Lave & Wenger, 1991; Rogoff, 1990; Woodford, 2005). Traditional didactic teaching approaches emphasize teacher-student interaction as a primary form of learning, while collaborative frameworks underline the importance of student-student interaction (Rogoff, 1990; Lave & Wenger, 1991). Peer-assisted learning (PAL) is one collaborative learning tool that embodies a democratic approach through presenting students with opportunities for heightened communication, individual choice, and shared experiences that can ultimately help students to become the architects of their own learning (Allsup, 2003; Dewey, 1916). Peer-assisted learning is characterized by instructional arrangements where peers actively help and support one another to gain knowledge and build skills (Topping, 2005). Inclusion of PAL in online learning environments can be used to foster a powerful social and academic network for achieving educational goals (McLuckie & Topping, 2004; Thorpe, 2002). Similarly, PAL has been used in music education contexts to further

deepen the understanding of musical concepts, promote an inclusive classroom setting, and increase rehearsal efficiency (Darrow et al., 2005; Goodrich, 2007; Johnson, 2011; Johnson, 2013; Johnson, 2017). Broadly, providing a structure for students to assume a greater share of the responsibility and accountability for their own education can nurture a culture of mutual respect and understanding that benefits students' personal development and sense of empathy (Zins & Elias, 2006).

Psycho-social Foundations of Peer-Assisted Learning

The educational benefits of PAL instructional methods stem from their ability to elicit and combine a multitude of facets essential to the learning process (Topping & Ehly, 1998). Working collaboratively affords students the opportunity to become active participants in their own learning process, increasing individual capacity for motivation, attention, questioning, and achievement. PAL instructional methods differ in emphasis specific to an array of developmental arenas. Some highlight personal responsibility and positive interdependence (Johnson et al., 2000). Others stress student engagement, organization, and reflection (Reid et al. 1990). Still, others focus on individual understanding, concept acquisition, and rule-based activities (Rogoff, 1990).

The fundamental aspects of PAL have been traditionally associated with two specific psychosocial theories of human development: Jean Piaget's *theory of genetic epistemology* and Lev Vygotsky's *sociocultural theory of development* (Topping & Ehly, 1998).

Piaget's Theory of Genetic Epistemology. Jean Piaget (1886-1980) was a Swiss psychologist whose *theory of genetic epistemology* sought to explain the nature of a child's development through observing the process related to how one constructs and confronts one's own knowledge. Piaget perceived knowledge as a biological function resulting in the maturation

of an individual as they move through the processes of *assimilation* (perceiving a new event or object within the context of existing schema) and *accommodation* (reorganizing existing schema to adapt new information) (Piaget, 1932). The process of cognitive conflict whereby a learner engages with *assimilation* and *accommodation* is thought to highlight how a learner adapts or adopts new knowledge within a pre-existing schema of prior understanding. Piaget's theory maintains that cognitive conflict propels the individual to engage in equilibrium (i.e., the reconciliation of conflict by rearranging, reforming, or adapting existing mental schemas) which ultimately serves as the impetus for development and learning.

Neo-Piagetian scholars extended this theory by asserting that development is rooted in cognitive conflict within the realm of social interactions, otherwise known as sociocognitive conflict (Doise & Mugny, 1984). Sociocognitive conflict arises when individuals hold differing views regarding the same event or object and it has the potential to stimulate an environment that promotes learning, cognitive development, and positive social relations (Butera et al., 2019). Foot and Howe (1998) construe group interaction as a catalyst for individual reflection and consolidation by suggesting that successful collaboration occurs when an individual extracts reasoning expressed by another and transforms it through justification, clarification, or elaboration. These interactions may lead to joint constructs; however, they are also consistent with the Piagetian notion that debating differences has the possibility to engender them (Topping & Ehly, 1998). Thus, there is a clear implication that collaboration between students is enhanced when beliefs differ, promoting cognitive conflict and ultimately stimulating intellectual development (Doise et al., 1998). Still, additional information is needed to validate these findings in the context of music education, specifically in the realm of online learning.

Vygotsky's Sociocultural Theory of Development. Lev Vygotsky (1896-1934) was a Russian psychologist who theorized that factors outside of biological instincts influence human action. Vygotsky viewed learning as the outcome of interpersonal interactions and joint cognitive activities which in turn enabled a child to restructure their own individual cognitive processes. According to Vygotsky, development was characterized by mediating factors that are “social, not organic or individual...they are the product of historical development and are a form of behavior unique to humans” (Vygotsky, 1981, p. 137). In Vygotsky's view, humans are distinguished by a set of higher mental processes (i.e., thinking, reasoning, and understanding) that are influenced by cultural context. Learning originates as a result of social interaction between individuals (interpsychological) and is then processed internally on an individual psychological level (intrapsychological). Vygotsky distinguishes these distinct processes in the following statement:

“Any function in the child's cultural development appears twice, or in two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts, and the development of volition” (Vygotsky, 1978, p. 163).

Vygotsky emphasized that development takes place as a result of complementary, asymmetrical relationships in which one individual is seen as the more knowledgeable expert and thus able to guide and encourage the less capable other. Learning occurs through shared experiences that take place in what Vygotsky called the *zone of proximal development (ZPD)* in which an individual is stretched to the edge of what they can comprehend individually and then provided assistance from a more capable other. Vygotsky characterized the ZPD as:

“the difference between the level of individual achievement as determined through independent problem solving and the level of potential achievement with adult guidance or in collaboration with more capable peers. The zone of proximal development defines those functions that will mature tomorrow but are currently in an embryonic state. These functions could be termed the ‘buds’ or ‘flowers’ of development rather than the ‘fruits’ of development” (Vygotsky, 1978, p. 86).

According to Tharp and Gallimore (1998), individual learning takes place when the more capable peer provides assistance at necessary points during interactions when in the ZPD. Their *theory of teaching as assisted performance* presents the ZPD as a recursive four-stage process where the learner unpacks their own learning through transitions in the following process: (1) assisted performance, (2) assistance provided by self, (3) internalization, automatization, and no assistance needed, to (4) enhancement, improvement, and maintenance by revisiting prior stages. The implication of this model is the potential for both the novice and the expert helper to operate simultaneously by proceeding through various levels of the ZPD in recursive cycles. Therefore, while the novice is developing competence through assistance in a collaborative PAL arrangement, the helper is engaged in their own meaningful learning process by enhancing and maintaining knowledge through reflection, de-automatization, and observation (Tharp & Gallimore, 1991).

Psychosocial Approaches to Peer-Assisted Learning. Taken together, Piagetian and Vygotskian processes can help to clarify PAL in educational practice. Piaget and Vygotsky theorize learning as an active, inquiry-based process. While the distinction remains that Piaget takes a structural, cognitive approach and Vygotsky highlights external, sociocultural influences, both theoretical premises highlight the cognitive and social realms of learning as complementary,

rather than contradictory processes. Each approach has inspired general recommendations for peer learning techniques; however, the richness of PAL is rooted in organic, context-specific interactions that may not emulate a specific model or theoretical doctrine. This may be especially true given the unique challenges inherent online music learning environments.

Practicing teachers will note several widely used PAL techniques described later in this chapter that are intended to serve different purposes, but it remains that teachers should become actively involved in creating and experimenting with PAL techniques. Well-designed PAL endeavors can offer students time and encouragement to engage in rich, meaningful interactions and ultimately empower students to investigate, organize, and clarify their own opinions and understandings.

Psycho-Social & Environmental Factors Related to PAL

According to Piagetian and Vygotskian theories, learning is processed by the student on two distinct planes: individual and environmental. Both individual motivation and unique social-emotional needs of students can impact their internal processes and approach to relationships with instructors, peers, and course material in collaborative settings (Johnson, 2013; Zins & Elias, 2006). Conversely, classroom climate consists of external and relational factors that influence a student's perception of their learning environment. Taken together, information related to these constructs can provide invaluable information into how a student's learning process is shaped in the context of collaborative learning activities in both face-to-face and online realms.

Motivation Orientation. Individual student motivation orientation has potential to influence how students learn when they collaborate with peers (Johnson, 2013). The field of academic motivation is divided up into numerous theories; however, underlying motivational

impetus has traditionally been characterized as either intrinsic or extrinsic (Ryan & Deci, 2000). Intrinsically motivated students are more likely to act upon curiosity and interest facilitated by internal forces while students who are extrinsically motivated act on a desire for approval and define their competence in relation to others (Ryan & Deci, 2000). Intrinsic and extrinsic motivation orientation has been linked to the fulfillment of three universal needs: autonomy (a sense of control and agency), competency (feeling capable of undertaking tasks and activities), and relatedness (feeling a sense of belonging and inclusion) (Deci & Ryan, 1985). Deci and Ryan posit that social environments supportive of these three needs help advance students along a continuum from controlled, extrinsic motivations and will in turn foster autonomous, intrinsic motivations. Thus, a collaborative learning experience in which students are the purveyors of their own learning would be an ideal environment in which to examine student motivation orientations.

Nested within the realm of achievement goal theory, motivation orientation is synonymously reframed from intrinsic and extrinsic motivational categories and conceptualized as mastery and performance goal orientations (Ames, 1992; Dweck, 1986; Elliott, 1999). Individuals who possess mastery goal orientations are propelled by an internal desire to achieve for the sake of one's own satisfaction; however, individuals with performance goal orientations are motivated by a desire to demonstrate competence for others (Elliott, 1999). According to Elliot (1999), mastery and performance orientations are further subdivided via a "valence" effect whereby individuals embody "approach" or "avoid" lenses through which they enact their specific orientation. A person who holds an approach valence seeks to achieve a positive outcome (approach success) where a student who holds an avoid valence seeks to avoid a negative outcome (avoid failure). Conceivably, a student's motivation orientation may guide

their behavior while engaged in PAL (e.g., more or less competitive, willing or unwilling to engage with others) while also impacting the degree to which that student is able to learn. Still, further examination is needed to understand the interaction of motivation orientations in the context of PAL (Johnson, 2013).

Social-Emotional Learning. Social-emotional learning (SEL) refers to an essential set of competencies that reflect a student's ability to recognize and manage emotions, solve problems effectively, and establish positive social relationships (Zins & Elias, 2006). The Collaborative for Academic, Social, and Emotional Learning (CASEL) describes SEL as the process of acquiring and effectively applying the knowledge, attitudes, and skills necessary to manage emotions, develop concern for others, make responsible decisions, establish positive relationships, and handle challenging situations appropriately (CASEL, 2003). Broadly conceived, the goal of SEL is to assist students in effectively navigating the social and emotional contexts of the classroom while developing positive behaviors with long-term implications.

Social and emotional needs of children can have profound impacts on academic achievement and the development of positive interpersonal relationships; however, students can learn to develop and apply SEL similarly to the way in which they acquire and implement academic skills in the classroom. (Zins et al., 2004). The field of SEL developed from work in both emotional and multiple intelligences (Goleman, 1995; Gardner, 1983) and has since expanded into a universal intervention intended to address social competence, character education, and mental health for all students in educational environments (Merrell & Gueldner, 2010). There are five key competencies which are taught, practiced, and reinforced through educational programming of SEL (CASEL, 2003):

- *Self-awareness* - the identification and recognition of emotions and their influence on behavior; the ability to accurately assess strengths and limitations in self and others; and a sense of self-confidence and self-efficacy;
- *Social awareness* - the ability to take various perspectives, empathize with others from diverse backgrounds and cultures, and to understand social and ethical norms for behavior;
- *Responsible decision making* - the ability to evaluate and make constructive and respectful choices; regulate personal behavior and social interactions based on ethical responsibility; and evaluate consequences of various actions on self and others;
- *Self-management* - the ability to regulate one's emotions, thoughts, and behaviors; manage stress, controlling impulses, motivate oneself; and achieve personal and academic goals;
- *Relationship skills* - the establishment and maintenance of healthy relationships; clear communication and cooperation; constructively negotiating conflict; and seeking and offering help when appropriate.

Zins and Elias (2006) suggest that these competencies are most effectively taught within caring, supportive, and well-managed learning environments. Furthermore, skills such as student autonomy, self-discipline, and ethics are more likely to grow in environments that encourage mutual respect, cooperation, caring, and decision making (Bear, 2005). Thus, collaborative learning environments are ideal for examining SEL because they provide access and space for students to try new learning activities, address personal needs, practice decision making, and establish positive interpersonal relationships with both peers and adults.

Zins (2004) posits that collaborative learning environments are conducive to SEL because they alter the instructional process so that “students not only experience the excitement of learning academic material from one another, but they also develop important skills in negotiation and conflict resolution, and a peer culture for supporting academic achievement is developed” (p. 12). Collaborative experiences tend to promote greater social support, higher satisfaction, and a positive commitment to both self and group success (Johnson & Johnson, 1989; Johnson & Johnson, 2003). Specifically, PAL supports the high quality and frequent social interactions that are necessary to build self-awareness and interpersonal skills essential to SEL. Examining peer-assisted learning activities through the lens of SEL could provide valuable insight into student perceptions and experiences given that social-emotional and psychological constructs have been identified among the greatest influences on school performance (Wang et al., 1993).

Classroom Climate. Collaborative learning environments have the potential to affect classroom climate due to their influence on peer interaction, communication, and relationships. Classroom climate concerns the perceived connection, rapport, and affinity among teachers and students (e.g., Cooper, 1995; Dwyer et al., 2004; Frisby & Martin, 2010; Myers, 1995). Positive classroom climates can conceivably impact learning outcome achievement (Kerssen-Griep et al, 2008), interaction and engagement (Dwyer, et al, 2004), and student motivation to learn (Mazer et al., 2007). Notably, fostering a sense of community and connectedness among students has been linked with greater affinity for school, feelings of empathy toward others, and higher self-efficacy (Battistich et al., 1995; Schaps et al., 1997). However, lack of social support may beget feelings of stress, difficulty adjusting to school, and negative academic performance (Cutrona et al., 1994; Demakis & McAdams, 1994; McGrath et al., 2000). Specifically, classroom climate

has become an area of interest for schools as they begin to offer more online learning opportunities.

Online learning. Students in online classes report higher levels of perceived loneliness than peers in face-to-face courses due to a lack of the interpersonal connections that are experienced as a product of physical proximity in face-to-face settings (Ali & Smith, 2015). Turkle (2011) suggests that virtual settings can afford “an illusion of companionship without friendship” which leaves online learners feeling “alone together” ultimately perpetuating a sense of loneliness among students. These phenomena have been witnessed by other researchers who have also highlighted meaningful social connections as a predictor of success in online learning environments (Kaufmann et al. 2016; Kaufmann & Vallade, 2020). According to Kaufmann et al. (2016), student connectedness refers to perceptions of interaction opportunities among peers. Kaufmann and colleagues explained that when climate-building occurs through positive student-student interactions, this creates a sense of community online (Song et al., 2004) and increases feelings of connectedness (Vonderwell, 2003; Woods, 2002).

According to Frisby and Martin (2010) student-student rapport is strongly related to the development of a positive classroom climate. Students have a need to feel “confirmed as a student and often as a person” (Mottet et al., 2006) and several researchers have noted the impact of prosocial relationships and rapport among peers on student experiences (e.g., Frisby & Martin, 2010; Frymier & Houser, 2000). Peer climate also has the potential to predict perceptions of achievement, belongingness, and academic efficacy (Nelson & DeBacker, 2008) and students are more likely to participate when they perceive a positive interpersonal climate in the classroom (Neer & Kircher, 1989). Rapport has been highlighted as an important component for establishing a positive classroom climate; however, these perceptions have only recently been

studied in an online learning context (Kaufmann & Vallade, 2020). Given that PAL has been used to foster meaningful student interaction across a variety of educational contexts, it will be valuable to explore student experiences with classroom climate during online PAL activities.

Peer-Assisted Learning Research

Peer-assisted learning, situated in the realm of collaborative learning, is defined as “the acquisition of knowledge and skill through active-helping and supporting among status equals or matched companions” (Topping, 2005, p. 631). PAL has been established as a unique form of collaborative learning with the potential to positively impact both academic achievement and social interactions in a variety of contexts and subject areas (Cohen et al., 1982; Ginsburg-Block et al., 2006; McMaster et al., 2006; Robinson et al., 2005; Rohrbeck et al., 2003; Roscoe & Chi, 2007). PAL arrangements encompass a wide range of instructional practices and students may engage informally in several different kinds of PAL while working collaboratively. Myriad opportunities exist for PAL to be operationalized in the classroom through a variety of diverse instructional practices and organizational dimensions, including (McLuckie & Topping, 2004; Topping & Ehly, 2001):

- objectives—cognitive, social, attitudinal, transferable skill gains;
- curriculum content;
- characteristics of helpers;
- characteristics of helped;
- method—peer tutoring, assessment, modelling, monitoring, etc.;
- within or between institutions;
- within or across year groups;
- same or across ability matching;
- contact constellations—1:1, 1:4, 2:6, etc.;
- fixed or reciprocal roles;
- timing—class time/unscheduled time;
- location—formal/informal;
- voluntary or compulsory;
- extrinsic reinforcement provided or not;
- online/offline or a mixture.

Overview of PAL Arrangements. The broad range of available PAL arrangements can promote a reconceptualization of the notion that peer learning experiences are only for gifted or advanced learners. Both academic and SEL benefits of PAL have been noted with special needs learners, economically disadvantaged students, minority populations, and across urban, suburban, and rural demographics (Rohrbeck et al., 2003; Ginsburg-Block et al., 2006). Several commonly recognized PAL methods have emerged in scholarly and practitioner literature over the past four decades:

- *Peer assessment* - an arrangement during which students determine the “amount, level, value, worth, quality, or successfulness of the products or outcomes of learning of others of similar status” (McLuckie & Topping, 2004). Feedback in peer assessments can take many forms: qualitative or quantitative, formative or summative, and in person or online (McLuckie & Topping, 2004).
- *Peer modeling* - a method in which a competent exemplar is intentionally highlighted for the purpose of demonstrating desirable learning behaviors (Topping & Ehly, 1998).
- *Peer monitoring* - encompasses observation, reinforcement, and instruction of peers to maintain appropriate social and academic procedures in a learning environment (Topping & Ehly, 1998). The product of peer monitoring is recorded data that can be used in an assessment function, to identify areas of need for individual students, and to inform future interventions.
- *Peer tutoring* - characterized by a fixed participant structure during which one student assumes the role of the tutor while another student (or group of students) remains the tutee for the duration of the arrangement (Topping & Ehly, 1998). Peer tutoring is a

widely recognized method of PAL that can be utilized within the curricular structure of any subject area (Topping & Ehly, 1998; Topping & Ehly, 2001).

- *Class-wide peer tutoring* - a type of peer tutoring distinguished through the involvement of an entire class of same-age students who are placed into dyads to aid each other in the development of basic academic skills (Delquadri et al., 1983).
- *Reciprocal peer tutoring* - a type of peer tutoring which transforms the participant structure through a structured switching of roles providing each student with an opportunity to act as the helper (Topping & Ehly, 2001).

Though each of these arrangements have been used in an array of educational settings, individual contextual factors (e.g., age, socioeconomic status, group size, desired achievement or social outcomes) should be taken into account when considering the use of PAL in a particular context. Specifically, reciprocal peer-tutoring may be particularly beneficial in an online learning environment given that the development of positive interpersonal relationships is essential to both SEL and classroom climate.

Reciprocal Peer Tutoring. Reciprocal peer tutoring (RPT) transforms the participant structure through a structured switching of roles providing each student with an opportunity to act as the helper (Topping & Ehly, 2001). RPT was originally developed as a learning intervention that paired together low-achieving elementary students; however, RPT has since become a widely recognized PAL strategy with benefits for all students (Fantuzzo et al., 1992; Johnson, 2013; Mastropieri et al., 2000; Topping, 2005). Flexibility and strategic role switching within groups are key components to the success of reciprocal learning in collaborative classroom environments (Lave & Wenger, 1991; Rogoff, 1990; Topping & Ehly, 2001). For example, students may be placed in symmetrical arrangements with students of similar ability or

asymmetrical arrangements with students of divergent ability (Foot & Howe, 1998). In an online learning context, this would provide practicing teachers with increased opportunities to observe student learning in a variety of contexts that may not occur naturally in online environments. Additional advantages of RPT include (a) increased opportunity for student responses, (b) higher frequency of error corrections, (c) individualized help and encouragement, and (d) collaborative student efforts directed toward a common goal (Greenwood et al., 1995). RPT has possible applications for both social and academic growth in an online learning environment given the potential for students to build feelings of confidence and success by serving as a powerful educational resource for one another (VanWeelden, et al., 2017).

PAL in Face-to-Face Contexts. It is apparent that PAL is a salient topic in the current educational landscape given the number of intervention studies and meta-analyses that have been conducted regarding PAL in the general education classroom (Cohen et al., 1982; Ginsburg-Block et al., 2006; Li et al., 2020; McMaster et al., 2006; Robinson et al., 2005; Rohrbeck et al., 2003; Roscoe & Chi, 2007). PAL arrangements have been evaluated in the context of (a) diverse demographic contexts, (b) K-12 and higher education settings, (c) subject areas such as math, reading, and medical education, and (d) special needs learners. Additionally, a small amount of empirical research on PAL in music education has identified positive musical, social, and academic benefits of peer learning interactions in music contexts (Alexander & Dorow, 1983; Darrow et al., 2005; Duran et al., 2020; Goodrich, 2007; Johnson 2011, 2013, 2017; Lebler, 2007). Existing research has been focused largely on elementary populations, though several studies have unpacked a variety of participant structures in secondary instrumental and higher education settings (Goodrich, 2007; Johnson 2011, 2013, 2017). Collectively, meta trends that have emerged from these bodies of literature highlight both social and academic achievement

gains, demonstrating the ability for PAL to be used effectively in a wide range of educational contexts.

PAL in Online Learning Contexts. Extant research also supports peer learning as an effective tool for enhancing online learning environments by engaging learners through collaborative experiences. Thorpe (2002) suggests that students benefit when offered a role in shaping and designing activities in online collaborative environments. While curricula and course materials may be prepared in advance, they cannot respond and adapt to a known learner in the same manner that a peer or tutor can. Facilitating effective online collaborative learning requires a reorganization of interaction so that learners are available to each other and the teacher, often in both synchronous and asynchronous environments. Thorpe suggests that learning groups can expand online learning from the traditional "independent learning" scenario to one in which learners can continue to realize their individual learning needs by working within effective learning groups, rather than in isolation.

Further research concerning online peer learning environments reveal notable differences in individual student experiences (Altinay, 2017; Biasutti, 2011; Seddon & Biasutti, 2009). Raymond et al. (2016) explored the perspectives of undergraduate nursing students working in online peer group sessions during a pharmacology course. Participants cited convenience and ease of completion as advantages of peer learning while disadvantages included technology complications, communication, or non-preferred learning method. Data from this study suggests that online peer learning can help mitigate feelings of isolation and enhance the overall experience of online learning. However, in a study of an online community of practice, Shawcross (2019) found that students felt uncomfortable labeling themselves as "experts" and showed a preference toward engaging in teacher-assigned tasks over designing or exploring their

own projects. Furthermore, online discussions also lacked depth due to an imbalance in student participation levels.

Biasutti (2011) found that students experienced more success and a higher level of satisfaction in smaller groups with higher levels of participation. Potential roadblocks to virtual collaborative learning included large group sizes, non-participating group members, and teacher awareness of participant experiences. Altinay (2017) utilized cultural historical activity theory as the theoretical framework for an investigation into how collaboration and socialization can be supported in an online context. Participant responses indicate that the online peer learning process fosters communication and social interaction between learners, increasing the overall value of satisfaction among learners. Additionally, collaborative online practices encouraged student responsibility for learning, self-assessment, and reflective thinking skills.

Broadly, research suggests that facilitating online collaborative learning can spark a powerful network for achieving educational goals; however, online interactions can easily become dominated by social conversation rather than intellectual challenging content (Miller & Wallace, 2002; Rourke & Anderson, 2002). Additionally, online peer communication can be underused, unproductive, or even damaging if not facilitated correctly (Thomas, 2002) and instructors and professional facilitators are not always readily available due to the asynchronous nature of communication (Rada, 1998).

Methods of online PAL delivery vary from synchronous to asynchronous and hybrid to entirely remote; therefore, important forms of interaction which are inevitable in face-to-face PAL may struggle to develop in online environments. Several authors have proposed typologies of peer interaction in online learning environments (Henri, 1991; Sharpe & Bailey, 2002; Tagg & Dickinson, 1995). Henri (1991) proposed a hierarchical classification system involving an

ordering of processes from participative, social, interactive, cognitive, and meta-cognitive. Tagg and Dickinson (1995) proposed a set of analytical categories relevant to the responsibilities of a peer tutor: organizational, socio-affective, acknowledging, reinforcing, guiding, requesting, and summarizing.

- *Organizational* - activities that relate to the way in which peer groups organize their work together through technological, pedagogic, and social elements;
- *Socio-affective* - elements that are related to the way in which a group interacts and builds interpersonal relationships. Specifically, asynchronous communication may have a different impact on relationships in collaborative learning environments as it lacks the immediacy of face-to-face contact;
- *Acknowledging* - activities which simply involves students intentionally acknowledging others' contributions, without any evaluation, in order to sustain contact in a virtual setting;
- *Reinforcing* - an explicit positive evaluation of another's contribution while *guiding* extends discussion into a more reflective mode;
- *Requesting* - enters into a more interactive realm where peers are intentionally bringing one another into the discussion via a question/answer format.
- *Summarizing* - activities should take place throughout collaborative tasks as they serve as a checkpoint for discussion regarding decisions about next steps.

Sharpe and Bailey (2002) expanded upon these categories with the area of *reflection*, or the process in which a student questions their own beliefs as a result of having engaged in PAL activities. Given this background literature, McLuckie and Topping (2004) developed five overall areas of criteria for determining the effectiveness of a peer-assisted learner in online

discourse (see Table 1). The authors suggest that instructors should pay particular attention to the social/affective and interactive processes which can be the most challenging and at risk for under-emphasis in an online environment.

Table 1.

Areas for assessing online peer-assisted learning skills (McLuckie & Topping, 2004)

1. Social/affective	Initiate, participate, share, acknowledge
2. Organizational	Plan, draw on course, draw on experience
3. Interactive process management	Role, clarification, request, build, give feedback, reinforce
4. Cognitive interactive	Generate ideas, guide
5. Reflective/evaluative	Assess, reflect, summarize, meta-cognition

Opportunities to support teaching and learning in an online format are becoming more commonplace as technology becomes more pervasive to everyday life (McLuckie & Topping, 2004). Educators across all contexts would benefit from empirical data that provides insight into student experiences and informs the implementation of PAL as a way to enhance online student learning. The act of teaching or learning from a peer has shown social and interpersonal benefits, specifically helping students adopt a more empathetic disposition and increasing the frequency of positive social interactions (Franca et al. 1990; Maheady & Sainato, 1985). However, the inherently social aspects of music teaching and learning are directly challenged in an online learning environment, yet the field of music education is lacking in resources to address this concern. Further investigations of learner experiences from an emic perspective will help provide insight into how online PAL arrangements interact specifically with music learning in a preservice music teacher education context.

Chapter Summary

Given that PAL can impact student learning in both individual and social ways, it is important to understand how an individual's motivation, social-emotional learning, and

perceived classroom climate interact in different PAL arrangements, particularly in an online learning environment. Clarified through both Piagetian and Vygotskian learning theories, PAL is supported by a vast body of scholarly literature that highlights educational successes with special needs learners, economically disadvantaged students, minority populations, and across urban, suburban, and rural demographics (Rohrbeck et al., 2003; Ginsburg-Block et al., 2006). While primarily in the realm of face-to-face instructional contexts, research on PAL has shown that a variety of PAL arrangements can be successful in improving social and academic outcomes across a wide variety of subject areas (Cohen et al., 1982; Ginsburg-Block et al., 2006; Li et al., 2020; McMaster et al., 2006; Robinson et al., 2005; Rohrbeck et al., 2003; Roscoe & Chi, 2007). PAL has also been shown to be successful in music education (Alexander & Dorow, 1983; Darrow et al., 2005; Duran et al., 2020; Goodrich, 2007; Johnson 2011, 2013, 2017; Leber, 2007) and separately in online learning environments (Altinay, 2017; Biasutti, 2011; Raymond et al., 2016; Shawcross, 2019; Thorpe, 2002). As noted by Keppell et al. (2011), student perceptions serve as an invaluable resource for understanding effective design and implementation of PAL across all contexts. However, empirical data is still needed understand how PAL and online learning interact specifically related to student perceptions of online peer learning activities in music education environments.

Need for Study

Collaborative learning arrangements such as PAL thrive in a variety of educational contexts and subject areas (e.g., Altinay, 2017; Biasutti, 2011; Jellison et al., 2015; Johnson, 2013; Roscoe & Chi, 2007); however, there is a lack of research on the impact of collaborative learning structures on student learning in online music classrooms. An examination specific to

how student perceptions of peer-assisted learning arrangements in online learning contexts can elucidate a deeper empirical understanding of how students experience peer interactions.

Research Question

The purpose of this study was to explore a nest of student perceptions theoretically linked with PAL (i.e., motivation, social-emotional learning, and classroom climate) in the context of online peer learning experiences in music. The research question addressed in this study was:

- What are student perceptions of online peer-assisted learning experiences through the lenses of motivation, social-emotional learning, and classroom climate in an introductory music education course?

Definitions

Classroom Climate - The perceived connection, rapport, or affinity between instructor and students derived from relationships between instructor, students, and course structure (Dwyer et al., 2004; Moos, 1979)

Collaborative Learning - An instructional arrangement that involves a pair or small group of learners engaging in a communal task where each individual relies upon and is accountable to other group members (Thousand et al., 2002)

Motivation Orientation – Describes the way in which a student is motivated to pursue competence in a given domain (e.g., task mastery or performance relative to others) (Elliot, 1999).

Online Learning - The use of the internet to access learning materials; to interact with the content, instructor, and other learners; and to obtain support during the learning process in order to acquire knowledge, to construct personal meaning, and to grow from the learning experience (Anderson, 2008)

Peer-Assisted Learning (PAL) - The acquisition of knowledge and skill through active helping and supporting among status equals or matched companions who are not professional teachers (Topping & Ehly, 2001)

Social-Emotional Learning (SEL) - the process of acquiring and effectively applying the knowledge, attitudes, and skills necessary to recognize and manage emotions, develop concern for others, make responsible decisions, establish positive relationships, and handle challenging situations appropriately (CASEL, 2003)

Delimitations

Data collection was limited to the measurement of student perceptions via motivation orientation, SEL, classroom climate and semi-structured interviews with four participants during preservice online PAL experiences in an introductory preservice music teacher education course at a large land grant university in the western United States. The use of PAL in ensemble classes or other musical contexts was not investigated. Self-reported participant data was limited to the context of multiple online PAL experiences embedded into the overall course curriculum of a hybrid course that included both face-to-face and online learning modalities due to safety protocols related to the COVID-19 pandemic.

METHODOLOGY

The purpose of this study was to explore student perceptions of online peer-assisted learning experiences in a preservice music teacher education environment through the lenses of motivation orientation, social-emotional learning, and classroom climate. A quantitative survey design was selected in order to depict the overall student learning experience of the class while the inclusion of follow-up participant interviews provided insight into the unique experiences of individual students. Data were gathered via (1) the revised achievement-goal orientation questionnaire (AGQ-R) developed by Elliot and Maruyama (2008) to measure student motivation orientation, (2) the social-emotional learning scale (SELS) developed by Coryn et al. (2009) to measure SEL in individual students, and (3) the online learning climate scale (OLCS) developed by Kaufmann et al. (2016) to measure perceived classroom climate through instructor behaviors, student characteristics and behaviors, and course-specific structural issues (see Appendices E, F, G). Follow-up interview data were collected using a maximum variation sampling approach (Creswell, 2017) to identify and select a sub-set of participants who demonstrated a wide variety of characteristics as referenced in their questionnaire responses specific to motivation orientation, SEL, and classroom climate. Examining the individual and environmental factors of motivation, SEL, and classroom climate using a questionnaire and follow-up interviews were used to paint a vivid and in-depth portrait of student perceptions and experiences.

Quantitative Questionnaire

Setting

This study took place as a part of an introductory music education course at a large public land-grant university in the Western United States. The university that participated in this study has a total enrollment of approximately 33,000 students and encompasses a wide range of demographics, communities, and settings. According to demographic information from the university, the student body consists of: 70% White, 15% Hispanic/Latino, 6% Multi-Racial, 4% Asian, 3% Black, 1% Hawaiian/Pacific Islander, 1% Native American. Additionally, 20% of students enrolled in the university during the Fall 2020 semester are first-generation college students. As a public research institution, the university has been recognized for contributions to cancer research, animal sciences, and climate change. One introductory music education course at this university was selected for participation in this study based upon the inclusion of online peer-assisted learning activities embedded into the overall course curriculum.

Learning Environment. The start of the Fall 2020 semester marked the first time students returned to campus for face-to-face instruction since moving to an online learning format in March due to the COVID-19 pandemic. Upon returning to campus, health and safety protocols were strictly enforced and included: a minimum of a 6-foot distance between all students and instructors, mandatory face coverings, required disinfecting of all surfaces before and after use, and limitations on time spent in classrooms. Due to ongoing research about the spread of aerosols in music ensemble settings, playing wind instruments and singing in face-to-face classroom settings was not permitted at any time during the Fall 2020 semester when the study took place.

All students in the introductory music education course engaged in a practicum experience which had previously included travel to local secondary public schools to observe practicing teachers and experience teaching students in small groups; however, health and safety protocols necessitated a shift from this traditional format. Therefore, the introductory music education course began meeting face-to-face and then transitioned to an online format for the practicum unit. An online format was chosen in order to a) provide students with an authentic teaching context and b) allow students to engage in singing and music making safely.

Learning Activities. The practicum unit consisted of several different online peer-assisted learning experiences:

- One-on-one peer teaching: participants designed and taught a lesson to one other peer in the course
- Collaborative peer teaching: participants co-designed and co-taught a lesson to another group of students in the course
- Peer feedback: participants provided feedback and evaluations on one another's teaching
- Group observations: participation in guided discussion and reflection activities based on observations of pre-recorded face-to-face teaching videos

Participant groups were assigned by the instructor and rotated throughout the peer-assisted learning activities. A timeline and description of each activity is included in Table 2.

Table 2.
Timeline of Peer-Assisted Learning Activities

Date	Activity	Description
10/1	Practicum Introduction	All students are introduced to the online practicum unit and participants submit informed consent.
10/13	Peer Teaching Round 1 (<i>one-on-one via Zoom</i>)	In pairs, participants alternate teaching their lessons and acting as the student. Afterward, participants submit lesson plans, peer feedback forms, and a video recording of their teaching.
10/15	Class Discussion	With instructor guidance, participants reflect and share their teaching experiences.
10/20	Peer Teaching Round 2 (<i>group teach via Zoom</i>)	Each group takes a turn co-teaching a lesson to another group of students, and then acting as the students while the other group teaches. Afterward, participants submit lesson plans, peer feedback forms, and a video recording of their teaching.
10/22	Class Discussion	With instructor guidance, students reflect and share their teaching experiences.
10/27	Peer Teaching Round 3 (<i>solo teach via Zoom</i>)	Participants take turns solo teaching to a small group of peers. Afterward, participants submit lesson plans, peer feedback forms, and a video recording of their teaching.
10/29	In-Class Discussion	With instructor guidance, participants reflect and share their teaching experiences.
11/1	Questionnaire	Participants are contacted to complete the questionnaire via a Qualtrics survey. Responses are used to identify potential follow-up interview participants.
11/3	Guided Observation 1 (<i>via Zoom</i>)	Students meet virtually in small groups to view videos of music educators teaching in face-to-face settings. With instructor guidance, students observe and discuss. Afterwards, students submit an observation reflection document.
11/10	Guided Observation 2 (<i>via Zoom</i>)	Students meet virtually in small groups to view videos of music educators teaching in face-to-face settings. With instructor guidance, students observe and discuss. Afterwards, students submit an observation reflection document.
11/17	Guided Observation 3 (<i>via Zoom</i>)	Students meet virtually in small groups to view videos of music educators teaching in face-to-face settings. With instructor guidance, students observe and discuss. Afterwards, students submit an observation reflection document.
12/1	Guided Observation 4 (<i>via Zoom</i>)	Students meet virtually in small groups to view videos of music educators teaching in face-to-face settings. With instructor guidance, students observe and discuss. Afterwards, students submit an observation reflection document.
12/3	Follow-Up Interviews	Interview participants meet virtually with researcher.

Participant Selection

Potential participants for the study included all students enrolled in an introductory music education course at a large public land-grant university in the Western United States in the Fall 2020 semester. Students were invited to participate in the study via an invitation email (Appendix C). Participants received a link to complete the online questionnaire once informed consent was obtained. Out of 34 total students enrolled in the course, 27 opted to participate in the study, yielding a response rate of 79.4% for the quantitative questionnaire.

Questionnaire Measures

Motivation Orientation. The achievement-goal orientation questionnaire was originally developed by Elliot and McGregor (2001) and revised by Elliot and Murayama (2008) in order to measure each motivation orientation: mastery-approach, mastery-avoid, performance-approach, and performance-avoid. The questionnaire consists of twelve items, with three items designated to measure each motivation orientation. Participants responded using a 5-point Likert-type scale ranging from “strongly agree” to “strongly disagree” and items representing each orientation were presented in a random order.

Social-Emotional Learning. The Social Emotional Learning Scale (SELS; Coryn et al., 2009) is a self-report instrument designed to measure three aspects of social-emotional learning: task articulation (TA), peer relationships (PR), and self-regulation (SR). Items were developed in alignment with CASEL categories: TA items relate to responsible decision making, PR items relate to self-awareness and relationship skills, and SR items relate to self-awareness and social management. The SELS is a 20-item scale anchored by five response options ranging from “strongly disagree” to “strongly agree”. The instrument was developed for use with elementary-aged students and was adapted by the researcher for college-age participants.

Classroom Climate. The 15-item online learning climate scale (OLCS; Kaufmann et al., 2016) was used to measure climate (see Appendix G). The OLCS is a 7-point Likert, multi-dimensional measure, with a response scale ranging from “strongly disagree” to “strongly agree”. The scale consists of variables related to teacher roles and behaviors, student characteristics, and course-specific structural issues to explain how students perceive climate in an online classroom. The development of the OLCS was informed by related scales including Dwyer et al.’s (2004) Classroom Communication Connectedness Inventory and Gokcora’s (1989) Classroom Climate Scale and adapted for use in an online classroom context. This is the first known use of the OLCS in an online preservice music education.

Validity and Reliability

Motivation Orientation. Elliott and McGregor (2001) reported that confirmatory factor analyses (CFAs) were conducted on the achievement goal items to examine the hypothesized model and all subscales demonstrated high levels of internal consistency: for mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals, Cronbach’s $\alpha = .84, .88, .92.$ and $.94$ respectively. Elliot and McGregor (2001) demonstrated that the hypothesized model provides the best fit in comparison to alternative models.

Social-Emotional Learning. A correlated three-factor model consisting of task articulation, peer relationships, and self-regulation was fit using maximum likelihood estimation from a sample of six hundred thirty-three elementary students (Coryn et al., 2009). According to Coryn et al. (2009), the model adequately reproduced the data and the fit was determined to be acceptable given the sample size, degrees of freedom, and complexity of the model. In the same study, reliability was assessed using Cronbach’s alpha. Researchers reported reliability estimates ranging from $.69$ to $.80$. Ordinal omega was also computed for each subscale due to the relatively

low reliability coefficient estimated for the TA subscale resulting in estimates ranging from ordinal $\alpha = .79$ to $\alpha = .87$ and $\omega = .88$ for each subscale.

Classroom Climate. Kaufmann et al. (2016) reported alpha reliabilities ranging from .81 - .90. Additionally, alpha reliabilities reported by Kaufmann and Vallade (2020) ranged from .87 - .94 for each scale component. The scale's convergent validity was determined by Kaufmann et al. (2016) and confirms that the scale measures classroom climate in the online context. Convergent validity was established with the traditional Classroom Climate Scale for both the comprehensive scale ($r = .608$, $p = .000$) and each individual factor: instructor behaviors ($r = .590$, $p = .000$), course structure ($r = .442$, $p = .000$), course clarity ($r = .421$, $p = .000$), and student connectedness ($r = .250$, $p = .000$). Convergent validity was also established with the Classroom Communication Connectedness Inventory for both the comprehensive scale ($r = .538$, $p = .000$) as well as each individual factor: instructor behaviors ($r = .333$, $p = .000$), course structure ($r = .596$, $p = .000$), course clarity ($r = .179$, $p = .000$), and student connectedness ($r = .418$, $p = .000$). Structural validity was tested by Kaufmann and Vallade (2020) via a confirmatory factor analysis. Utilizing guidelines based on Kline (2011) and Hu and Bentler (1999), the OLCS demonstrated a good model fit and all items were retained.

Data Analysis and Reporting

Quantitative data were collected via a Qualtrics survey (version XM of Qualtrics, 2020). Data were analyzed using descriptive statistics with R statistical programming software (R Core Team, 2017). Measures of central tendency were determined using median, mode, interquartile range, and standard deviation for each measure. Correlational analyses were also performed to clarify relationships among all variables.

Participant Interviews

Participant Selection

Participants for follow-up interviews were selected from the pool of student participants in the introductory music education course following a second round of consent collected according to approved IRB protocols (Protocol ID# 20-10334H; see Appendix B). A maximum variation sampling approach (Creswell, 2017) was used to identify and select a diverse group of students that represent a broad range of experiences and backgrounds according to the data collected which included: primary music area (instrumental or choral), gender, race, and motivation orientation. Prior research indicates that an individual's motivation orientation can influence behavior and learning throughout PAL experiences (Johnson, 2013); therefore, participants were chosen to represent a divergent array of motivation orientations.

Data Collection

Potential participants were informed of the study and invited to participate via email (Appendix D). Four students agreed to participate and data were collected via semi-structured one-on-one interviews. Participants were invited to review individual thick descriptions as well as major findings and themes from each interview to ensure trustworthiness of the data (Creswell, 2017, p. 200).

Interviews. Semi-structured interviews were conducted in order to elucidate individual student perspectives regarding participation in online peer-assisted learning activities. Interview questions were adapted from Jones et al. (2013) and Raymond et al. (2016) concerning student perceptions of motivation and classroom climate during peer-assisted learning experiences in online environments. Interviews were scheduled at the participant's convenience and took place

via an online video chat. Each participant was asked the same set of open-ended interview questions (Appendix H); however, follow-up or probing questions were dependent upon responses to the original questions (Creswell, 2017).

Data Analysis and Reporting

Data analysis began during the interviews with follow-up and probing questions (Creswell, 2017). All interviews were audio recorded and transcribed verbatim and double-checked by an external auditor for accuracy (Creswell, 2017; Appendices I-L). Data from interviews were coded on three levels (inductive, pattern, and deductive) and resulted in a code book for analyses (see Appendix M). Coding began with the use of low-level inference, inductive codes and moved to the use of high-level inference, deductive codes. Inductive coding was interpreted and organized according to emergent themes consistent with the emic perspective of the participants. Deductive coding reflected theoretical concepts reflected in research literature and was also informed by the inductive coding process (LeCompte & Schensul, 1999; Miles & Huberman, 1994). Finally, pattern level coding was used to synthesize both inductive and deductive coding into themes and categories reflective of this study. Following data collection, identifying information (including participant names and other relevant information) was replaced with pseudonyms in order to protect the identity of participants.

Trustworthiness. Several strategies outlined by Miles and Huberman (1994) and Creswell (2017) were used to increase the trustworthiness of the findings. During data analysis, color coding was used to designate potential emergent patterns and code areas, resulting in two major deductive themes. Representative examples of each specific code were indexed by the researcher and organized into a code book (Appendix M). Member-checks occurred in two

phases: case-study participants were invited to review transcriptions of their interviews, and individual thick descriptions developed by the researcher were reviewed by each participant to ensure accurate portrayal (Creswell, 2017).

Ethical Considerations

Interview data is interpreted by the researcher (Creswell, 2017); therefore, the researcher should report and account for any bias related to the study that may impact their interpretation. Researcher biases regarding this study include prior teaching and learning experiences in collaborative learning environments. Anecdotally, the researcher engaged in collaborative and PAL as a part of their own primary and secondary education environments and found them to be meaningful and rewarding experiences. Professionally, positive teaching experiences of the researcher and observed experiences of a diverse population of students prompted interest in this area of research. As a result, the researcher has developed a strong interest in investigating ways to influence the incorporation of collaborative and PAL into all teaching and learning environments.

Institutional Review Board (IRB) approval was granted (Protocol ID# 20-10334H; see Appendix B) prior to contacting potential participants about the study. Follow-up interview participants signed the IRB-approved Informed Consent Form (Appendix A) that detailed the purpose of research, study procedures, and confidentiality measures before data collection began. Participants agreed to an electronic version of the Informed Consent Form before responding to the questionnaire, per IRB regulations.

RESULTS

The purpose of this study was to explore student perceptions of online peer assisted learning experiences in a preservice music teacher education context. Specifically, this included concepts which have been theoretically linked to PAL: individual student motivation orientation, social-emotional learning, and classroom climate. Data were collected via an electronic questionnaire (N=27) and follow-up interviews were conducted with four participants who were selected using a maximum variation sampling approach.

Questionnaire Results

Participant Data

A total of 27 participants from one introductory music education course were included in this study. Demographic data for the sample are summarized in Table 3.

Table 3.
Sample Demographics

Gender	<i>n</i>	%
Female	11	40%
Male	16	60%
Race/Ethnicity	<i>n</i>	%
White/European American	22	81%
African American	3	11%
Hispanic American	1	4%
Asian American	1	4%
Class	<i>n</i>	%
Freshman	14	52%
Sophomore	6	22%
Junior	2	7.5%
Graduate Student	5	18.5%
Primary Area	<i>n</i>	%
Band	17	63%
Choir	7	26%
Orchestra	3	11%

Questionnaire Responses

Mean scores and standard deviations were calculated for each individual portion of the questionnaire. Descriptive data for each questionnaire measure are included in below.

Motivation Orientation. Individual motivation orientation was collected using a self-report measure for each participant following peer-assisted learning activities in the introductory music education course (see Table 2). Participant responses were measured on a 5-point Likert-type scale (1=not at all true of me; 3=somewhat true of me; 5=very true of me). Examples included: “My aim is to avoid doing worse than other students,” and “I am striving to understand the content as thoroughly as possible.” Each of the four motivation orientations (mastery approach, mastery avoid, performance approach, performance avoid) were addressed via three questions.

Means and standard deviations for each sub-domain, as well as measures of central tendency for participant responses to individual questions on the motivation orientation questionnaire, are included in Table 4. On average, students reported high mastery approach and mastery avoid orientations and moderate performance approach and avoid orientations.

Responses to questions within the mastery approach and mastery avoid domains were positively skewed with mean scores ranging from 3.81 (“My goal is to avoid learning less than it is possible to learn”) to 4.74 (“My goal is to learn as much as possible”). Mean scores within the performance approach domain were lower overall, ranging from 2.55 (“My goal is to perform better than other students”) to 3.70 (“My aim is to perform well relative to other students”), out of a highest possible score of 5.

Table 4.

Motivation Orientation Scores

Question	M (SD)
<i>Mastery Approach</i>	
My aim is to completely master the material presented.	3.81 (1.14)
I am striving to understand content as thoroughly as possible.	4.67 (0.55)
My goal is to learn as much as possible.	4.74 (0.52)
Grand Mean	4.41 (0.74)
<i>Mastery Avoid</i>	
My aim is to avoid learning less than I possibly could.	3.89 (1.25)
I am striving to avoid an incomplete understanding of the material.	4.41 (0.88)
My goal is to avoid learning less than it is possible to learn.	3.81 (1.27)
Grand Mean	4.03 (1.13)
<i>Performance Approach</i>	
My aim is to perform well relative to other students.	3.59 (1.15)
I am striving to do well compared to other students.	3.25 (1.09)
My goal is to perform better than other students.	2.55 (0.89)
Grand Mean	3.13 (1.04)
<i>Performance Avoid</i>	
My aim is to avoid doing worse than other students.	3.29 (1.17)
I am striving to avoid performing worse than others.	3.18 (1.24)
My goal is to avoid performing poorly compared to others.	3.22 (1.12)
Grand Mean	3.23 (1.18)

Note. Sub-scale range is from 1 to 5 with higher values representing higher levels of specified achievement goal orientation.

Social-Emotional Learning. Participant responses were measured on a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree). Three sub-domains were addressed: task articulation, peer relationships, and self-regulation. Aggregate mean scores for each sub-domain were positively skewed and ranged from 4.20 (peer relationships) to 4.35 (self-regulation). Participant responses on Social Emotional Learning Scale (SELS) had mean scores per question ranging from 3.96 (“I can keep track of my progress toward a goal”) to 5.00 (“I understand that I am responsible for my own actions”), out of the highest possible score of 5. Means scores and standard deviation for individual questions are included in Table 5.

Table 5.
Social-Emotional Learning Scores

Question	M (SD)
<i>Task Articulation</i>	
I understand situations that cause me to feel happy, sad, or frustrated.	4.29 (0.60)
I can express my emotions without getting mad, excited, or yelling.	4.11 (0.89)
I am able to talk to teachers and other trusted individuals about interests.	4.51 (0.64)
I understand how others can support my success in this program.	4.33 (0.73)
I can explain what I need to do to reach a goal.	4.18 (0.62)
I can keep track of my progress toward a goal.	3.96 (0.75)
Grand Mean	4.23 (0.71)
<i>Peer Relationships</i>	
I understand the feelings expressed by others.	4.25 (0.52)
I can identify differences among cultural groups.	4.11 (0.84)
I work positively in groups with people who are different from me.	4.22 (0.57)
I know different ways to make and keep friends.	4.07 (0.91)
I figure out different ways to work effectively in groups.	4.22 (0.75)
I understand what causes problems among my friends.	4.18 (0.62)
I can help solve problems among my friends in a positive way.	4.34 (0.55)
Grand Mean	4.20 (0.68)
<i>Self Regulation</i>	
I understand that I am responsible for my own actions.	5.00 (0.00)
I understand the need for structure in my teacher preparation program.	4.70 (0.46)
I can anticipate how certain people or situations may cause problems.	4.11 (0.64)
I am able to resist people and situations that cause problems.	4.11 (0.89)
I can figure out different solutions to school problems.	4.25 (0.59)
I can figure out different solutions to personal problems.	4.18 (0.62)
I help out other students and teachers in my teacher education program.	4.11 (0.80)
Grand Mean	4.35 (0.57)

Note. Sub-scale range is from 1 to 5 with higher values representing higher levels of SEL competency.

Classroom Climate. Individual student perceptions of classroom climate were measured via the Online Learning Climate Scale (OLCS) (Kaufmann et al., 2016). Participant responses using the OLCS were collected twice: once after the initial peer-teaching experience and again at the conclusion of the online PAL unit. Participants responded to statements in four sub-domains: peer behaviors, course structure, student connectedness, and course clarity. Responses were measured on a 7-point Likert-type scale (1=strongly disagree, 4=unsure, 7=strongly agree). Aggregate mean scores for each sub-domain were positively skewed: initial mean scores ranged from 5.82 (course structure) to 6.39 (student connectedness) and final mean scores ranged from 6.03 (course structure) to 6.52 (peer behaviors), out of the highest possible score of 7. Pre- and

post-mean scores were compared for significant differences using a paired-samples t-test. Only pre-post changes in the grand mean for course clarity were found to be statistically significant ($t=2.05$, $p=.005$).

Mean scores per question were positively skewed in both pre- and post-questionnaire responses. Initial participant responses within each sub-domain had mean scores per question ranging from 5.51 (“The technology used in practicum fostered collaboration among students”) to 6.77 (“I perceive students as respectful of one another”). Participant responses on the final questionnaire ranged from 5.85 (“The technology used in practicum fostered collaboration among students”) to 6.81 (“I perceive students as respectful of one another”), out of a possible 7.

Table 6.
Classroom Climate Scores

Question	Initial M (SD)	Post M (SD)
<i>Peer Behaviors</i>		
I perceive my peers as understanding.	6.22 (0.89)	6.41 (0.88)
I perceive my peers as supportive.	6.44 (0.75)	6.74 (0.59)
I perceive my peers as engaged in the course.	6.44 (0.64)	6.67 (0.87)
I perceive my peers as approachable.	6.03 (1.09)	6.18 (0.87)
I perceive my peers as respectful toward me.	6.67 (0.55)	6.78 (0.64)
I perceive my peers as responsive.	6.25 (0.86)	6.37 (0.68)
Grand Mean	6.34 (0.79)	6.52 (0.70)
<i>Course Structure</i>		
The technology used in practicum fostered collaboration among students.	5.51 (1.01)	5.85 (0.98)
The design of online practicum encouraged student interaction.	5.96 (1.28)	6.11 (0.93)
This experience provided ample opportunities for communication.	6.00 (1.00)	6.15 (0.81)
Grand Mean	5.82 (1.09)	6.03 (0.91)
<i>Student Connectedness</i>		
I perceive students as respectful of one another.	6.77 (0.42)	6.81 (0.48)
I perceive students as comfortable with one another.	5.74 (1.19)	5.92 (0.96)
I perceive students as cooperative with one another.	6.67 (0.56)	6.56 (0.57)
Grand Mean	6.39 (0.72)	6.43 (0.67)
<i>Course Clarity</i>		
The practicum expectations were clear.	6.03 (0.97)	6.44 (0.75)
The instructions for assignments were clear.	5.89 (1.28)	6.23 (0.80)
The instructions for use of technology were clear.	5.78 (1.25)	6.15 (0.86)
Grand Mean	5.90 (1.17)	6.27 (0.80)*

Note. Sub-scale range is from 1 to 7 with higher values indicating higher levels of agreement for each statement in the classroom climate sub-domains.

* $p < .05$

Questionnaire Analyses by Demographic Characteristic

The sample was divided according to demographic characteristics. Mean and standard deviation were compared between different groups within the sample.

Class in school. Responses were divided into four groups based on the participant's class level at the university: freshman ($n=14$), sophomore ($n=6$), junior ($n=2$), and graduate student ($n=5$). Pre- and post-mean scores were compared for significant differences using a paired-samples t-test. Only pre-post changes in the grand mean for course clarity ($t=2.16$, $p=.031$) were found to be statistically significant for the freshman population. Tables 7, 8, and 9 show the mean scores per group for each section of the questionnaire.

Table 7.

Mean Scores by Class – Motivation Orientation

	<i>Mastery App</i>	<i>Mastery Av</i>	<i>Perform App</i>	<i>Perform Av</i>
Freshman	4.38	4.12	3.38	3.52
Sophomore	4.61	4.38	2.56	2.67
Junior	3.67	3.00	3.00	2.50
Graduate	4.53	3.80	3.20	3.40

Table 8.

Mean Scores by Class – Social Emotional Learning

	<i>Task Art</i>	<i>Peer Relate</i>	<i>Self Reg</i>
Freshman	4.14	4.16	4.36
Sophomore	4.61	4.31	4.64
Junior	4.00	4.28	4.14
Graduate	4.13	4.14	4.05

Table 9.

Mean Scores by Class – Classroom Climate

	<i>PB Initial</i>	<i>PB Final</i>	<i>CS Initial</i>	<i>CS Final</i>	<i>SC Initial</i>	<i>SC Final</i>	<i>CC Initial</i>	<i>CC Final</i>
Freshman	6.32	6.53	5.71	6.07	6.40	6.45	6.09	6.40*
Sophomore	6.59	6.62	5.78	6.12	6.50	6.78	6.12	6.50
Junior	6.75	7.00	6.17	5.83	6.83	7.00	4.50	5.50
Graduate	5.96	6.20	6.07	5.94	6.07	5.73	5.67	5.93

* $p < .05$

Primary area. Responses were grouped based on the participant's primary performance and teaching area: band ($n=17$), choir ($n=7$), and orchestra ($n=3$). Pre- and post-mean scores were compared for significant differences using a paired-samples t-test. Pre-post changes in the

grand mean for peer behaviors ($t=2.11, p=.002$), course structure ($t=2.12, p=.021$), and course clarity ($t=2.12, p=.017$) were found to be statistically significant for the band population. Tables 10, 11, and 12 show the mean scores per group for each section of the questionnaire.

Table 10.

Mean Scores by Primary Area – Motivation Orientation

	<i>Mastery App</i>	<i>Mastery Av</i>	<i>Perform App</i>	<i>Perform Av</i>
Band	4.43	4.23	3.03	3.35
Choir	4.47	4.00	3.57	3.34
Orchestra	4.12	3.00	2.67	2.34

Table 11.

Mean Scores by Primary Area – Social Emotional Learning

	<i>Task Art</i>	<i>Peer Relate</i>	<i>Self Reg</i>
Band	4.18	4.19	4.31
Choir	4.38	4.16	4.48
Orchestra	4.17	4.34	4.28

Table 12.

Mean Scores by Primary Area – Classroom Climate

	<i>PB Initial</i>	<i>PB Final</i>	<i>CS Initial</i>	<i>CS Final</i>	<i>SC Initial</i>	<i>SC Final</i>	<i>CC Initial</i>	<i>CC Final</i>
Band	6.17	6.53*	5.64	6.01*	6.23	6.35	5.84	6.25*
Choir	6.78	6.35	6.23	6.09	6.81	6.47	6.42	6.57
Orchestra	6.33	6.83	5.89	6.00	6.34	6.78	5.00	5.67

* $p < .05$

Relationships Between Questionnaire Domains

Correlational data for questionnaire sub-domains are presented in Table 13. Participant data for the course structure, peer relationships, student connectedness, and course clarity sections each exhibited moderately strong positive correlations ($r > 0.5$) with other measures.

Table 13.

Correlations Between Questionnaire Domains

	M App	M Avoid	P App	P Avoid	TA	PR	SR	PB	CS	SC	CC
Mastery Approach	1										
Mastery Avoid	.281	1									
Perform Approach	-.280	-.067	1								
Perform Avoid	.070	.234	.685*	1							
Task Articulation	.288	.058	-.039	-.178	1						
Peer Relationships	.252	-.048	-.135	-.202	.493	1					
Self-Regulation	.431	.239	-.192	-.179	.572+	.321	1				
Peer Behaviors	-.127	.241	-.118	-.114	-.288	.046	.057	1			
Course Structure	.565+	-.102	.010	.245	.040	.014	.126	-.027	1		
Student Connected	-.067	.034	-.011	-.214	.108	.196	.261	.557+	.292	1	
Course Clarity	.533+	.382	.160	.095	.287	.107	.630+	-.091	.235	.269	1

Note: + denotes moderately strong positive correlations ($.5 < r < .7$).

Participant Interview Results

Participant Profiles

Charles. Charles is a freshman music education major who recently transferred from another university. He began his musical journey at a young age thanks to the influence of his mother who encouraged him to join the children's choir at their local church. Charles' growth as a musician inspired him to join numerous other musical ensembles and eventually take on leadership roles within his musical community. Hardship and loss continued to fuel Charles' passion for music and eventually led him to find great joy in teaching others about the inherent beauty and goodness to be found in music making.

As an aspiring teacher, Charles is highly motivated to ignite a similar spark in his future students and help them discover their own love for music. He frequently cites his church choir director as an inspirational teacher figure and hopes to one day emulate his role model in a classroom of his own. Charles' future plans are to be a public-school choir director at the high school level. He has also expressed interest in one day attending graduate school and eventually becoming a professor at a college or university. Ultimately, Charles would like to direct college level ensembles while teaching additional music classes at a higher education institution.

In the music education course, Charles regularly volunteers to answer questions and help his peers. He is friendly, outgoing, and eager to develop good working relationships with others. While Charles has an easy-going demeanor, he takes his coursework very seriously. The challenges of attending college during a global pandemic have not dissuaded Charles from putting forth his best effort. He considers this course to be extremely valuable to his development as an educator.

Raina. Raina is a freshman music education major who plays horn. She is known by her peers for her exceptionally sunny disposition and warm personality. Raina was instantly captivated by the horn the first time she saw it demonstrated by her elementary school music teacher. When her favorite music teacher resigned, Raina was extremely hurt and temporarily left the music program. However, she ultimately rejoined the band program because of the community and sense of belonging that it brought into her life. Eventually, Raina extended her musical studies to her local youth symphony and became a member of her school's Tri-M chapter.

At the college level, Raina dreams of using her teaching career to connect her two biggest passions: people and music. She is especially eager to connect with other musicians and aspiring teachers. Specifically, Raina enjoys being surrounded by others who she feels challenge her to be a better version of herself. In the music education course, Raina is an enthusiastic student and always brings a creative flair to her projects and assignments. She firmly believes that humans have an inherent need to create and experience music in a variety of ways and hopes to infuse those beliefs into her own teaching practice. In the future, Raina would like to teach band in a public school, preferably at the middle school level.

Jamal. Jamal is a freshman music education major with a passion for percussion performance. His love for music grew steadily throughout his middle and high school years as he continued to observe the many ways music can effect change in people's lives. He furthered his involvement from a participant in his high school marching band to become a member of modern chamber percussion ensembles. Now, Jamal is heavily involved in his university's percussion studio and takes every opportunity to develop his performance skills. Jamal cites his desire to perform as one of his sources of inspiration for becoming a teacher. In fact, he considers teaching

to be a type of performance in and of itself. Ultimately, he would like to achieve a long-term balance between teaching and performing careers.

Jamal finds the music education course interesting because it allows him to explore what teaching means to him personally. He is a regular participant in class discussions and is intrigued and inspired when he and his peers have differing viewpoints. Jamal considers his musical studies to be a safe haven where he and others can freely express themselves and their vulnerabilities. In the future, Jamal would like the opportunity to provide that same environment for others as a high school or middle school band director. As a teacher, he wants to help nurture his student's interest in music into a passion similar to his own.

Hope. Hope is a freshman music education major who has been heavily involved in both band and choir throughout her musical career. In high school, she had the unique experience of having four different band directors and two different choir directors. While overwhelming, she considers this to be one of her greatest assets as a future teacher because she was exposed to many teaching styles and personalities. Hope had her heart set on teaching, so she made a concerted effort during her junior and senior years of high school to learn all that she could from her music teachers.

As a college student, Hope eagerly takes every opportunity afforded to her. She is outgoing and confident in her music education class and is often the first to volunteer or participate in class discussions. She is a conscientious student who is determined to make the most of her semester in this course. Specifically, Hope aspires to teach at the high school level. Her goal is to provide stability and support for her future students both personally and musically.

Themes

Data gathered during the follow-up interviews support two major themes: (1) *online collaboration* and (2) *teaching as learning*. Common responses regarding *online collaboration* centered around the concepts of learning environment, connections with others, and peer support. Patterns that emerged within the theme of *teaching as learning* included observation and reflection, and personal growth. Pattern level coding was used to synthesize both inductive and deductive coding into themes and categories. A conceptual model of the researcher's coding process is presented in Figure 1 and supporting data from each major theme is presented below.

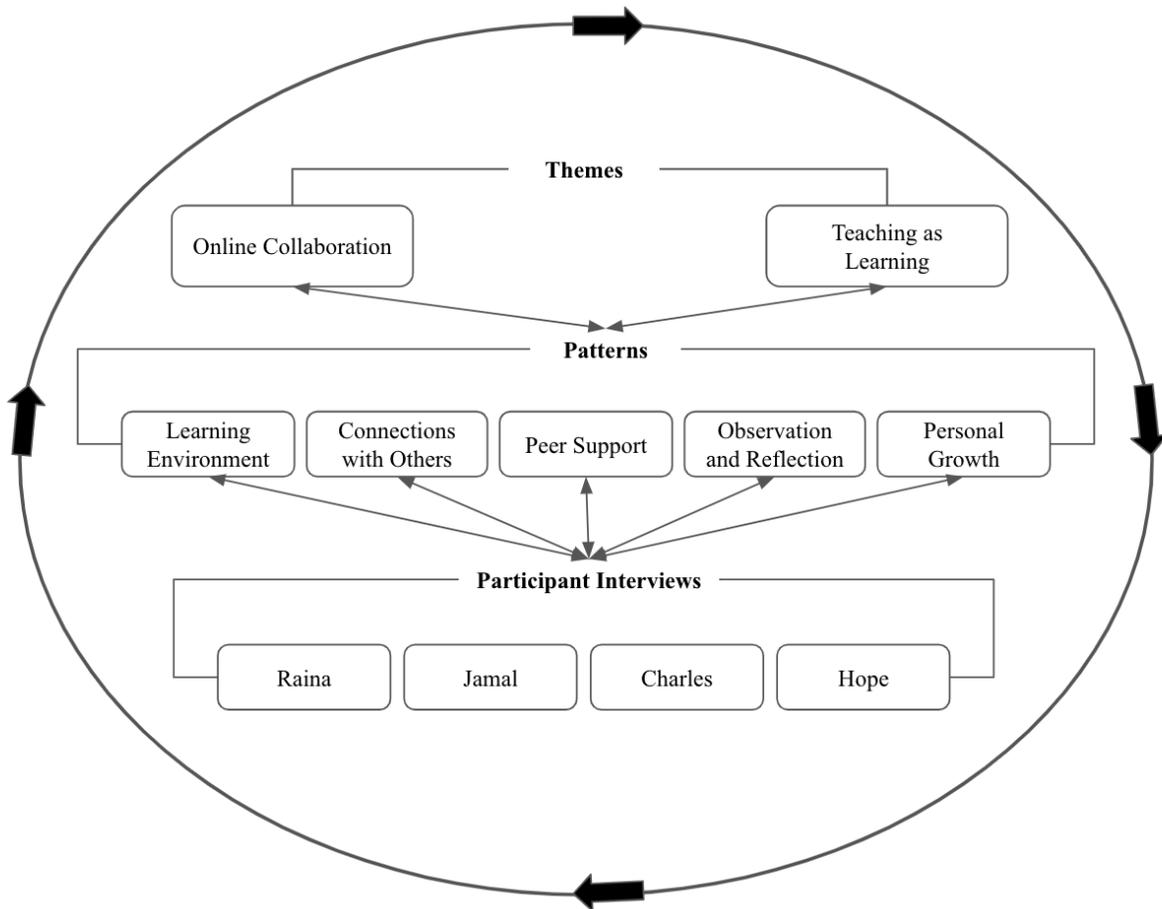


Figure 1. Conceptual model displaying coding process for participant interviews.

Theme #1: Online Collaboration

Learning Environment. All four participants indicated that the online learning environment was unique and directly impacted their peer-assisted learning experiences. Jamal spoke directly to the contrast between learning in a face-to-face setting and being in an online course:

Usually, I would say there is less distraction when you're in an actual classroom because if I'm sitting in my chair, we are all facing the professor or whatever the focal point is. When we're online, a lot of time your attention can be taken from you by all of these little boxes with all of these different people who you don't normally look at all of the time during class. I know that I have fallen victim to that multiple times, noticing someone doing something on the screen and then coming back and realizing that I missed a question or what just happened. So, I think that it helps that we do small group work and breakout rooms where it is just a few people in a room working on a specific task or question that they'll bring back to the main class. (Jamal, Participant Interview)

Charles elaborated on some of the potential frustrations with communication in an online setting:

I think another problem with the online setting was just communication with the other two people in my group. I set up a group conversation, or a group text message and didn't really hear back from anybody until like the night before. (Charles, Participant Interview)

Hope echoed the sentiments put forth by Charles when she said, "In the online setting, being able to work in a group, it had its challenges because in my own experience there were things that were lost in translation." Raina also expressed that she experienced her own challenges in teaching online, because "sometimes it was dead silent because everyone mutes their

microphones to be polite.” However, Charles went on to explain some of the benefits to participating in this experience online:

Now I have opportunities to use the technology to my advantage, where it might have been much harder the other way around. It was also difficult not to be able to be in person and sing with other people and create harmony together. We really had to figure out how to get the student to harmonize while I’m not there. We had to figure out how to record ourselves and upload it to complete everything. I’d say it was definitely a good experience to learn technology better and be more comfortable with all of that. (Charles, Participant Interview)

Similarly, Raina enjoyed some of the features of the online learning environment because they supported her personal learning preferences:

The features that you have online, like the little chat function, is fantastic for me. I know I get very awkward and weird in my head, so I don’t like sharing stuff out loud a lot, but I really like bonding with people over the little chat. I just feel it’s so awesome, and it’s one of my favorite parts of class, especially if I don’t feel like talking out loud, because I can just type in a comment or question I want. If someone makes a funny comment, I can respond to that. My absolute favorite part about online is when we do breakout rooms. At first it was terrifying, but now it’s like...that’s the fun part! Especially compared to these COVID in-person things, we can’t move around as much, and we can’t do as much group work in stuff like that in the same way we used to, and these online formats help us create these settings where we can do that with just the click of a button. (Raina, Participant Interview)

Connections with Others. Participants worked online with peers in several different configurations including both one-on-one and small group teaching formats. Raina mentioned that she enjoyed the connections she was able to make with her peers in the one-on-one format:

It was actually really fun to work with people one-on-one because everyone's personalities came out a lot more while teaching and just while interacting. If we got on the call beforehand then we could chat like, "How's everyone doing? How's your day-to-day?" I met my partner online for the first time, we had never talked in class, and I'm like, "I have literally never met you before, how are you doing?" I feel like working online that way was really fun, and I feel like that helped for me and my connections with my other peers, it helped us bond a little bit more. (Raina, Participant Interview)

Similarly, Raina also noticed others connect throughout the process, especially when they were coteaching in a group.

It was really fun and interesting to watch how the other groups, or how other people taught in their lessons. Especially with the group ones it was really interesting to get to know people and see how everyone interacted with one another in a teaching setting. It's really hard to pinpoint whose class you're going to enjoy the most-type and it was really fun to see people just being themselves, and seeing other people have a connection. I don't know how other people are bonding personally but I got to see how they connected in terms of teaching. It was noticeable. (Raina, Participant Interview)

By contrast, Hope felt like the physical distance between her and her group was a barrier to building genuine connections with others:

I feel like being online had a different type of disconnect for me. I was able to see everybody else and actually put names to faces for the first time in a long time. We were

all supporting each other but we weren't there physically able to support each other. It had a different feeling to it, which I guess it should because it was fully online, and I was just sitting in a room by myself but still teaching other people. (Hope, Participant Interview)

Charles also mentioned that connecting with others online can make communication between peers difficult which led to some difficulties during the group teaching round. He specifically mentioned that "a couple of people were upset with who they were working with because their group members just didn't do what they were supposed to do" which ultimately led to frustration in subsequent teaching episodes. Conversely, Charles mentioned that his personal experience online brought about connections that he was unable to make otherwise:

Going into this class, I knew literally nobody, and up until peer teaching, I didn't know a name. Well, I knew names, but I never talked to anybody outside of class. So really that practicum experience... getting to see faces without a mask was just really meaningful. I made connections and friends with people that I just couldn't in person, so I think it was definitely beneficial to build relationships with other students in the class. (Charles, Participant Interview)

Jamal found that once he was able to connect with his peers online, he felt more comfortable with the peer teaching experience overall:

I think working in groups online actually was the first time I felt like I got to know the other people in the class because I could find out anything about them. For me, it was just a huge weight off of my shoulders to finally be able to get to know the people in my class and it made me feel so much more comfortable than I did before. (Jamal, Participant Interview)

Jamal went on to explain that he believes “music is such a strong connector” and “that is what makes this group work so much stronger and more meaningful” to him. However, Charles expressed frustration at not being able to connect with others musically the way that he had hoped when he said, “It was difficult not to be able to be in person and sing with other people and create harmony together. We really had to figure out how to get the student to harmonize while we weren’t there.”

Peer Support. Each participant described feeling supported by peers or providing support to other peers throughout the online peer teaching process. Both Hope and Charles had experiences providing support and encouragement to fellow classmates who were nervous about teaching in front of others. Hope described her experience:

I thought that everyone was so supportive of everyone else which was really, really helpful - especially since I know that there are some kids in the class who have never taught before in their life and this was really their first time doing it. So, a lot of us were very supportive, especially in our feedback, like maybe they weren’t confident in their teaching, but the lesson plan was great so working on teaching persona and being like “you have such a great personality, bring that out!” and being able to have those interactions with your peers was also really helpful. (Hope, Participant Interview)

Charles was similarly encouraged by his experience supporting his group member and observing other students doing the same:

I was paired with [group member] first, and they were truly petrified of teaching. I kind of felt bad. I would say, “it’s going to be okay,” and when we first started, they were definitely terrified, but there was a sense of that from other people too. I felt this from a lot of people going into the discussion the next day and listening to other students talk. I

think [group member] and a couple other people were talking about how the environment was very open and people were really okay with you messing up. I think that everybody was just so accepting of what your performance was, and there wasn't really any judging going on that I felt from other students. (Charles, Participant Interview)

Raina's comments on her own experience provided some insight as to why some students may have felt nervous during their first group meetings:

At first, I really did not want to work together with people. I thought that I really just wanted to be able to do my own thing. Our first few group meetings were so awkward because we were all scared to speak up with our ideas. I think part of it is that we were all insecure about knowing how to teach our concept...which we eventually learned. (Raina, Participant Interview)

Overall, each participant described their perceptions of their peers as supportive and beneficial to their own experiences. Jamal characterized it as:

It was definitely extremely supportive, and everyone was so patient with one another. We understood that everyone was worried about their own lesson plan and how their own teaching was going to go. Everyone was coming at it from the same direction of trying to do their best to help each other so if anyone was struggling, someone would always jump in and help and that was just so nice to have.... We all had the same mentality of teaching and then making it a point to watch each other and make sure we all knew what we did well and how we could improve. It was just really helpful to have everyone on the same page and truly supporting each other. (Jamal, Participant Interview)

Hope emphasized the notion that working together is what helped students empathize with one another when she said:

I was able to talk to my peers and realize that they were in the same boat. Everyone was at least a little freaked out and overwhelmed at first, especially by the idea of teaching a bunch of times. It was nice to know that I wasn't the only person thinking and feeling that way. It was especially helpful to me because I put a lot of weight on what my peers think of me. Being in this course where it is all people in my degree and who are doing the same things that I am, I personally put a lot of weight on what they think of me. Being able to bounce ideas off of each other and be like, "oh, hey, I'm thinking about teaching it like this, what do you think?" and being able to just talk to everybody openly was so helpful and encouraging to me. (Hope, Participant Interview)

Theme #2: Teaching as Learning

Observation and Reflection. Participants had the opportunity to observe their peers teach and reflect on their own teaching episodes through reflection assignments. Hope mentioned that the opportunity to observe others teach was one of the highlights of her overall experience:

I would say that the highs for me were being able to watch other people teach. I know I keep saying that, but all throughout our years we have been students to different teachers so without actually knowing it we have experienced these different teaching strategies, but we've never quite made those connections and nitpicked it like we are doing now - like, how can I do that too? (Hope, Participant Interview)

Specifically, Hope felt like the diversity that she noticed in her peer's teaching was helpful in expanding her own repertoire of teaching strategies:

Being able to see the different ways that they would introduce something or do certain things like in the third round someone did a call and response with the student and it went really fast, but the student had a really good understanding. I never would have thought to

do it that way, so it was really helpful to get those different perspectives. In a way, I feel like that simulates teaching in a normal sense just a lot. Being able to watch other people and then being able to ask questions about how they came up with something or a certain strategy - so I feel like that was the highest point for me. (Hope, Participant Interview)

Jamal added that being able to observe and reflect in a group environment with his peers helped add to what he was learning, more so than if he were to have completed these assignments on his own:

If I was told to go watch teaching videos and write observations by myself it would have been so different because a lot of what I learned about each teaching video or each peer teaching episode came from other people. We would all find one thing and share it, but everyone would come with something different because we are all at different levels and focused on different things. It was helpful to hear from other people because we were introduced to several things at once instead of just staying focused on the only things we noticed individually. (Jamal, Participant Interview)

Raina mentioned that observing multiple people teach the same lesson was particularly valuable because it provided her with insight into different ways to approach the same topic:

We were assigned to groups, but we had control over our topics and lessons, so it was really fun to kind of be teaching the same thing as someone else and see how each of us did it. It was kind of like a gamble, and you kind of had to tread the water and feel stuff out. When we did our group thing, we decided to do a lesson that none of us had taught before and we really had to figure it out together and that was really fun. And for the last one, we all taught some kind of rhythm thing. It was really interesting to see how people took variations, cause no lesson was the same, like someone took a different path and I

just kept thinking how cool all of the lessons were! I didn't feel like I missed out on anything even if we all taught the same concept, because everyone's way of teaching and everyone's perception on the subject was so different. (Raina, Participant Interview)

However, Charles mentioned that it was not always easy to get meaningful feedback from peers who had observed him teach, which made the reflection process more challenging:

So, I thought that some of it was genuine and then I thought that some of it was like, "oh, I forgot to do that." I think you have to take it with a grain of salt in terms of which ones are genuine and which ones aren't. The difference is in what specifics they used, so with the genuine one they are more like, "I saw that at this moment in the lesson you did X, Y, and Z," whereas other ones are more, "you did good...maybe work on how you ask questions." Very broad, open-ended feedback like that isn't necessarily helpful. (Charles, Participant Interview)

Raina echoed these frustrations with receiving broad, generic peer feedback after an observation took place:

Sometimes the feedback forms were really frustrating when someone would say, "you didn't do this well," but they wouldn't explain why. Or someone else might say, "you need to work on this, this, and this," and I felt like I had to do a lot of my own interpretation of what they meant. The positive comments were sometimes too generic like, "you did a really good job, you were so good," and that's nice to hear, but it isn't very helpful to move forward for the next lesson. I know one of the comments that was most helpful for me was like, "this is something that I really enjoyed, and this is something that happened that could have been worked on" and then it expanded from there. I think that was the most helpful feedback. (Raina, Participant Interview)

However, Charles felt that the opportunity to self-reflect on his own teaching was valuable because it allowed him time to process the entire experience and approach it with a more level head:

I think the reflections after were very important, especially the self-reflections. Also, specifically marking and time-stamping the videos was very helpful because you were able to go back and watch yourself when your heartbeat is not going like 240 BPM. It was very good to sit down and just look at what you did and be able to take away good things and also notice bad things that you did. (Charles, Participant Interview)

Personal Growth. All of the participants mentioned initial feelings of apprehension and uncertainty at the beginning of the peer teaching experience; however, each expressed pride in their own growth and ability to overcome obstacles with each subsequent teaching episode. Jamal was initially extremely nervous about teaching in front of his peers, and said that his own growth stemmed from a change in mindset:

It was just changing it to look toward those other people for help rather than trying to hide all of these things from them. I tried to think that if I do something wrong or could do something better, I trust them to tell me more about it instead of me having to worry all of the time about it. (Jamal, Participant Interview)

Similarly, Charles described his own journey from fearful and entirely reliant upon his lesson plan, to a more confident and independent teaching persona:

In the first round I was definitely glued to the lesson plan so much that there would be pauses in between when I'd say something because I felt like I had to look at the lesson plan and see what to do next. I wasn't necessarily reading it, but I was almost glued to it. Then, in round three, I barely even used my lesson plan, because over time you

internalize what you are teaching, and you trust yourself more, you practice it a couple times, and you're very confident with it. (Charles, Participant Interview)

He also mentioned that he recognized similar experiences among his peers:

I think most people knew their content, but they were worried about how they were going to look to other students. I think that once they were able to see who they were working with, and sit down and be comfortable with them, I think then that the true teachers were able to come out of these people. (Charles, Participant Interview)

Raina and Hope both experienced growth in regard to their own personal planning and subsequent execution of their lesson plans. Hope was particularly grateful for the opportunity to teach multiple times, and felt that was a great benefit to her personal development:

I really enjoyed having the three different rounds of peer teaching instead of only one chance to teach and that is it. So, I really enjoyed having three rounds to be able to improve. Round one was a little bit rough for me. I had never really had to time myself or had a specific set of things that I wanted to get done...Once I was able to go on to the third round and I had a better idea of my timing and what I wanted to get done in the lesson and what would be physically possible to get done in the lesson, I saw that I grew a lot more through that and I was able to get through the lesson a lot more efficiently than I had before and I was still able to hit all of the...like, check all of the boxes that I wanted to check. (Hope, Participant Interview)

Raina also cited her progression from the first round to the final round of teaching. Specifically, she felt that her planning and pacing improved over time:

I ended up learning how to spread out my time more evenly the more I worked on my project. In the beginning, I totally procrastinated, and I was working the night and the

morning of. The second time it was easier because we had each other to count on. The third time I started really early, and it was really nice to see how I benefited from giving myself more time to work. It wasn't something that I could just cram in. If I did, it just wasn't as good as I wanted it to be. I feel like I kept getting more out of the practicum unit the longer I worked on it. (Raina, Participant Interview)

Hope summed up her overall experience with the sentiment that “knowing that I have to teach something to other people means that I need to know it even better” and that ultimately, she now has “tools that [she] can use for [her] own benefit in the future.”

DISCUSSION

The purpose of this study was to explore student perceptions of online peer assisted learning experiences in a preservice music education context. Specifically, this included concepts which have been theoretically linked to PAL: individual student motivation orientation, social-emotional learning, and online classroom climate. Data for this study were collected via questionnaire and follow-up participant interviews. Questionnaire data was used to examine overall student perceptions, and data from follow-up interviews helped to provide situation-specific context information related to the lived experience of four students within the introduction to music education course. The research question for this study was:

- What are student perceptions of online peer-assisted learning experiences through the lenses of motivation, social-emotional learning, and classroom climate in an introductory music education course?

Descriptive and follow-up interview data pointed to the importance of individual motivation orientation, self-regulation, peer behaviors, and student connectedness during their online peer teaching episodes. The following discussion addresses each component of the framework (motivation orientation, social-emotional learning, online classroom climate), including the sub-domains that emerged as important contributing factors.

Research Question

The research question for this study concerns descriptions of individual student motivation orientation, social-emotional learning, and online classroom climate self-reported by participants as well as a description of experiences collected during follow-up interviews.

Motivation Orientation. Descriptive data for the *mastery approach* subdomain trended in the positive direction, indicating that on average, most students in the sample have a desire to master the content that they are learning. Overall mean scores were lower for the *performance approach* (M=3.13) and *performance avoid* (M=3.23) sub-domains; however, these scores still trended in the positive direction, suggesting that some of the students in the sample may have a motivation orientation skewed toward the performance domain. This finding is in line with previous research with secondary K-12 populations (e.g., Miksza, 2009; Schmidt, 2005) which suggests that music students tend to possess mastery orientations. Given that students who enroll in the introduction to music education course are a self-selected population, the students in this sample are likely already highly intrinsically motivated. However, follow-up interviews reveal varying experiences with group work and peer feedback which may be related to participant's differing individual motivation orientations.

Context: Follow-Up Interviews. The following information from participant interviews is grouped by the two emergent themes (*online collaboration* and *teaching as learning*) in order to provide a level of contextualization to data from the questionnaire.

Online Collaboration. Raina and Charles, who trended toward a *mastery approach* orientation, both indicated their desire to complete each task correctly and on time, which led to some frustration when it came to working in a group. These comments align with the notion that a student's motivation orientation may guide their behavior while engaged in PAL (Johnson,

2013). In fact, Raina specifically mentioned her apprehension toward working in a group at all, as she put it, “At first, I really did not want to work together with people. I thought that I really just wanted to be able to do my own thing.” Similarly, Charles found working in a group difficult at first when his other group members did not have a similar workstyle or pace, “I think another problem was just communication with the other two people in my group. I set up a group conversation, or a group text message and didn’t really hear back from anybody until like the night before.” These frustrations support Deci and Ryan’s (1985) notion that autonomy is a universal need which can influence the degree to which students engage with their learning environment.

Hope, who trended toward *performance approach*, and Jamal, who trended toward *performance avoid*, both indicated that their initial concerns centered around judgment from their peers more than the content of the course itself. These concerns are in alignment with the concept that individuals with performance goal orientations are motivated by a desire to demonstrate competence for others (Elliott, 1999). Interestingly, Hope explained that working with others over time actually helped to alleviate her concerns:

It was especially helpful to me because I put a lot of weight on what my peers think of me. Being in this course where it is all people in my degree and who are doing the same things that I am, I personally put a lot of weight on what they think of me. Being able to bounce ideas off of each other and be like, “oh, hey, I’m thinking about teaching it like this, what do you think?” and being able to just talk to everybody openly was so helpful and encouraging to me. I’ve taught students and I’ve taught kids that I’m older than but having to teach other people who are learning the same thing as me and thinking about how they are also paying attention to my teaching - it was a big back and forth in my

brain. That was a little bit daunting, especially having older graduate students in there. I never thought that I would be teaching a teacher who is older and more experienced than me.

Jamal was also intimidated at first by the notion of teaching his peers:

[Teaching peers] was probably the single most terrifying part for me. Going into round one and teaching a peer, someone who knows just as much or maybe more about what we have learned in class as I do, was really intimidating because they are going to be able to tell what I am doing well or not. That was definitely the scariest part.

Similar to Hope, Jamal said that working with others helped him through the process, “lucky for me, the first person that I was partnered with was a friend and I felt like I lucked out because we talked through everything and I didn’t freak out.”

Teaching as Learning. All four participants indicated that peer feedback impacted their online PAL experiences. Raina and Charles both spoke to their desire for more specific, targeted feedback. Charles described the difference in the feedback that he found helpful and the feedback that was not, “The difference is in what specifics they used, so with the genuine one they are more like, “I saw that at this moment in the lesson you did X, Y, and Z,” whereas other ones are more, “you did good, good job...maybe work on how you ask questions.” Very broad, open-ended feedback that, while it can be helpful, it is short and kind of broad.” Raina echoed Charles’ call for more specific feedback when she said, “The positive comments were sometimes too generic like, “you did a really good job, you were so good,” and that’s nice to hear, but it isn’t very helpful to move forward for the next lesson. I know one of the comments that was most helpful for me was like, “this is something that I really enjoyed, and this is something that

happened that could have been worked on” and then it expanded from there. I think that was the most helpful feedback.”

Conversely, Hope and Jamal both celebrated the more general, positive peer feedback and indicated that it was a motivating factor for them to continue to improve throughout the online PAL experience. In Hope’s words:

I personally got a lot of positive feedback which was really encouraging for me. Being able to think back and think that I’m being looked at as a decent teacher and am executing at least some things well and my peers can see that. They can see the work that I’ve put into this, that was really helpful for me.

Jamal also placed high value on the feedback that he received from his peers and when he explained that “If [my peers] aren’t enjoying the course or aren’t learning from it then it just doesn’t matter as much what your mentors or professor feel because the students are who need to be the most understanding at first.”

Overall, motivation orientation provides insight into an individual’s underlying motivational impetus. As reflected by the participant’s comments, mastery and performance goal orientations have the capacity to influence how individual students interact with one another and perceive their own experiences in an online, collaborative learning environment.

Social-Emotional Learning. An individual’s social-emotional learning (SEL) refers to an essential set of competencies that reflect their ability to recognize and manage emotions, solve problems effectively, and establish positive social relationships (Zins & Elias, 2006).

Quantitative data regarding individual SEL include questionnaire responses in which participants were asked to indicate the degree to which each of twenty statements accurately described their individual social-emotional learning. SEL sub-domains (task articulation, peer relationships, self-

regulation) were measured on a five-point Likert-type scale ranging from “strongly disagree” to “strongly agree”. Questionnaire respondents reported confidence in their decision-making skills (task articulation, M=4.23), relationship skills (peer relationships, M=4.20), and social management skills (self-regulation, M=4.35). Given the findings of Zins and Elias (2006), social-emotional learning may require further investigation in similar contexts to determine whether or not participants experience growth in SEL competencies as a result of prolonged participation in PAL experiences.

Context: Follow Up Interviews. The following information from participant interviews is grouped by social-emotional learning sub-domains (task articulation, peer relationships, and self-regulation) in order to provide a level of contextualization to data from the questionnaire.

Task Articulation. SEL constructs have been identified among the greatest influences on school performance (Wang et al., 1993). Interview participants echoed the importance of these constructs on their individual experiences. Charles felt that the structure of the overall experience was what helped in learning to make and manage different decisions:

When we were preparing for our first one and making our lesson plan, it was really interesting because we got instruction, but it wasn't extremely specific. This was more along the lines of “okay, we gave you the tools and just go do” and I thought that was really interesting. It was a little hard at first to get started, especially with picking a short lesson. So planning was tricky, but it was really fascinating to do it without having somebody holding your hand per say. I thought that was really beneficial, especially in all three rounds. I think that while it is challenging for some people at the beginning, I think that ultimately it's very beneficial for everybody as a whole because you're making these

decisions on your own rather than being told the right answer. So you're building that cognitive ability by yourself rather than having someone give it to you.

Raina also commented that she felt "like we had a lot of choice in what we wanted to teach, and what aspects of each lesson we could teach" and that the space to make those choices initially intimidated her but ultimately allowed her to "feel more ownership of it all at the end." These comments support the notion that PAL arrangements have the capacity to support the development of responsible decision-making skills (Bear, 2005).

Peer Relationships. Zins (2004) posits that collaborative learning can create a culture among peers that fosters the development of important interpersonal skills, such as clear communication and establishing and maintaining healthy relationships. Interview respondents reported feeling encouraged by opportunities to build relationships with others during PAL experiences. Charles specifically mentioned that the online peer teaching unit was his first opportunity to begin to establish relationships with others:

I knew literally nobody, and up until peer teaching, I didn't know a name. Well, I knew names, but I never talked to anybody outside of class. So really that practicum experience was just really meaningful. I made connections and friends with people that I just couldn't in person, so I think it was definitely beneficial to build relationships with other students in the class.

Similarly, Hope said that she was able to "make connections and friends with people that I just couldn't in person, so I think it was definitely beneficial to build relationships with other students in the class." The personal experiences of both Charles and Hope suggest that the online peer teaching experiences were conducive to the frequent, high-quality social interactions that are necessary to build strong interpersonal skills.

Self-Regulation. An individual's self-regulation has to do with their ability to manage emotions, thoughts, and behaviors as well as recognize them in oneself and others (CASEL, 2003). Interestingly, mean scores for the item response "I understand that I am responsible for my own actions" were $M=5.00$ on an overall scale of 1-5. This suggests that participants in this study felt confidence in their capacity for identifying and taking responsibility for their own actions throughout the online PAL unit. Jamal alluded to this concept when he discussed his journey with lesson planning:

I definitely didn't do enough planning for the first round. I wrote it out and figured out what I was going to do, but I didn't really grasp how everything was supposed to relate from the objectives to the activities to the assessments. Then, when I did my third lesson, I wrote out a much more in-depth plan and I felt really good about my plan and then when I got in to teach it just didn't go well in terms of technology. It also showed me that, because I had developed a better plan, I felt more comfortable being flexible and changing when I needed to if things didn't work out the right way. It felt better to have a structured plan so that when things went poorly in some ways I could bring it back because I knew what I was ultimately trying to get the students to benefit from.

Hope also had an experience with learning how to manage her time effectively:

I have never really had to time myself or had a specific set of things that I wanted to get done. Normally I'm just like, this is what I roughly want to do today and we'll see what happens, so it was really interesting having our time limit. Once I was able to go on to the third round and I had a better idea of my timing and what I wanted to get done in the lesson and what would be physically possible to get done in the lesson, I saw that I grew a lot more through that and I was able to get through the lesson a lot more efficiently than

I had before and I was still able to hit all of the...like, check all of the boxes that I wanted to check.

Both of these participants expressed an awareness of how they learned to control their own personal actions and development over the course of the online peer teaching unit. These comments align with Johnson & Johnson's (1989; 2003) assertion that collaborative experiences promote a higher positive commitment to both group and self-success.

Classroom Climate. Classroom climate is the perceived connection, rapport, or affinity between instructor and students derived from relationships between instructor, students, and course structure (Dwyer et al., 2004). Descriptive, self-reported data regarding perceptions of online classroom climate were separated into four sub-domains: peer behaviors, course structure, student connectedness, and course clarity. Inferential analyses on all pre-posttest participant responses indicate significant changes in course clarity ($t=2.05$, $p=.005$). Specifically, results indicate significant changes in course clarity ($t=2.16$, $p=.031$) for all freshman participants and all participants with a band background ($t=2.12$, $p=.017$). Theoretically, these findings suggest that perceptions of online classroom climate may be moveable during the course of short-term PAL experiences. Further examination of this interaction is warranted given the exploratory nature of this study.

Overall, participants felt positive about experiences with their peers and the course structure given final mean scores ranging from 6.03 (course structure) to 6.52 (peer behaviors) on a scale from 1-7. Furthermore, pre-posttest increases in mean scores across all domains indicate that positive student perceptions of classroom climate increased over the course of the online peer-assisted learning unit. This is supportive of previous findings that indicate climate-building through positive student-student interactions can create a sense of community online

(Song et al., 2004) and increase feelings of connectedness with others (Vonderwell, 2003; Woods, 2002).

Context: Follow Up Interviews. The following information from participant interviews is grouped by classroom climate sub-domains (peer behaviors, student connectedness, course structure, course clarity) in order to provide a level of contextualization to data from the questionnaire.

Peer Behaviors and Student Connectedness. The strongest responses indicated on the questionnaire include the perception that peers were respectful, supportive, and cooperative toward one another. However, it is important to note that students in online classroom environments have previously reported higher levels of perceived loneliness which can leave students with a feeling of being “alone together” (Ali & Smith, 2015; Turkle, 2011). In the interview portion of the study, Hope mentioned a similar feeling of disconnect from her peers despite being able to connect with them online:

I feel like being online had a different type of disconnect for me. I was able to see everybody else and actually put names to faces for the first time in a long time. We were all supporting each other but we weren't there physically able to support each other. It had a different feeling to it, which I guess it should because it was fully online and I was just sitting in a room by myself but still teaching other people.

Conversely, the other interview participants mentioned feelings of support, respect, and comfort with other students as a result of the ability to meet online in small groups. Jamal mentioned that working in the online groups was “the first time I felt like I got to know the other people in the class because I could find out anything about them” which was “just a huge weight off of my shoulders to finally be able to get to know the people in class and it made me feel so much more

comfortable than I did before.” While Charles mentioned specifically that “the dialogue between students in smaller online groups” was very beneficial to connecting with others. This mirrors Biasutti’s (2011) findings that students experience more success and higher levels of satisfaction in smaller groups due to the potential for higher levels of interaction and participation.

According to Kaufmann et al. (2016), meaningful social connections are a predictor of success in online learning environments. These positive interactions can help create a sense of community (Song et al., 2004) and increase feelings of connectedness online (Vonderwell, 2003; Woods, 2002). Several interview participants highlighted these concepts in their discussions of the overall support and camaraderie that they felt amongst their classmates. Jamal described the climate as “extremely supportive” and explained that he felt this was because:

Everyone was coming at it from the same direction of trying to do their best to help each other so if anyone was struggling, someone would always jump in and help and that was just so nice to have. In a lot of situations, we might not gain as much from practicum or teaching if we are going out and doing it and the younger students aren’t going to be able to give you feedback specifically on your teaching. So, it was nice as a starting point to have people who were just there to help each other. We all had the same mentality of teaching and then making it a point to watch each other and make sure we all knew what we did well and how we could improve. It was just really helpful to have everyone on the same page and truly supporting each other.

Similarly, Raina described the online climate as fun and interactive because of the ability to have informal conversations with her peers before and after the teaching assignments:

It was actually really fun to work with people one-on-one because everyone’s personalities came out a lot more while teaching and just while interacting. If we got on

the call beforehand then we could chat like, “How’s everyone doing? How’s your day-to-day?” I met my partner online for the first time, we had never talked in class, and I’m like, “I have literally never met you before, how are you doing?” I feel like working online that way was really fun, and I feel like that helped for me and my connections with my other peers, it helped us bond a little bit more.

This student-student rapport is strongly related to the development of a positive classroom climate (Frisby & Martin, 2010). The experiences of these participants coupled with the relatively high aggregate mean scores in the peer behavior (M=6.52) and student connectedness (M=6.43) subdomains suggests that the online PAL experience created opportunities for students to connect with one another in meaningful ways.

Course Structure and Clarity. Participant responses on the quantitative questionnaire revealed increases in the mean scores for both course structure (initial M=5.82; final M=6.03) and course clarity (initial M=5.90; final M=6.27). Items that received the highest scores include “This experience provided ample opportunities for communication among students” and “The design of online practicum encouraged student interaction.” This increase suggests that students may have benefitted from the overall design of the online PAL experience which provided students the opportunity to hone their skills and understanding over the course of three peer teaching episodes and four teacher observation rounds. Several interview participants expressed that, while they were grateful to have been provided with an overall framework, they also enjoyed the element of choice that was built into the online PAL design. Charles characterized the structure of the unit as useful to his future teaching goals:

I literally thought it was probably the most beneficial thing that I’ve done for my teaching career this year. I loved how you gave us a little bit of guidance, but I loved how you just

kind of threw us in and made us kind of have that cognitive dissonance where we had to like figure it out for ourselves. It was frustrating at first, but going through it and finally doing it, looking back, it's just so beneficial and I know it will be beneficial in the future, because obviously when you're a teacher you're not going to have your hand held from anybody else. Especially in music, you're going to be one of the only teachers at your school that will be teaching that subject, so you ought to figure it out by yourself, and have a set of goals that you need to reach. This helped us prepare to reach these goals without having exact structure to it.

Within the peer teaching rounds, Raina enjoyed being able to have “a lot of choice in what we wanted to teach, and what aspects of each lesson we could teach.” However, she also commented that students were “given a lot of suggestions to work with too. We were in a very controlled setting, so it felt really nice. It was kind of comforting to know that I was in a controlled space and feeling supported.” Jamal made similar comments regarding his feelings about the amount of choice that was available to him throughout the online PAL experience:

I liked that I could change my topic and lesson every time to work for me and who I was teaching. We had three different topics to choose from and I was able to find a way to make it more in depth or different each time. I liked that I could control the different lessons because we were all learning generally the same things over and over. I felt better about my lessons being my own and not just copies of what everyone else did. That really helped me keep my anxiety down and also helped everyone else pay attention.

Similarly, Hope mentioned that it was a relief to her to be able to focus on certain aspects of this experience because of the overall structure that had been provided for her.

In a way, it was nice not to have control over everything like making our groups or creating the virtual meetings. It was nice to be able to focus on getting my lesson plan and materials done and that was pretty much it. I enjoyed that aspect of it because I didn't have to worry about who my partner was going to be or how to get people to be in my group or anything like that.

These comments align with Thorpe's (2002) suggestion that students benefit when they are offered a role in shaping and designing activities in an online collaborative environment. It has been noted that online experiences between peers can be unproductive or damaging if not facilitated correctly (Thomas, 2002); however, responses to items on the quantitative questionnaire taken together with the perspectives of interview participants suggest that the structure of this online PAL experience was supportive of individual student needs and educational goals.

Summary

Results indicate that individual motivation orientation, social-emotional learning, and classroom climate are factors with the potential to elucidate different student experiences during online PAL. Furthermore, examining these facets in the context of an introductory music education course provides evidence that each of these domains may interact with preservice music teacher perceptions of online PAL experiences. Notably, self-reported motivation orientations were skewed overall toward the mastery approach domain and were positively correlated with the social-emotional learning and classroom climate domains. Specifically, the relationships between motivation (mastery-approach orientation) and classroom climate domains (course structure and course connectedness) were some of the most pronounced, indicating that a student's perception of classroom climate may improve as they trend toward a mastery-approach

orientation. This is not surprising given that previous researchers (e.g., Johnson, 2013; Miksza, 2009; Schmidt, 2005) have found that students who are driven to achieve competence for the sake of their own satisfaction and personal fulfillment tend to have higher levels of engagement in music learning environments.

Follow-up interview participants represented a divergent array of motivation orientations including both mastery and performance domain orientations and encompassed a variety of demographic characteristics including primary music area (i.e., band, choir, orchestra), race, and gender. Interview participants provided further context to these findings by sharing their individual experiences with group interactions, peer feedback, student connectedness, and course structure. Notably, participants reported challenges with initial feelings of insecurity and uncertainty surrounding the online peer-assisted learning format. However, participants also indicated that engaging in multiple, consecutive rounds of peer teaching and observation improved their confidence and helped them adjust to the notion of teaching a group of peers. Furthermore, some participants struggled with adjusting to the idiosyncrasies of an online learning format; however, participants reported that working through these challenges together helped them feel more connected, even in a virtual environment. Taken together, these factors provide insight into student experiences with PAL in an online preservice music teacher education context.

Practical Implications

The results of this study suggest that it is possible for PAL to be integrated into an online music teacher education context and that this integration may have benefits for a variety of learners. However, results also indicate that teachers need to carefully consider the overall design of the PAL experience when choosing to incorporate it into an online music classroom.

1. Introducing PAL in small, semi-structured ways will help students acclimate to some of the difficulties of communicating online with one another. Results of this study suggest that small online breakout groups are an easy, low stakes way to provide students with opportunities to interact with one another. If done at regular intervals, this can also create opportunities for students to connect with a variety of their peers.
2. Students benefit both academically (e.g., perceptions of classroom climate) and socially (e.g., feelings of belongingness and empathy) from opportunities to connect with others in informal, personal ways. Intentionally providing these opportunities and outlets for students at all levels is important given that online collaboration does not inherently lend itself to the same type of communication that face-to-face learning contexts do.
3. Providing elements of choice within an online PAL experience can help students feel a sense of autonomy over their learning. This can be done in myriad ways on both a small and large scale. Some examples include allowing students to choose group members or select group activities from a teacher-approved list.
4. Peer feedback has the potential to benefit all students and can be incorporated alongside teacher commentary and assessment. Students can utilize a variety of online platforms to deliver feedback in both video and written format. Similarly, it is helpful to provide space for students to give both synchronous and asynchronous feedback.

Suggestions for Further Study

Many of the themes that emerged from this study align with prior research regarding the benefits and drawbacks to online collaborative learning environments (Altinay, 2017; Biasutti, 2011; Seddon & Biasutti, 2009; Thorpe, 2002). However, given the lack of research in the realm of online PAL in the music context, future research could expand upon these findings by

investigating online secondary music environments, including ensemble-based and non-performance-based courses. It would also be useful to explore methods of making music together in both synchronous and asynchronous online music classrooms and to compare this with different age groups.

It is important to note that this study took place during a time when strict safety precautions were in place for all face-to-face courses at the university level. All students in the introduction to music education course initially met face-to-face with these safety measures in place prior to transitioning to the practicum unit, which took place exclusively in an online context. Therefore, it is possible that these initial meetings coupled with requirements for wearing face coverings and social distancing may have had an effect on the participant's perspectives of their experiences with this online PAL unit. Given this information, researchers interested in collaborative and PAL should also examine comparisons between student experiences in face-to-face, online, and hybrid music learning contexts.

Finally, it would be useful for researchers examine additional variables that have been theoretically linked to PAL (e.g., self-efficacy, student agency, and self-concept) in an attempt to deepen our understanding of individual student perceptions and experiences. Further exploration can also include a deeper investigation regarding how these variables interact with one another to influence an individual's experience during collaborative learning activities.

Conclusion

PAL can help to promote a rich student learning environment that supports a variety of participant structures. Though this type of learning originated in face-to-face instruction, collaborative learning practices have since extended into the rapidly growing realm of online learning (Altinay, 2017; Biasutti, 2011; Raymond et al., 2016; Shawcross, 2019; Thorpe, 2002).

Online collaborative learning can spark a powerful network for achieving educational goals, and opportunities to support teaching and learning in this format are becoming more commonplace (McLuckie & Topping, 2004). The investigation of these opportunities within a music specific context was intended to create a potential path forward for music educators and students alike to experience success in online music classrooms.

A fundamental assumption of PAL is that students have the capacity to take responsibility for their own learning. Educators can better help students realize that potential by understanding different characteristics and viewpoints (such as motivation orientation, social-emotional learning, and classroom climate) of the students under their care. Music teachers and students are faced with unique obstacles in online learning environments; however, collaborative learning arrangements such as PAL are important tools that can be used to overcome those challenges. Providing ample opportunity for students to connect and learn music together in meaningful ways is an important step toward the development of thoughtful, respectful, and confident lifelong learners.

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APPENDICES

APPENDIX A

ADULT PARTICIPANT INFORMED CONSENT

Department of Music, Theatre, and Dance

Formal Study Title:

STUDENT PERCEPTIONS OF ONLINE PEER LEARNING IN PRESERVICE MUSIC TEACHER EDUCATION: MOTIVATION, SOCIAL-EMOTIONAL LEARNING, AND CLASSROOM CLIMATE

PRINCIPAL INVESTIGATOR: Dr. Erik Johnson, Associate Professor of Music

CO-PRINCIPAL INVESTIGATOR: Christina Herman, MME Student

WHAT IF I HAVE QUESTIONS?

For questions or concerns about the study, you may contact:

- **Christina Herman, *co-principal investigator*:** christina.herman@colostate.edu
- **Dr. Erik Johnson, *advisor*:** e.johnson@colostate.edu

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted, contact the CSU Institutional Review Board at: RICRO_IRB@mail.colostate.edu; 970-491-1553.

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of this study is to explore a nest of student perceptions theoretically linked with peer-assisted learning (i.e., motivation, social-emotional learning, and classroom climate) in the context of online peer learning experiences in music.

WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH?

You are being asked to participate in the study because you meet the following criteria: currently enrolled in a first-year music teacher preparation course that will be participating in online peer learning activities as a part of the course curriculum.

WHERE WILL THE STUDY TAKE PLACE AND HOW LONG WILL IT LAST?

Strand I: The study will take place during scheduled peer learning activities in your introductory music education course. Additionally, a questionnaire will be distributed electronically at the conclusion of the initial and final peer learning experiences and will take approximately 15 minutes to complete.

Strand II: This portion of the study will include interviews of selected participants. The interview will take place in a private location of the participant's choosing and will last approximately one hour.

WHAT WILL I BE ASKED TO DO?

Strand I: If you volunteer to participate in this study, you will be asked to do the following:

- Complete a questionnaire related to your own motivation, social-emotional learning, and classroom climate.
- Allow the researcher to observe your participation in online peer learning activities.
- Allow the researcher to observe your responses on assignments related to online peer learning activities.

Strand II: If you volunteer to participate in this study, you will be asked to do the following:

- Complete an interview with the researcher. Questions will relate to your experiences and perceptions with online peer learning experiences in your music teacher preparation course.

ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY?

There may be no direct benefit to you as a participant in this study. However, we hope to learn more about student perceptions and experiences with online peer-assisted learning in music. This information could help the researcher make recommendations to policymakers and administrators about improvements that benefit music teachers and students.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

There are no known risks included with this study. While the level of risk is minimal, you may become uncomfortable answering some questions about your perceptions and experiences during online peer learning activities depending upon the type of interactions you have.

WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY?

You will not be compensated for participating in this research.

WHO WILL SEE THE INFORMATION THAT I GIVE?

All information gathered in this study will be kept as confidential as possible. Your privacy is very important to us and the researchers will take every measure to protect it. Your information may be given out if required by law; however, the researchers will do their best to make sure that any information that is released will not identify you. No reference will be made in written or oral materials that could link you to this study. For this study, we will assign a code to your data so that the only place your name will appear in our records is on the consent and in our data spreadsheet which links you to your code. Only the research team will have access to the link between you, your code, and your data. All records will be stored in an encrypted, cloud-based storage system for one year after completion of the study. After the storage time, the information gathered will be destroyed. We may be asked to share the research files with the sponsor or the CSU Institutional Review Board ethics committee for auditing purposes. You should know, however, that there are some circumstances in which we may have to show your information to other people. For example, the law may require us to show your information to a court OR *to tell authorities if we believe you have abused a child, or you pose a danger to yourself or someone else.*

DO I HAVE TO TAKE PART IN THE STUDY?

Your participation in this study is voluntary. All students in the introductory music education course will engage in online peer learning activities per the course curriculum; however, you may refuse to participate in this study or in any part of this study and data will not be collected from your participation in the online peer learning activities. You may withdraw at any time without prejudice to your relations with CSU. Refusal to participate in this study will not affect your course grade, relationship with the course instructor, or Graduate Teaching Assistants. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Participant Consent:

Your signature acknowledges that you have read the information stated and voluntarily wish to participate in this research. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 3 pages.

Signature of person agreeing to take part in the study

Date

Printed name of person agreeing to take part in the study

Name of person providing information to participant

Signature of Research Staff

Date

APPENDIX B

IRB APPROVAL NOTICE



eProtocol
Office of the Vice President for Research
321 General Services Building - Campus Delivery 2011 eprotocol
TEL: (970) 491-1553

DATE: September 23, 2020
TO: Johnson, Erik
Herman, Christina, Goble, Dan
FROM: Felton-Noyle, Tammy, Senior IRB Coordinator, BMR, CSU IRB Exempt
PROTOCOL TITLE: STUDENT PERCEPTIONS OF ONLINE PEER LEARNING IN PRESERVICE MUSIC TEACHER EDUCATION: MOTIVATION, SOCIAL-EMOTIONAL LEARNING, AND CLASSROOM CLIMATE
FUNDING SOURCE: None
PROTOCOL NUMBER: 20-10334H
APPROVAL or DETERMINATION PERIOD: September 23, 2020

NOTICE OF IRB REVIEW FOR HUMAN RESEARCH

Thank you for submitting your application for exempt review to Colorado State University IRB (CSU) (FWA0000647). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above-entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects, specifically .

Exempt studies are subject to the ethical principles articulated in The Belmont Report, found at the OHRP Website www.hhs.gov/ohrp/humansubjects/guidance/belmont.html.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Exempt determinations are active for five (5) years. Please be aware that changes to your protocol may change this determination for exemption from 45 CFR 46.101 and may require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, we wish you success in this scholarly pursuit.

Please direct any questions about the IRB's actions on this project to:

IRB Office - (970) 491-1553; RICRO_IRB@mail.Colostate.edu
Claire Chance, Senior IRB Coordinator - (970) 491-1381; Claire.Chance@Colostate.edu
Tammy Felton-Noyle, Senior IRB Coordinator - (970) 491-1655; Tammy.Felton-Noyle@Colostate.edu

Chance, Claire

Initial exempt determination has been granted 9/23/2020 to recruit with the approved recruitment and consent procedures. The above-referenced research activity has been reviewed and determined to meet exempt review by the Institutional Review Board under exempt categories 1, 2(ii) of the 2018 Requirements. This study is not funded.

Reviewed documents include:
• Herman IRB # Methodology



Knowledge to Go Places

eProtocol
Office of the Vice President for Research
321 General Services Building - Campus Delivery 2011 eprotocol
TEL: (970) 491-1553

- Herman IRB - Informed Consent
- Herman IRB # Surveys
- IRB_Herman IRB - Participant Email

None

APPENDIX C

PARTICIPATION INVITATION EMAIL – QUESTIONNAIRE

Greetings _____,

My name is Christina Herman and I am a graduate music education student at Colorado State University. For my thesis, I am studying student perceptions of online peer learning experiences in music teacher education. The purpose of this study is to gain a deeper understanding of collective and individual student experiences in order to inform future research and educational practices.

You are being invited to participate in this study because you are currently enrolled as a student in an introductory music education course and will be participating in online peer learning activities this semester.

If you would like to participate, please follow the link below to a questionnaire. **This questionnaire will take about 15 minutes to complete.**

Link: http://colostate.az1.qualtrics.com/jfe/form/SV_bD8dSbc8k4xddYh

Your participation in the study is strictly voluntary and any information gathered will be kept anonymous and confidential. If you have any questions about the study, feel free to contact me at the phone number and email address below or contact my advisor, Dr. Erik Johnson at e.johnson@colostate.edu.

Thank you for taking the time to consider participating in this study. The results of this study will hopefully lead to recommendations for administrators, researchers, and practicing teachers regarding curricular and instructional design strategies that can best serve students, especially in online and distance learning formats.

Thank you for allowing your voice as both a music student and future educator to be heard!

Sincerely,

Christina Herman
christina.herman@colostate.edu
828-448-2481

APPENDIX D

PARTICIPATION INVITATION EMAIL – PARTICIPANT INTERVIEWS

Greetings _____,

My name is Christina Herman and I am a graduate music education student at Colorado State University. For my thesis, I am studying student perceptions of online peer learning experiences in music teacher education. The purpose of this study is to gain a deeper understanding of collective and individual student experiences in order to inform future research and educational practices.

You are being invited to participate in the next portion of this study. If you volunteer to participate, we will coordinate a time and place at your convenience where I will conduct and interview with you. Interview questions will pertain to your perceptions and experiences during online peer learning activities in your introductory music education course.

Your participation in the study is strictly voluntary and any information gathered will be kept anonymous and confidential. If you have any questions about the study, feel free to contact me at the phone number and email address below or contact my advisor, Dr. Erik Johnson at e.johnson@colostate.edu.

Please respond to this email if you are interested in participating. I look forward to hearing from you and learning more about your experience!

Thank you for taking the time to consider participating in this study.

Sincerely,

Christina Herman
christina.herman@colostate.edu
828-448-2481

APPENDIX E

Student Motivation Questionnaire

Adapted from Elliot & Muarayama (2008)

Directions: Read each statement carefully and provide a response for each statement. There are no “right” or “wrong” answers. You will probably agree with some items and disagree with others. If you find that the numbers do not match your own opinion, use the one that is closest to the way you feel.

Please indicate your answers for each of the following statements on a scale from 1 (not at all true of me) to 5 (very true of me).

In the online peer-teaching practicum unit:

- | | | | | | |
|--|---|---|---|---|---|
| 1. My aim is to completely master the material presented. | 1 | 2 | 3 | 4 | 5 |
| 2. I am striving to understand the content as thoroughly as possible. | 1 | 2 | 3 | 4 | 5 |
| 3. My goal is to learn as much as possible. | 1 | 2 | 3 | 4 | 5 |
| 4. My aim is to avoid learning less than I possibly could. | 1 | 2 | 3 | 4 | 5 |
| 5. I am striving to avoid an incomplete understanding of the material. | 1 | 2 | 3 | 4 | 5 |
| 6. My goal is to avoid learning less than it is possible to learn. | 1 | 2 | 3 | 4 | 5 |
| 7. My aim is to perform well relative to other students. | 1 | 2 | 3 | 4 | 5 |
| 8. I am striving to do well compared to other students. | 1 | 2 | 3 | 4 | 5 |
| 9. My goal is to perform better than the other students. | 1 | 2 | 3 | 4 | 5 |
| 10. My aim is to avoid doing worse than other students. | 1 | 2 | 3 | 4 | 5 |
| 11. I am striving to avoid performing worse than others. | 1 | 2 | 3 | 4 | 5 |
| 12. My goal is to avoid performing poorly compared to others. | 1 | 2 | 3 | 4 | 5 |

APPENDIX F

Social-Emotional Learning Scale

Adapted from Coryn et al. (2009)

Directions: Read each statement carefully and provide a response to each statement. There are no “right” or “wrong” answers. You will probably agree with some items and disagree with others. If you find that the numbers do not match your own opinion, use the one that is closest to the way you feel.

Please indicate how strongly you agree or disagree with the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

In the online peer-teaching practicum unit:

- | | | | | | |
|--|---|---|---|---|---|
| 1. I understand situations that cause me to feel happy, sad, angry or frustrated. | 1 | 2 | 3 | 4 | 5 |
| 2. I can express my emotions without getting mad, excited, or yelling. | 1 | 2 | 3 | 4 | 5 |
| 3. I am able to talk to teachers and other trusted individuals about interests I have. | 1 | 2 | 3 | 4 | 5 |
| 4. I understand how my family, school, and others in the community can support my success in my teacher preparation program. | 1 | 2 | 3 | 4 | 5 |
| 5. I can explain what I need to do to reach a goal. | 1 | 2 | 3 | 4 | 5 |
| 6. I can keep track of my progress toward a goal. | 1 | 2 | 3 | 4 | 5 |
| 7. I understand the feelings expressed by others. | 1 | 2 | 3 | 4 | 5 |
| 8. I can identify differences among cultural groups. | 1 | 2 | 3 | 4 | 5 |
| 9. I work positively in groups with people who are different from me. | 1 | 2 | 3 | 4 | 5 |
| 10. I know different ways to make and keep friends. | 1 | 2 | 3 | 4 | 5 |
| 11. I figure out different ways to work effectively in groups. | 1 | 2 | 3 | 4 | 5 |

12. I understand what causes problems among my friends.	1	2	3	4	5
13. I can help solve problems among my friends in a positive way.	1	2	3	4	5
14. I understand that I am responsible for my own actions.	1	2	3	4	5
15. I understand the need for structure in my teacher preparation program.	1	2	3	4	5
16. I can anticipate how certain people or situations may cause problems.	1	2	3	4	5
17. I am able to resist people and situations that cause problems.	1	2	3	4	5
18. I can figure out different solutions to school problems.	1	2	3	4	5
19. I can figure out different solutions to personal problems.	1	2	3	4	5
20. I help out other students and teachers in my teacher education program.	1	2	3	4	5

APPENDIX G

Online Learning Climate Scale

Adapted from Kaufmann et al. (2016) and Kaufmann & Vallade (2020)

Directions: When you are thinking about the online practicum unit, consider the climate (e.g., the emotional atmosphere, environment, feeling, and or connection in the course with the instructor and students). Think only about the online practicum component of this particular class as you respond to the following statements.

Please indicate how strongly you agree or disagree with the following statements on a scale from 1 (strongly disagree) to 7 (strongly agree).

Based on my online practicum interactions with peers, I perceive my peers:

- _____ 1. As understanding.
- _____ 2. As supportive.
- _____ 3. As engaged in the course.
- _____ 4. As approachable (e.g., someone I would email or visit virtually)
- _____ 5. As respectful toward me.
- _____ 6. As responsive (e.g., provides feedback)

Based on my experiences with and perceptions of the online practicum in this course:

- _____ 7. The technology used in practicum fostered collaboration among students.
- _____ 8. The design of online practicum encouraged student interaction.
- _____ 9. This online practicum experience provided ample opportunities for communication among students.

Based on my experiences with and perception of the online practicum in this course, I perceive:

- _____ 10. Students as respectful of one another.
- _____ 11. Students as comfortable with one another.
- _____ 12. Students as cooperative with one another.

Based on my experiences with and perceptions of the online practicum in this course:

- _____ 13. The practicum expectations were clear.
- _____ 14. The instructions for assignments were clear.
- _____ 15. The instructions for use of technology were clear

APPENDIX H

Interview Questions

Adapted from Jones et al. (2013) and Raymond et al. (2016)

1. Initial Open Ended Questions

- a. Tell me about your personal experience during the online practicum unit.
- b. Describe the experience of your peers during the online practicum unit.
- c. Tell me about your perceptions of your own role during the online practicum unit.
- d. Describe your perceptions of the roles of your peers during the online practicum unit.

2. Empowerment

- a. Did you feel like there were aspects of this practicum unit were you able to control? If so, what?
- b. What types of decisions were you and your peers able make throughout the unit?
- c. What types of decisions were made for you?

3. Usefulness

- a. How will what you are learning in practicum be useful to your short-term goals? Long-term goals?
- b. Was working within a collaborative group environment a realistic simulation of a real-world work experience? Please describe.
- c. Should there be more opportunity to in student groups during online classes? Why?

4. Success

- a. What aspects of this practicum experience make you feel competent or overwhelmed?
- b. Describe the feedback you have received from your advisors on this project.
- c. How does that differ from the feedback you received from your group members?
- d. What feedback has contributed most to your success?
- e. Do you believe that working within a group made this project easier or more challenging? Please explain.

5. Interest

- a. How did you determine the topic that you selected to teach?
- b. Describe your initial interest in the practicum experience.
- c. How did working with others influence your interest in practicum?
- d. Describe your interest in practicum now.
- e. Has this changed? If yes, what caused the change?

6. Caring

- a. Describe the dynamics among your peers.
- b. Describe how you interacted with your peers.
- c. What would you change about the dynamics of your peers during this experience

APPENDIX I

INTERVIEW TRANSCRIPTS: CHARLES

Can you tell me about your personal experience during the online practicum for this course, both the first three rounds and the guided observations?

C: When we first started, overall I thought it was just fantastic. At the end I looked back and thought, “wow, that was really funny, kind of flew by.” But, when we were preparing for our first one and making our lesson plan, it was really interesting because we got instruction, but it wasn’t extremely specific. It was very different from other classes, like a history class, where you know that there are specific things you have to touch on. This was more along the lines of “okay, we gave you the tools and just go do” and I thought that was really interesting. It was a little hard at first to get started, especially with picking a short lesson. I did the solfege one, and it was hard to think of every little detail, and especially going into the first round there were things that I forgot to do. I thought, “wow, this went a lot longer than I thought it was going to be.” So planning was tricky but it was really fascinating to do it without having somebody holding your hand per say. I thought that was really beneficial, especially in all three rounds. Especially in the second round, I thought it was really helpful to work with two other people. It was a little harder just cause we couldn’t meet in person, but I still think it was beneficial. We were definitely able to bounce ideas off each other even though it didn’t really go as smoothly as I thought. I thought the first round was a little smoother than the second round just because we had to change up our lesson to fit all three people. I think another problem with the online setting was just communication with the other two people in my group. I set up a group conversation, or a group text message and didn’t really hear back from anybody until like the night before. There’s always that stuff, “oh, busy life” but, I think it was overall really good. I thought round three was fantastic because we were able to really solidify and modify our lessons to make them a lot different. It was...it was really, really fun.

You mentioned that communication was tricky – do you feel like there were any other big snags or issues for you?

C: Aside from communication, because that was definitely the biggest one with round two...honestly, I thought that was the most stressful thing that we had to deal with. Some other things, maybe not necessarily a pitfall, but just little stumbling areas, was trying to figure out how to get students to be interactive during the lesson. I thought that was tricky – trying to space out if a student doesn’t get it right in a short amount of time. But there weren’t really pitfalls, just little grievances, that were like...”oh okay, I can deal with that.”

What do you feel, based on your teaching or even just casual conversations with other people, what was your perception of what other people were experiencing?

C: I was paired with [group member] first, and they were truly petrified of teaching. I kind of felt bad. I would say, “it’s going to be okay,” and when we first started, they were definitely terrified,

but there was a sense of that from other people too. I felt this from a lot of people going into the discussion the next day and listening to other students talk. I think [group member] and a couple other people were talking about how the environment was very open and people were really okay with you messing up. I think that everybody was just so accepting of what your performance was, and there wasn't really any judging going on that I felt from other students.

Why do you think it felt so open and supportive and have you experienced that kind of environment before?

C: I think it was because everybody was doing this for the first time. Everybody was in the same boat and if they messed up, they didn't want to be judged harshly so they would have the attitude of "If I don't want to be judged, I don't think I should judge other people harshly, because I know what it would be like to fail." It's very different from writing a paper, like in an English class. Even then there is still that judgmental air of "wow, this guy doesn't know how to write." I think here it was a first time thing for everybody and we just thought "well we don't know how this is going to go, so let's just do it."

Do you feel like that support continued through each round or did it change as things progressed?

C: I feel like it changed a little bit, especially going from the second round to the third round. I know that a couple of people were upset with who they were working with because their group members just didn't do what they were supposed to do. I think there was a little, not necessarily judging, but frustration between those people? So that translated into a kind of presupposition if they were being taught by that same person in round three again...anticipating something going wrong a little bit, just because they didn't do what they were supposed to do in their group in round two. So, maybe it changed a little bit for specific people, but I would say overall not really at all.

You've mentioned each round a little bit and obviously there was a schedule and guidelines in place but outside of that, what decisions or choices did you feel that you were able to make during the practicum unit?

C: Obviously we had due dates, which helped us plan out when everything was supposed to be done. But I felt like I was able to control, especially with rounds one and three, most of what I was doing. Once I solidified what I was doing from round one, it was just building blocks off of there. We weren't being handheld, but we were being helped from our previous rounds, right? So we were able to just adapt and build on that and consider things like, "okay now I know what happens when I do it like this compared to the other way that I was thinking of doing it."

Do you feel like this kind of structure, or lack thereof, is useful to you as a future educator?

C: Oh yes, one-hundred percent...I think that it was frustrating at first, right? We were kind of wondering what we were really doing. We didn't know if this was going to be right or not. It was frustrating at first, but going through it and finally doing it, looking back, it's just so beneficial and I know it will be beneficial in the future, because obviously when you're a teacher you're not

going to have your hand held from anybody else. Especially in music, you're going to be one of the only teachers at your school that will be teaching that subject, so you ought to figure it out by yourself, and have a set of goals that you need to reach. This helped us prepare to reach these goals without having exact structure to it.

What about when you were working together with your group – did you feel like that at all simulated any sort of real-world work environment? Do you think those kinds of experiences will be beneficial in the future?

C: Oh yeah, I completely do. Band or choir work together with other ensembles, like trying to put together one Christmas thing where the band and choir are in the same concert. I think that was very beneficial because I know the other people that I worked with and it was really nice working with like an orchestra member or a band member.

Speaking of working with different people, I'm curious as to how you felt from the beginning of the semester when we were sitting in class, socially distanced with masks, and then we transitioned into an online component where you are working with each other in different ways. How was that shift for you?

C: Yeah, so this is really interesting. I never thought that wearing a mask would prohibit or hurt in talking to new people, but it definitely did. Going into this class, I knew literally nobody, and up until peer teaching I didn't know a name. Well, I knew names but I never talked to anybody outside of class. So really that practicum experience... getting to see faces without a mask was just really meaningful. I made connections and friends with people that I just couldn't in person, so I think it was definitely beneficial to build relationships with other students in the class.

If you were to be in a fully online class, how do you think working in groups should figure into that? Do you think that's beneficial, or is it awkward for you?

C: I think it's beneficial when it's done correctly and I know that's like a broad statement. So if a group is just given a vague question that we're trying to answer, I think that is really tough because nobody's willing to say anything. But, if there are specific questions to be asked, I think that the dialogue between students in smaller online groups is very beneficial. I think it's good when there are like...four together is a good number. That way it's a big enough group where people feel comfortable, but not too big where you're not going to talk.

You mentioned open ended questions which has me thinking about the guided observation rounds – have you had a different group experience there than in the peer teaching rounds?

C: Yeah, with the peer teaching, we were able to talk more. Honestly, I just didn't talk the first time we did a guided observation when we watched a video. I don't know, it was really weird, I just felt like I didn't talk as much, and other students didn't talk as much either. You're definitely able to talk more when there are those smaller groups...I think the guided observation with everyone together just made it harder for people to talk.

Do you feel like it was the bigger size of the group for the guided observation, or did it have anything to do with the content or watching the videos and responding?

C: Well, what we watched was a band rehearsal and so I think that the vocalists weren't able to interject as much because they don't really necessarily know what is happening. They weren't necessarily in a band ensemble in high school. So that was definitely my struggle, because we were being asked questions and I just felt like, "I don't really know how to answer that."

Speaking of those feelings of uncertainty, would you say there were parts of practicum that you felt particularly successful or competent with?

C: The third time that I taught was definitely the high moment of the entire thing and I felt that from other students too. It really was that third round where we were comfortable, we knew who we were teaching and weren't afraid to interject and call names and correct people. I thought that that was the most beneficial, and it was also really cool to discuss that third round together as a group too. The dialogue was really lively, and a lot of people were talking, especially compared to the first and second round. There was a lot of dialogue in those first two, but especially the third one because everyone was by themselves, and they felt accomplished.

Did you feel like that sense of competence came from getting to do it multiple times?

C: Yes, I think that was a big part of it.

Was there anything that was especially difficult or just generally made you feel overwhelmed or frustrated?

C: I think the most frustrated I got was the first time we had to make a grading rubric. For round one when we created a grading rubric, I know there was a template, but we just had no clue...I talked to like four other people and they were like, "I have no idea how to do this," so like that was probably one of the most frustrating things, just cause like, "hey, go make a rubric," but like, not knowing how to, or what to put in the rubric. And then again, just communication between myself and other teachers, but that's natural and that will happen.

Do you think that had anything to do with the overall structure of practicum or being online?

C: I think a little bit of both – I think that it was online was hard. I also think it was kind of fear within the other two students going into the second round. Because I know that [group member] was just terrified and told me, "this is just hard for me to do." I think trying to suppress that feeling was kind of holding them back. I think that's part of it, just like fear of going into a round and being potentially judged by other people, which, [other group member] and I were like, "no, there's no way...we're here to support you." But, it's kind of hard to get rid of that presupposition.

What about the feedback that you got from your peers? What was your perception of the kind of feedback that you were getting?

C: So, I thought that some of it was genuine and then I thought that some of it was like, “oh, I forgot to do that.” I think you have to take it with a grain of salt in terms of which ones are genuine and which ones aren’t. I was definitely getting good, specific feedback in a couple of them. I think it was [group member] who was definitely my favorite one to get back, because the feedback was so specific and it was all things that I didn’t see where as other people were pointing out obvious things, but [group member] was able to pick things that weren’t necessarily on the reflection that I thought were very interesting.

What was the main difference between the helpful feedback and feedback that you felt was ingenuine?

C: The difference is in what specifics they used, so with the genuine one they are more like, “I saw that at this moment in the lesson you did X, Y, and Z,” whereas other ones are more, “you did good, good job...maybe work on how you ask questions.” Very broad, open-ended feedback that, while it can be helpful, it is short and kind of broad.

Did that feedback differ from the feedback that you got from the graduate teaching assistants and the professor?

C: Those were very professional and always used the rubric. It was more like, “okay, well in this category you weren’t specific enough in how you laid out your anticipatory set and that should have been better.” Feedback that I got from peers was more content-based, where theirs was more procedure-based and curriculum-based off of the rubrics.

Do you feel like either contributed more or less to your growth, or were they both helpful to you?

C: Yeah, I thought they were both helpful. It was helpful to receive [graduate teaching assistant]’s feedback for how a lesson should be formatted. I think that the peer feedback was really good with content-based and how you relate to students – it was very one-on-one and personal, like, “okay, you felt a little awkward,” but I thought they were both very equally helpful.

Do you think that working with others and teaching your peers made this easier or more challenging?

C: It definitely made the whole process a lot easier. Obviously it was a slow-up: the first one was the hardest one, and the second was difficult in different ways, but it was more personable with the other people that you worked with and the other people you were teaching with, and the third round, you were very comfortable with who you were teaching and who you were talking with.

What was it about working with each other or teaching your peers that you feel like made it more enjoyable?

C: What definitely made it easier was round three. You knew what was happening at that point. You were the same age as the people you were teaching and you were in the same mode, same boat as everyone else. We were asking questions and these students were like, “well I need to answer, because I know what it’s like when I don’t have people to answer.” Whereas in a middle school, all three rounds, the kids just, if you don’t ask good questions they just won’t answer, and you’ll look kind of dumb. So it was definitely encouraging to work together.

You feel like your peers were maybe more sympathetic because they were having to do the same thing?

C: Oh, one hundred percent, yes.

Let’s go back a little bit to the beginning. What was your initial interest in practicum – how would you describe those first impressions?

C: I went to a previous college, so this is technically my second year. I was in a similar class there where we created lesson plans. Before going into this I was like, “okay well we’re actually going to be teaching each other in a classroom setting,” and we never really did that at my old school. We just kind of created a lesson plan and then taught each other, but it was very abstract and not specific. This experience was very specific. We were going to teach a lesson and do all of the steps and I was a little nervous. I was like “I’ve written a lesson plan before, but I’ve never taught a lesson like this in such a specific manner,” so I was kind of nervous to see if I was just going to catch on fire.

How did going through the process and working with other people in the class affect that? Did it change, or did it stay the same, or get more intense?

C: The first time I was just hoping I wouldn’t totally catch on fire. After doing it and then knowing other people are in the same boat as I am and they’re similar, they’re feeling the same things as I am, I was able to settle down a bit and think, “okay, it’s not that bad.” I think the most worrying part for everybody was being judged. I don’t think it was necessarily getting through their content, because I think most people knew their content, with a few exceptions. I think most people knew their content but they were worried about how they were going to look to other students. I think that once they were able to see who they were working with, and sit down and be comfortable with them, I think then that the true teachers were able to come out of these people.

So what would you say was the biggest change for you between teaching in the first round and then teaching in the third round?

C: Definitely my confidence. In the first round I was definitely glued to the lesson plan so much that there would be pauses in between when I’d say something because I felt like I had to look at the lesson plan and see what to do next. I wasn’t necessarily reading it, but I was almost glued to

it. Then, in round three, I barely even used my lesson plan, because over time you internalize what you are teaching, and you trust yourself more, you practice it a couple times, and you're very confident with it.

What about the practicum experience was particularly important to you?

C: I think the reflections after were very important, especially the self-reflections. Also, specifically marking and time-stamping the videos was very helpful because you were able to go back and watch yourself when your heartbeat is not going like 240 BPM. It was very good to sit down and just look at what you did and be able to take away good things and also notice bad things that you did. I think the self-reflections were pretty high up there.

Shifting back to working with your peers and other people in the class, how would you describe the dynamics between people?

C: Outside of class when I would work with other people, it was very uncertain at first like, "I don't know, you might be doing it right, I might be doing it..." cause it was definitely like a lot of contrasting things that were going around outside of the class. Once that first round was set up and we were going into second and even in the third round especially, talking with other people was even more helpful. We could be more specific and point out what worked really well for me. We were able to basically Socratically talk about what was working well and what didn't work well and even if you didn't necessarily watch or teach everyone that you were talking to.

Did you notice any issues between people working together, like communication or any other general difficulties?

C: Not with my group per say. We had a little trouble getting started our second round, but I know another group, they had a problem where one of the members didn't do their part of the work until the morning they were teaching. I know they were super stressed about that and the person just didn't communicate with them, and I thought that was very interesting that like even when they would try to call or text them they just wouldn't get an answer back.

How did you feel about your interactions with other people? Did doing this in groups online change your interactions with people in class?

C: Oh yeah, especially after everything I feel more comfortable to talk to people and say hello in the hallway, and I'm friends with them now. I've gotten a couple meals with people that were in my practicum group, and just like...wow! You know, you meet new people and you see their personalities, especially when they're teaching and in a vulnerable situation like that, and I think it was very beneficial to go through that with people in our class.

Can you just speak a little bit to the overall experience of doing this online?

C: At first it's definitely troublesome, spending time thinking about how I wish I could be doing it in person, but the grass is always greener I guess. Going into it, knowing it was going to be online, there was actually a little bit of relief though. Like, now I have opportunities to use the

technology to my advantage, where it might have been much harder the other way around. It was also difficult not to be able to be in person and sing with other people and create harmony together. We really had to figure out how to get the student to harmonize while I'm not there. We had to figure out how to record ourselves and upload it to complete everything. I'd say it was definitely a good experience to learn technology better and be more comfortable with all of that.

You mentioned the delay in being able to sing and make music together virtually – how did you feel about that? Do you feel like that affected feeling connected to your peers?

C: I think it maybe affected it a little bit, but not a lot. I think seeing faces it was such a huge step for everyone, because just I didn't know a bunch of these people, so I think that it would be different if we saw each other's faces in person and then we had to teach online, rather than not having seen each other's faces and then teaching online. I think that it was definitely better than if we knew each other before going into this already knowing each other.

My last question is just completely open to you. Is there anything else about your experience that you would like to share or talk about?

C: Yeah, I think the interesting thing about it, and what I thought was really fun, was seeing who our graduate teaching assistants were. Like, here are these graduate students with all of this teaching experience and it was really fun to just see the personalities up close. Especially watching them teach, I thought it was really fun to see how they interacted with students and it was just really cool to build a relationship with a graduate student who has already gone through undergraduate and has gone through all the steps and gotten their teaching license, and been teaching for a bit. I thought that was really cool, to build a relationship with a real teacher, so like later on, if we have that resource while we're going through our undergraduate, to feel comfortable asking someone questions and for help. I thought it was really good and beneficial to create a relationship with them.

Is there anything that you would change or try in a different format?

C: I mean, I thought that having two other teachers was really challenging just because you didn't know so many things. I'd like to see what would happen if you were only working with one other teacher. I think that's up for interpretation. I think that there are benefits for both of them. I think that it would've been a little less stressful working with only one person rather than working with two people, but, again I see where the three is a group come in.

What about just some final overall impressions of the practicum unit as a whole?

C: Alright. I thought it was just fantastic. I literally thought it was probably the most beneficial thing that I've done for my teaching career this year. It was really great to just – I loved how you just threw us in. I loved how you gave us a little bit of guidance, but I loved how you just kind of threw us in and made us kind of have that cognitive dissonance where we had to like figure it out for ourselves. I think that while it is challenging for some people at the beginning, I think that ultimately it's very beneficial for everybody as a whole because you're making these decisions on your own rather than being told the right answer. So you're building that cognitive ability by

yourself rather than having someone give it to you. It was really cool, I really liked how it was formatted. So we had Tuesday, we taught, Wednesday we had a day to self-reflect, and then Thursday we had a discussion. I thought that that was very beneficial. I thought that giving student feedback was very good, like peer feedback was very beneficial. Overall, I thought it was very good for how it was formatted, especially with the pandemic and trying to figure out how to do this and how to allow it to happen. It was great teaching technology, it was great in teaching how to teach if something like this would ever happen again. It was good – there was a lot of foot in the door for a lot of areas, like using all of these different virtual tools together – it was learning and teaching in a whole array of different areas.

APPENDIX J

INTERVIEW TRANSCRIPTS: RAINA

Can you tell me a little bit about your personal experience with the overall online practicum unit?

R: Before we started the whole thing, I was super freaked out. It wasn't like a make or break thing, but I knew this would either freak me out in a really good way or a really bad way and it ended up being good. The online elements were amazing for some people, and for some people it just doesn't work at all. It was really fun working through that. It wasn't fun in the lesson when things aren't working so I can't do this, but it was really interesting to see how everyone took up all those weird things that happened. I think my favorite thing about the whole thing was doing the group project. I thought that was going to be my worst one, I thought "I'm going to work with people and it's going to suck," but it forced me to be responsible about everything because it's easier to work when I knew that I had other people who had to count on me, and then I had to count on other people. The group one was actually weird too because there were some moments when we would split it all up and we didn't really get to do a full run-through beforehand. Each person kind of did something that we didn't really rehearse before, and it was actually pretty awesome and worked out really well, but it was kind of a surprise, so that was fun. I think one of the scariest parts for me for the online thing was organizing all of the files and the places where the information was going. I don't know how to describe it – we had our separate documents that we made and we had to organize for each individual thing and then after it was like, "okay I'm done with this file, what am I going to do with it?" Otherwise overall, I enjoyed it and I had a good experience.

Can you talk through what you feel like your journey was starting with round one and moving to round three?

R: At first I felt like I was in a tornado and I was trying to stick a stake somewhere and it just wouldn't land. I was like, "I don't know what's happening and my lesson is tomorrow, but I'm still in the middle of writing my lesson plan...this is crazy." I ended up learning how to spread out my time more evenly the more I worked on my project. In the beginning, I totally procrastinated and I was working the night and the morning of. The second time it was easier because we had each other to count on. The third time I started really early and it was really nice to see how I benefited from giving myself more time to work. It wasn't something that I could just cram in. If I did, it just wasn't as good as I wanted it to be. I feel like I kept getting more out of the practicum unit the longer I worked on it. Initially, I was just trying to find the right answer. I was randomly doing stuff and just putting it together and hoping that someone would tell me it was right. The farther I got along, I got to expand more on my ideas and I got to spend more time on what I actually wanted to do, and that was a really good thing that I learned throughout this. Interacting with my peers got scarier and scarier because we added more people each time. When it was one-on-one it felt easier because it was just one person that I could get to know pretty well. My last round though, it was terrifying. I wasn't in my head as much as I was in the second

one. It really was just that more people were added and I got more conscious of what I was doing throughout the lesson. It was wild because if there were even two seconds of silence I started to feel like everything was falling apart, but it wasn't, and it helped me learn that it was fine. Actually going back and watching through my videos was really interesting. I knew exactly how I was feeling at the moment, and then when I went back and watched it, everything looked fine! I just know that in the moment I was probably completely freaking out inside.

Let's go back to round two because you mentioned that was one of your favorite parts. Can you expand on that a little bit?

R: Well at first I really did not want to work together with people. I thought that I really just wanted to be able to do my own thing. Our first few group meetings were so awkward because we were all scared to speak up with our ideas. I think part of it is that we were all insecure about knowing how to teach our concept...which we eventually learned. It was really fun because it progressed from that and there were moments where the juices were really flowing. It was really fun because we were trying to create a space where it was okay to challenge each other's ideas respectfully and be creative together. It was really fun to work with my group because we didn't know each other at all. We were trying to learn how each one of us operates in addition to teaching a lesson together. It was kind of fun to work on each other's strengths and learn about it together.

So you were working on this class project together, but there was an important social aspect for you there as well?

R: Yeah, definitely. It was good socially and academically. I think collaborating and shooting back and forth ideas was one of the best parts. My group would have this idea that we scrapped five conversations ago, but we were open to bringing it back and just exploring all of our options. They were so awesome to collaborate and work with and definitely the bouncing ideas around was my favorite part about that. It was just really fun to see how it went along, especially because our perceptions of a lesson plan were really different! I was trying to write everything out because I want everything to be super detailed. I wanted to write everything we're going to say for each portion, and then [group member] didn't think we needed to do that and they are actually really good at structure. Ironically, I wanted to write everything down because I'm not really good at structuring things. So I let someone else take charge of that and then our other group member was really good at asking questions and pushing us to explain. So it was a good mixture because you have to explain your idea and you have to be vulnerable. I don't know...we worked together really well. When we taught it, we were glad for it to be over but it was just really fun.

You mentioned that you felt like having more people to work with in each round got more stressful, or maybe more intense. Can you expand on that?

R: The biggest thing was just that the more people I ended up teaching, the more freaked out I got. I know whenever other people tried to teach, I wanted to be the student that I wanted in my class. Everyone was really friendly, but it was so wild to work with people online. Sometimes it was dead silent because everyone mutes their microphones to be polite. I think one of the most

interesting parts for me was seeing how other people interacted as students, especially being our peers. It wasn't like we were trying to be competitive with each other, but...okay, this was my perception: there was this weird tension in the beginning but as things started rolling, we all realized that we're kind of doing this together so there is no point in being extra in your head or weird about things.

What was your perception of what other people in the class were experiencing?

R: I know with the people that I talked to, in terms of teaching their lessons and stuff, everyone was just like "oh my gosh that was the worst thing I've ever done in my life." It's really easy to talk about the things that you did badly and it can feel like bragging when you talk about the things that went well. I'm not extremely close with a lot of the people in class, but even with the ones I am buddies with, in general it can just kind of be that way. Especially with COVID and stuff, I feel like it's hard to make those bonds. From my perception, I just feel like we're all working towards a goal, and it's really interesting to hear. I met up with my mentor and she was talking about the different personalities of the different classes, and how some classes were really close together and they're all really good buds, and some classes were more separate. A lot of people here are very career-oriented. We're very focused on becoming music educators because that's what we're here for. I think that can be a barrier...sometimes that community aspect sometimes doesn't happen as easily as you think it would. I think those types of feelings contributed to the practicum experience where we wanted to share but sometimes didn't know how.

So in terms of community, what were your experiences with starting out in class in person, socially distanced with masks, and then switching over to this online practicum unit?

R: It was actually really fun to work with people one-on-one because everyone's personalities came out a lot more while teaching and just while interacting. If we got on the call beforehand then we could chat like, "How's everyone doing? How's your day-to-day?" I met my partner online for the first time, we had never talked in class, and I'm like, "I have literally never met you before, how are you doing?" I feel like working online that way was really fun and I feel like that helped for me and my connections with my other peers, it helped us bond a little bit more.

What are your thoughts about working in groups as a part of an online class?

R: The features that you have online, like the little chat function, is fantastic for me. I know I get very awkward and weird in my head so I don't like sharing stuff out loud a lot, but I really like bonding with people over the little chat. I just feel it's so awesome, and it's one of my favorite parts of class, especially if I don't feel like talking out loud, because I can just type in a comment or question I want. If someone makes a funny comment I can respond to that. My absolute favorite part about online is when we do breakout rooms. At first it was terrifying, but now it's like...that's the fun part! Especially compared to these COVID in-person things, we can't move around as much, and we can't do as much group work in stuff like that in the same way we used to, and these online formats help us create these settings where we can do that with just the click of a button. I do feel like it was very beneficial.

Obviously the schedule and general guidelines were set for you – but did you feel like you had control to make certain things your own?

R: I feel like it was a very big mixture. In terms of lesson planning, I actually did feel like we had a choice in what we wanted to do, and I was really freaked out about that at first! Cause I was like, wait.. I don't have to do it exactly like this? I feel like we had a lot of choice in what we wanted to teach, and what aspects of each lesson we could teach. In terms of resources and materials to choose from and work with, there are a bunch of things to work from with that. We were given a lot of suggestions to work with too. I also feel like there are still so many more things out there that we can still use but just didn't have time to for this. I think with the time constraints that we had, unless you got a head start on it right away, you couldn't really use all of those options fully. At first I didn't interpret the lesson, like writing the lesson, or what we're teaching as options that were really open-ended, and then I just kind of shifted my mindset and felt more ownership of it at the end.

Did you feel like working in that environment and then working in a collaborative group is going to be helpful to you as a future teacher?

R: Yeah, especially whenever you get out into the teaching world, you're probably not going to have all the answers laid out for you. I feel like one thing I did learn through this experience is how to be more resourceful and how to be proactive in my resources. I wanted to have a backup plan for everything, in case whatever I wanted to use totally exploded. It's crazy to think about how the world is just...it's totally going to change. By the time our class gets out teaching, everything is going to be even more bonkers. These are things that we're going to have to know, and that we're going to have to learn and use in the future. There is just going to be a big part of school that's going to have to operate online now. Being able to have the skill of being resourceful and solving problems...I feel like that is beneficial in terms of gaining skills like that for the workplace.

What aspects of practicum made you feel particularly competent or successful?

R: I feel like overall, just the thing that brought me the most joy out of this experience was when I was writing a lesson plan. There was a moment where I just spent an hour and twenty minutes trying to work out just one idea. I wanted to do a rhythm clapping thing and I kept just circling around the same three points until I finally had a breakthrough! That was definitely one of those big, nice moments for me. They always came randomly and it was really fun to have this big idea and figure out how to make it suit the students who are going to be in this part of my unit.

What in particular made you feel overwhelmed or frustrated throughout the process?

R: When I had to go back and write a reflection and all this other stuff. After the lessons I felt like I didn't know what to write down sometimes. I felt so relieved after I was done teaching and honestly I just didn't want to have to do all of the other stuff afterwards to follow up with it all.

Was it frustrating in terms of time management or volume of work, or was it more of an emotional experience for you?

R: Honestly, it was a mixture of reluctance and procrastination. I was annoyed when I thought about all of the things that I had to do, but it was more of being really bad at time management. I knew going into this that it was something that was more difficult for me personally to do. Once I started and got the ball rolling, everything went really smoothly. But just thinking about the amount of work I had to do, before I actually did the work, was a little bit overwhelming.

You mentioned that reflecting on your own teaching was a difficult part of the process. What kind of feedback did you get from your peers, and how did you feel about that?

R: Sometimes the feedback forms were really frustrating when someone would say, “you didn’t do this well,” but they wouldn’t explain why. Or someone else might say, “you need to work on this, this, and this,” and I felt like I had to do a lot of my own interpretation of what they meant. The positive comments were sometimes too generic like, “you did a really good job, you were so good,” and that’s nice to hear, but it isn’t very helpful to move forward for the next lesson. I know one of the comments that was most helpful for me was like, “this is something that I really enjoyed, and this is something that happened that could have been worked on” and then it expanded from there. I think that was the most helpful feedback. When I write feedback, I like to say, “okay you did this really good, this is one thing you might want to work on” because it’s really frustrating when you get back something but it isn’t explained in a way that you can understand or use. Part of that, especially for me, was feeling unqualified to give back feedback. I’m their peer and it feels weird to tell someone else what they need to fix. I know when I receive that, I find it as really helpful, but when I write it, I feel like I’m being weird and rude. When I receive that, that’s not how I perceive it.

Do you feel like that peer feedback differed from the feedback that you got from the professor or the graduate teaching assistants?

R: I feel like the feedback that I got from them was really helpful because I looked at it and I could tell exactly what it was. The feedback form was more detailed and I felt more “feedback fulfilled.” I got the feedback and I was like, “oh yes, I see that, I understand this.” When I received feedback that was very general it wasn’t as helpful as when I got things that were more specific.

Would you say you were just generally frustrated with the peer feedback system?

R: It was this weird thing where...everyone’s different and I don’t want to expect things out of others that I expect from myself, because that doesn’t apply to everyone. I know when I write things out, or when I try to write out feedback, I write it and I want to be as helpful as possible so I try to be super detailed. I loved getting a lot of feedback but I think that overwhelms some people. So when I receive feedback and it’s one or two lines, that’s just... a little frustrating looking back on it. I didn’t really pay much attention to it until I kind of actually started thinking about it and I was like, “well that could have been better.”

You mentioned earlier that you were initially apprehensive about the whole practicum experience. How did working with other people and moving through your different groups influence that?

R: After teaching, it was very comforting to remember that we're all just students, we're all just peers. But for me, that would kind of wear off by the time the next peer teaching rolled around and I would be amped up again. Overall, I feel like the dread that I got before each lesson kind of went away more, especially during the group one, because I had people to rely on. By the third round I kind of felt like I knew what I was doing! It definitely got less freaky to think about the more we did it. When we were doing the group it was really nice to be all one group, so it didn't feel as daunting. Time was also a big thing that I worried about, so that was a part of the pre-teaching dread was the fact that I felt rushed on time. We had to keep it really short because we had a lot of people going, but eventually I was like, "you know what, whatever happens, happens."

Did you find practicum interesting or meaningful even though you were experiencing that kind of stress?

R: For me, this part was just really exciting to do in general because it was one of the first truly hands-on experiences that we had. For specific moments, having to post your video and write certain things out in a certain way I was like, "this is an assignment." But I viewed other things, like the reflections, in a different way because I know what I'm doing now is gonna impact what I'm doing in the future so I might as well make the most of it.

Can you describe the dynamics of just working with other people through that process?

R: It was really fun and interesting to watch how the other groups, or how other people taught in their lessons. Especially with the group ones it was really interesting to get to know people and see how everyone interacted with one another in a teaching setting. It's really hard to pinpoint whose class you're going to enjoy the most-type and it was really fun to see people just being themselves, and seeing other people have a connection. I don't know how other people are bonding personally but I got to see how they connected in terms of teaching. It was noticeable. You could tell who worked well together, or maybe one person in the group didn't work as well as these two in the group or something like that. One thing that was a little difficult was not knowing the little quirks that some people have like...how often do you check your email? How do you like to communicate? There was a moment where I wanted to make sure that people watched this video beforehand. One person turned theirs in right on time, someone else turned theirs in but didn't tell me, and then another person did it at the last minute before it was due. It was really just kind of fun to just see how these people interact, not even through talking, but through all the other ways we communicate and do certain things.

Is there anything that you would have changed about your experience?

R: I feel like this unit with the teaching and with the guided observations...it's really interesting to see how people are just on different pages sometimes. I know there were moments when I gave instruction and I knew exactly what I wanted the students to do and then they didn't do it

the way I described and I'm like...what happened? When we did our first discussions about the guided observation it was really awkward, it was really weird...we just kind of sat there in silence and just watched the video. I think it had to do with the dynamics between each other compared to the teaching unit and to the observation portion. We kind of needed to get to know each other again or in a different setting and it was strange, it was weird, but it was cool at the same time because we would have these little moments where we would bond eventually.

What do you think makes it more awkward for the observation discussions?

R: The observation portion for me felt a lot more open-ended. We had a lot more control on what parts we wanted to stop on, or if we wanted to go back and rewind them. If you're teaching you kind of just have to go with the flow and cross your fingers and keep moving on. I think we had a lot more control in the observations and there wasn't a natural flow to catch onto so it was a little more awkward and weird for us to be that in control of what was happening.

Is there anything else in general about the experience that you want to share?

R: We were assigned to groups but we had control over our topics and lessons, so it was really fun to kind of be teaching the same thing as someone else and see how each of us did it. It was kind of like a gamble, and you kind of had to tread the water and feel stuff out. When we did our group thing, we decided to do a lesson that none of us had taught before and we really had to figure it out together and that was really fun. And for the last one, we all taught some kind of rhythm thing. It was really interesting to see how people took variations, cause no lesson was the same, like someone took a different path and I just kept thinking how cool all of the lessons were! I didn't feel like I missed out on anything even if we all taught the same concept, because everyone's way of teaching and everyone's perception on the subject was so different. My fear when starting was that I was going to teach something the exact same way as someone else but they would do it better. It wasn't like that at all! It was so different because each person taught differently and each person spoke differently. We were in a very controlled setting, so it felt really nice. I knew no one was going to be weird or mean and everyone was going to be nice when I taught. It was kind of comforting to know that I'm in a controlled space and feeling supported. It was really fun to bond with people and talk about all of our lessons afterward too.

Can you give some final thoughts about your overall impressions?

R: It was really freaky at first, and then we learned all these skills and stuff. We learned all of these things that we're going to implement in lessons in class, but actually using them is a totally different experience. You can talk and talk about it but doing it really makes a difference. You find out different ways to do things and it was really fun to kind of just grapple and just see how many different ways can I do assessment or change a different part of the lesson. One of my teachers told me that teachers are the best at stealing ideas, and it was really fun to just go around and be like, "Hey, I really like the fact that you did that video thing, I'm going to use that for my next lesson!" I definitely stole a lot of things, but I felt no shame about it! It was really fun to steal things from other people, and it was kind of all like fair game, you know, but in a good way because it's all about doing it to be the best teacher for your students.

APPENDIX K

INTERVIEW TRANSCRIPTS: JAMAL

Can you tell me a little bit about your personal experience during practicum?

J: I was kind of worried about it originally, kind of like anyone would be I guess - but I found that there were a lot more benefits to it than I thought there would be. I really enjoyed starting off along and then doing a group lesson and then going back to figuring it out on my own. I feel like that really helped me see what other people were doing well and figure out what I needed to work on. It helped having someone there to pick up my slack where things weren't going well, someone else was there to help me so that I didn't freak out, and it gave me a chance to regroup in a less high stakes situation. I think that in general I had a lot of fun - definitely more than I thought that I would. There were definitely things that are not my strong suit that I was able to work on during practicum, but in general it just kind of helped me to see where I could improve.

Can you elaborate on what those things are that you specifically worked on that you didn't consider to be your strengths?

J: I might be over exaggerating how lacking I think that I am, but this is something that I didn't have as much motivation to do so it felt like more of a mountain to fix - but lesson plans were difficult for me. I was very quickly on board with the idea that this was something that I needed to figure out how to do, like any teacher needs to figure out how to do. When we started talking about it, I could think back and realize that my own high school music teacher didn't do too much in depth lesson planning. It felt like every time we came into the classroom, any little thing would derail an entire class and it never really felt like there was a plan. I could kind of tell that my teacher was just figuring it out as class was going on, which I didn't have a problem with then as a student, but now that I'm reflecting on it there were definitely times when we could have been more productive and there would have been less drama and talking if it seemed like there was more of a plan. So for me, lesson planning and writing all of it out is hard because I'm just not a planning kind of person. In my own life, I wake up and I just do everything in a different order every day, so it is different for me to write it down and have it figured out ahead of time.

So how did things progress for you from round one to round three of practicum?

J: I definitely didn't do enough planning for the first round. I wrote it out and figured out what I was going to do, but I didn't really grasp how everything was supposed to relate from the objectives to the activities to the assessments. In the second round, for the group work, that really helped me because my section of it was something I felt really confident about and the other two members of my group wrote out what they were going to do. I read it and made sure that I was thinking about how what I was doing connected to what they were teaching. It helped me see where I could improve because they had a better grasp on planning than I did. Then, when I did my third lesson, I wrote out a much more in depth plan and I felt really good about my plan and

then when I got in to teach it just didn't go well in terms of technology. I tried to plan by thinking about how I would want to be taught if I were the student, but my screen sharing wasn't working and videos wouldn't play when I needed them to so it was a little scary. It also showed me that, because I had developed a better plan, I felt more comfortable being flexible and changing when I needed to if things didn't work out the right way. Because I had a plan I just was able to use more of my brain capacity to figure out how to change things instead of wondering what was supposed to happen and not knowing how to adjust. It felt better to have a structured plan so that when things went poorly in some ways I could bring it back because I knew what I was ultimately trying to get the students to benefit from.

How did you feel going into the beginning of practicum and round one after it was introduced in class?

J: I was excited but definitely worried about all of the different things that I didn't feel ready for. I'm sure that is part of the whole process of really getting a feel for it so that I can start preparing for anything as a teacher. I definitely was unsure about how to do so many things and felt really unsure about my own side of things. I don't have a lot of experience with teaching, but once we started I felt more prepared - I knew what I was supposed to be doing and what I needed to do to get it done. It is just a matter of executing it all that was worrisome for me.

What was it like for you to be teaching your peers?

J: That was probably the single most terrifying part for me. It is kind of similar to the performance classes that we do in studio class. I have taken all of the opportunities that I can to participate in them because that is the scariest place to perform. I can play in front of as many people as you put in front of me as long as they don't know what I am supposed to be doing. As soon as you put a single person who knows more about what I am doing than what I do, or even peers who are learning the same thing, now they are going to be able to tell if I mess up. Going in to round one and teaching a peer, someone who knows just as much or maybe more about what we have learned in class as I do, was really intimidating because they are going to be able to tell what I am doing well or not. That was definitely the scariest part. Lucky for me, my first person that I was partnered with was a friend and I felt like I lucked out because we talked through everything and I didn't freak out because I was comfortable getting feedback from them - even though I knew that my partner was someone who practiced a lot and I felt like knew more about this than I did.

How did that change for you from the beginning of practicum to the time that you taught again by yourself in the final round?

J: I wouldn't necessarily say that those feelings went away - I think they will always exist at some level. I will always get nervous if I am playing, talking, or presenting to someone who already knows the information. That is just kind of where I naturally exist. I think it changes rather than going away. It is something that I tried to start to use to my advantage, for example, I'm worried about how other people are going to think of me so instead I'm going to channel that into trying to do this to the best of my ability and remember that those people are people who can help me and let me know what I need to work on. It was just changing it to look toward those

other people for help rather than trying to hide all of these things from them. I tried to think that if I do something wrong or could do something better, I trust them to tell me more about it instead of me having to worry all of the time about it.

What did you notice about your peers' experiences during practicum, either from casual conversations or your own observations, could you describe your thoughts on that?

J: I think that they were all very confused about how this was going to work at first and wondering how we were really going to benefit from it. Knowing that the original plan would have been for us to go out and visit schools and teach younger kids and then being told that we can still benefit from this format as much, if not more, I think there was some skepticism there. I can't say that I know the answer to that even now, because I still haven't gone out and taught in a public school, but I definitely think that everyone was surprised by how much more we were taught and how much more we learned than we thought we were going to. It was an interesting experience for everyone on how to put themselves in the teacher role regardless of who the students in the class are. That is a situation that could definitely arise as a teacher - it is kind of the same as wondering how to make a lesson plan that you could teach to different levels so that they could all still get something out of it. For example, if I am a high school teacher I might have students who already know a lot of the information but I have to learn how to take every opportunity for them to get as much out of it as possible.

I understand that, there were certainly aspects of practicum that were already structured and a little bit out of your control. Did you feel like there was anything about practicum where you did have some control or get to make choices?

J: I liked that I could change my topic and lesson every time to work for me and who I was teaching. The first time I did the circle of fifths because I wanted to start off with something that I wasn't as comfortable with. I wanted to teach something that I also needed to learn. I changed to rhythm the second time to fit with my group members and then the third time I still did rhythm but I was still able to change it to be more in depth. I think that is something that I would encourage - we had three different topics to choose from and I was able to find a way to make it more in depth or different each time. I liked that I could control the different lessons because we were all learning generally the same things over and over. In one of the rounds, all of the teachers taught the same concept but it was nice that when I got to mine it was still a completely different lesson than what everyone else had taught. I felt better about my lessons being my own and not just copies of what everyone else did. That really helped me keep my anxiety down and also helped everyone else pay attention and not get bored.

What was it like putting those different components together in a collaborative group and co-teaching when you had all been teaching your own individual lessons?

J: It went better than I expected - I was a little worried at first, but my group agreed on a topic pretty early on. It was nice to split it up so that we each segwayed pretty nicely into each other's parts of the lesson plan. One of us handled the introduction, the middle of the lesson, and then the assessment at the end. I was the person that worked on some exercises and took them through it and stuff. I think that was nice to do because I only had to worry about one part but I got to do

an up close observation of my other group members teaching. I really tried to focus on them while they were teaching to pick up whatever I could notice so that during my turn I could react to that. I really liked that round because it gave me a better understanding of how my peers were teaching. I felt so much more involved not just in what they were doing but how they were doing it - as a student you are a little more passive but as a co-teacher you don't have to take notes or anything so you can really focus more on watching them teach.

You mentioned that this went differently than you had expected it was going to, can you elaborate on that?

J: I was definitely worried about how teaching personalities can be very different. I have seen a few instances of that - for example, when I was in a jazz band and we went to a masterclass and they put two people in the same room and it was kind of awkward when they would try to teach at the same time or they just weren't compatible. I was worried about one person wanting to spend more time on one thing and someone else wanting to move on. I think it might have been because none of us really felt like we were better teachers or understood something more than anyone else. No one felt like, well I am the expert in this area and you all can just stay back. It really didn't feel like anyone was doing that and I think that really helped with my worries. I was glad that it flowed as well as it did.

Did you feel that working with your peers that way was a realistic part of preparing you for a professional teaching environment?

J: Honestly I think that it was interesting to do that now because with COVID we just aren't working as closely with people as we used to. It was nice to get the experience of doing this all without having to meet in person - we texted and sent emails back and forth. That was something that will definitely be beneficial because that is how we are going to communicate, especially in a job in the future. It was nice to do all of this as a group because it built teamwork skills as well as being able to handle if something like this happens where things are just different than you expect them to be, we have to be able to work well in that environment too, so I think it really helped with that.

What about in the context of school and online classes - how do you feel about opportunities to work in virtual groups like this?

J: Honestly, it is hard to say because there is a big difference in how classes are now. Usually, I would say there is less distraction when you're in an actual classroom because if I'm sitting in my chair, we are all facing the professor or whatever the focal point is. When we're online, a lot of time your attention can be taken from you by all of these little boxes with all of these different people who you don't normally look at all of the time during class. I know that I have fallen victim to that multiple times, noticing someone doing something on the screen and then coming back and realizing that I missed a question or what just happened. So I think that it helps that we do small group work and breakout rooms where it is just a few people in a room working on a specific task or question that they'll bring back to the main class. It doesn't raise the stakes so much that it is anxiety giving, but it is more about knowing that there is an expectation to have accomplished something when you're in those breakout rooms but it is easier to do with fewer

people. In classes like this one, it is very helpful how often we get to be in small groups, I think we do it more than just having one person called on to answer all of the time, which is good. In classes that are more group and person oriented, I think it is really helpful to have those group rooms because we are learning more about ourselves and each other too.

How was the transition from being in class, socially distanced, at the beginning of the semester to the fully online practicum unit?

J: For me, the worst part about all of the in-person safety measures has been that I am a people person. I was never worried about making friends coming to a new school, I was actually excited because I didn't really know anyone here and I was looking forward to getting to know more people. With COVID, now it's like I have to stay away from everyone and it has been really odd, even when we're in person, to not be able to see all of someone's face or feel comfortable talking to them. I think working in groups online actually was the first time I felt like I got to know the other people in the class because I could find out anything about them. Usually it would have happened way earlier in the semester, but that didn't really happen for me until we transitioned to our online groups because in person we were so worried about keeping our distance and keeping everything sanitized. There is just so much to worry about to keep everything open that there really wasn't time to stand around and talk to people as often. So for me, it was just a huge weight off of my shoulders to finally be able to get to know the people in my class and it made me feel so much more comfortable than I did before.

What other parts of practicum were successes for you personally?

J: The whole time I never felt like we were told that there was absolutely only one way to do something, but there were certain units where I felt like the way that things were being described really resonated with me. For me, there were certain times where I didn't agree or thought differently and I never felt uncomfortable to disagree or think differently - I was always glad to be able to see all of the sides of things. There is no right answer about how to handle things, because a lot of these things are complex topics, but it is nice to be able to feel like we can just have a conversation about it where people might disagree, but they would explain why and I never felt forced into anything.

What was it that made you feel like you had that safe space to express your opinions?

J: The safety part of it definitely just came from how the people teaching us handled instruction. There was clearly a high standard but we were all expected to meet it and it was scary at first but it is exactly what [the professor] said they were doing all along. I've told other people this, but I think that they are one of the best teachers I have ever had because they tell you what they are doing and then they do it. So not only are we learning about how to keep people engaged and teach to the best of our ability. For example, we were learning to engage students cognitively, emotionally, and physically and then we would see [the professor] do exactly that and explain it to us. All of those moments were kind of intimidating but then it became this place where we all just started to understand how things worked because they were different than what we had experienced before. It was very clear how things worked and as time went on more and more people started to show up to class ready for what was going to happen. The safety came from us

both being pushed to be ready but also knowing that it was all in our best interest, that is what we are here for, and [the professor] practiced and demonstrated exactly what we were being taught. Having discourse felt okay because we talked about different ways to think about things and we knew from the start that we would learn even more ways to do things but we had to take it one step at a time. It was nice to have someone telling us that there is always another side to consider even when we were focusing on one element or one strategy.

Similarly, what were the parts of practicum that were frustrating or overwhelming for you?

J: I don't really consider this a bad thing so much as something that overwhelmed me, but there were times where things would sneak up on me. It wasn't because anyone did anything wrong, it was just that I would get to a certain day and underestimate how much work was coming up. Some days I felt like everything was due and other days I felt like I didn't have that much to work on. Formatting certain things for class and getting used to the volume of work was pretty immediately overwhelming for me from the start. Sometimes it was just not knowing exactly where I was going with things. With this format of peer teaching, I actually think that things went really smoothly though. I felt like I always understood what the goal was for the next round or observation round. It felt like if there was any shortcoming it was either done intentionally or I had waited too long to start something. The things that did fall short were normal teaching things that I think are supposed to happen when you're learning and benefit from it the next time. I wrote my first lesson plan and it wasn't clear enough - that is something that won't be as effective if someone just tells me exactly what to do. I think that was beneficial because it was left in the open and I learned through doing it over and over what works best for me.

After you finished those lessons, what was your experience receiving feedback from your group members?

J: We were all grasping at straws at first because we didn't really know what to say or how to help each other. But doing that over and over helped a lot not only at giving feedback but learning what to watch for and observe while other people were teaching. I tried to remember what I saw, what I liked, why I liked it, and what I would change so that when we got to the observation rounds it was like I could immediately notice things that I never would have before if we weren't practicing giving all of that feedback to each other. Before, I might be in a class and complain about a teacher but not know why I didn't like it, now I feel like I can explain why I would feel that way. There were times where I would watch teaching videos in our group and be able to say "Well this is why these students would be frustrated, because of this specific behavior or strategy that wasn't working" or "This is why I think this lesson went well, because of this moment or idea" so it was definitely helpful. Giving each other feedback also made it easier to give ourselves critical feedback. It is kind of like this big circle of the more feedback you give, the more you're going to look for it, and the better you're going to be at finding it. It was really more helpful to ourselves than anything. Once I saw it in other people, I was always watching for it in myself.

How did that feedback with your peers compare to the feedback you got from the professor and graduate teaching assistants?

J: The feedback was closer to what a student would give a teacher. If they aren't enjoying the course or aren't learning from it then it just doesn't matter as much what your mentors or professor feel because the students are who need to be the most understanding at first. It was nice to have the professors and teaching assistants who have more experience giving advice about what to change and also have the students and peers speak to their experience while I was actually teaching. It is nice to have both of those perspectives because it gives a more direct sense of how to change to be effective.

How did working with your peers influence your experience with peer teaching and the guided observations?

J: I think that it changed it a lot. If I was told to go watch teaching videos and write observations by myself it would have been so different because a lot of what I learned about each teaching video or each peer teaching episode came from other people. We would all find one thing and share it, but everyone would come with something different because we are all at different levels and focused on different things. It was helpful to hear from other people because we were introduced to several things at once instead of just staying focused on the only things we noticed individually.

What was the most interesting or meaningful part of practicum for you?

J: Definitely understanding how teachers feel in different situations, because it is easy for anyone to stand outside of a classroom and judge or for a parent to complain that certain things are a teacher's fault. It is so easy to do that on the outside but it is a totally different thing when you understand how hard some of this is. For example, me criticizing my high school teacher for not ever having a plan is one thing, but understanding how hard it is to always have a plan that is put together and works and is different each time is a whole different level and it changes my understanding of why there wasn't always a set detailed plan. This just gives me a better understanding of what teaching is, how it works, and knowing the constraints and things that teachers are dealing with on a daily basis is so beneficial. Having an understanding of what other people are going through is just really helpful.

Can you describe your interactions with your peers and the dynamics between people in the class during practicum?

J: It was definitely extremely supportive and everyone was so patient with one another. We understood that everyone was worried about their own lesson plan and how their own teaching was going to go. Everyone was coming at it from the same direction of trying to do their best to help each other so if anyone was struggling, someone would always jump in and help and that was just so nice to have. In a lot of situations we might not gain as much from practicum or teaching if we are going out and doing it and the younger students aren't going to be able to give you feedback specifically on your teaching, they only really know how they felt or whether or not they liked class. The mindset of a student can have a lot to do with what they are getting out

of it and how they can have fun, so it was nice as a starting point to have people who were just there to help each other. We all had the same mentality of teaching and then making it a point to watch each other and make sure we all knew what we did well and how we could improve. It was just really helpful to have everyone on the same page and truly supporting each other.

What do you think made it such a supportive environment? Is there something that sets this specific experience apart from other group work that you have been a part of?

J: I think the big thing is that, even though we are all very different people and we all worked differently, music is such a strong connector. Not just for people who are in the major of music or who teach or perform, but music is a strong connector even between people who don't study it or pay as much attention to it. I can have a conversation with a random person who might be very different from me if we like the same song or if we feel the same way about a certain musician. I think that all of us caring about music in the way that we do, enough to come to school and try to make a career out of it, it can change how we feel about a situation like this. I would be devastated to see anyone in this class do any less than their best. The whole point of this is that we are all going into something, headfirst, that we don't necessarily understand. We haven't done this before, we haven't been taught about how to teach before, and all of us not having that understanding but wanting that understanding - to know more about breaking it apart and trying to understand how things happen and why people do the things that they do - is what makes this group work so much stronger and more meaningful. If someone else in class benefits from learning about this, then I also benefit from learning about this, because we are all here for the same reason.

Any final thoughts or impressions that you'd like to speak to, or is there just anything else that you would like to share about your experience?

J: I think that overall, I have really loved this course. In my personal situation, I really wasn't sure coming into school what I wanted to major in and I changed my mind a few times. Teaching as a lifelong career is something that isn't necessarily my first choice - I have always wanted to perform, but I have benefited from all of this. I never felt like what we were doing wasn't beneficial to me. It is really nice to have a class that throughout all of the work that the instructors and students have done, it has just been an enjoyable experience to have. This has really changed how I feel about certain aspects of teaching and it has helped me figure out how I would like to get into teaching and how I can make that work for me. This has really helped me understand some of the ins and outs of teaching so that I am not going into it blind and I understand the different ways that I can go in the future. I think this has just encouraged enjoyment during class and even though sometimes the work is overwhelming, it is still so nice to have had this experience and have had great people leading us through it.

APPENDIX L

INTERVIEW TRANSCRIPTS: HOPE

Can you tell me a little bit about your personal experience with the practicum unit?

H: Yeah! So I really liked the practicum unit. I thought that being able to peer teach with other people and being able to watch other people teach was really beneficial for me. I have taught in the past, I've taught sectionals and led the group whenever my band director was gone and I've also taught martial arts for the past four years, so I had somewhat of a teaching background. But it was nice to be able to get other ideas about how certain people would do certain things. For example, on the third round [group member] used a game show format in order to teach the circle of fifths and I had never thought about that and so that was a really interesting part about that, because I was able to see the different ways that you can teach different things that I wouldn't have thought of, so I really enjoyed that. So far, I've really been enjoying our guided observations. I think that those have been really helpful because, for me, I typically learn best if I'm just kind of absorbing the information, so being able to watch these teachers but then also have [graduate teaching assistant] guide us through it and say "What was good about this? What teaching strategies did they use?" and I really enjoyed doing the reflections on them and being able to use those guided questions as well. Being able to think back and go "Well the students were a little more rowdy, why would that be?" so I really enjoyed the practicum unit. I thought that it gave me a bigger perspective than I would have had just normally teaching on my own.

Can you speak to your experience progressing from round one to round three?

H: Yeah - so round one was a little bit rough for me. I had never really had to time myself or had a specific set of things that I wanted to get done. Normally I'm just like, this is what I roughly want to do today and we'll see what happens, so it was really interesting having our time limit. I think it was like ten minutes? Hitting that ten minute mark and only being halfway done with the lesson, I had a panic attack in my brain, just thinking back, I went over time quite a lot, so that was kind of my intro to it. Then in the second round it was good to work with other teachers and be able to bounce ideas off of each other and get a different perspective about how they would teach certain things. I really enjoyed that. We did have our issues working together and communication, especially since we are almost completely online, or we were when we were working on that together. Some things got lost in translation about who was doing what and everything like that - so that was a little bit more on the difficult side. Once I was able to go on to the third round and I had a better idea of my timing and what I wanted to get done in the lesson and what would be physically possible to get done in the lesson, I saw that I grew a lot more through that and I was able to get through the lesson a lot more efficiently than I had before and I was still able to hit all of the...like, check all of the boxes that I wanted to check.

What was it about the second round that you think sparked the issues that you mentioned? Or, could you just explain a little bit more what those issues were?

H: So I think it was kind of a mix of everything. We had a pretty good idea of what we were going to teach - we were doing the solfege tune and we were like “Okay, this is how we are going to do it” and [group member] had used this system before and felt comfortable introducing it and [other group member] didn’t know as much about it, so they said “How about I do the end, like the assessment and closing out, and that will work best so that you guys can explain it since you know more about it” and I was like “Okay, great!” so it came down to me and [group member] trying to decide who was going to do each part. When we were first figuring it out, I said that I could do the introduction part, but then a few days went by and we decided it would be best if we switched, so we did. In our lesson [group member] was doing the objectives and anticipatory set and I was doing the part where we actually taught the solfege tune. So it came down to the night before we were actually supposed to teach and [other group member] had all of their stuff done and I had all of my stuff done but [group member] only had probably half of their stuff done in the lesson plan. And [group member] told us ahead of time like, “Hey, I’m super tired, I got up early so I’m going to finish before I go to bed early” so we checked back and it was maybe halfway done. So me and [other group member] were really freaking out because it is the night before we are about to teach, we don’t know what is going to happen, and it was just a whole bundle of emotions. So we get to the next morning and it is 8am and I have a class at 9am and we teach at 10am, so I check the document and it’s still halfway done, so we are trying to get in touch with [group member] trying to figure out what is going on. So it was about an hour before we were supposed to teach and [group member] said that they didn’t know they were supposed to do the introduction because they thought I was going to do it. So I’m sitting in my class just trying to think through everything because I was also supposed to be turning everything in for our group and it was really overwhelming. So that was the debacle before we taught. When we actually started teaching, we had like twelve to fifteen minutes for our lesson, but [group member] ended up taking up half of our time to do the introduction which left me and [other group member] to rush through our teaching of the solfege tune and conclusion. So that was super stressful and it got to a point where me and [other group member] talked to our professor and explained the situation and how unhappy we were with the overall performance of our lesson. We felt like it reflected badly on us and it just wasn’t planned very well, so we asked if there was anything we could do to help this. So [professor] said they listened to our situation and that we could choose to redo our lesson if we wanted so being able to have that second chance was so amazing. We did it again the next day because we had it figured out, we just needed to find a group of people to teach. So being able to have that second chance to do it was so helpful. We did it so much better and we got the timing down. It went so much more smoothly. It was also a good challenge for us as teachers because it was a different group of students who didn’t all have a music background. It was a good challenge for us to have to adapt and work through it. So we were able to do that and then my camera wasn’t working, so we had to deal with that too. I feel like us messing up the first time was actually a blessing in disguise, at least that’s how I feel about it now. We went through all of that stress but in the end it still worked out and we were able to challenge ourselves. Looking back on it, that’s really how I like to think about it now.

So based on your own perceptions, what do you feel like your peers' experiences were like during the online practicum unit? Essentially, just what were your overall impressions about what other people were feeling and experiencing?

H: From what I heard, just from talking to other people, I could tell that certain aspects were stressful like learning how to do a lesson plan and then all of the sudden we had to make a lesson plan! Leading up to it, we were prepared for it but it did seem fast paced and that's what I gathered from other people going from week to week. I understand that we need to keep moving through it but I was talking to some other people in the class and they're like "Yeah, I'm only halfway done with my lesson plan" and it's due in two days. Deadlines like that stress me out, so I was working on it throughout the week so that the night before I was just going over it. I could tell that, well, I was talking to some friends and we had just gotten done with round two and we were like, okay we have to complete a whole new lesson plan in a week where with the first round we had two weeks to get it done so it was more fast paced. With the second group we took pieces from everybody's lesson plans and put it together which was helpful. With the third round it was still something completely new and that lesson plan was hard for some people I think. I understand where they are coming from but I just don't know if there is a better way to do it. I really enjoyed having the three different rounds of peer teaching instead of only one chance to teach and that is it. So I really enjoyed having three rounds to be able to improve. If my first round was the only round that I got to teach I would be so sad! I really don't know if there is a better way to do it - maybe do the first round of peer teaching and alternate weeks with the guided observations might break it up a little bit so that we would have more time to reflect and process before moving into the next section and next peer teaching. That might work a little better but I don't even know if that is possible.

I hear you mentioning the overall schedule which obviously you didn't get to necessarily control or design, but did you feel like there were any aspects of the practicum unit that you were able to control?

H: I felt like it was nice to have the graduate teaching assistants pretty much always available so that if I wanted to, I could ask for help or for someone to read over my lesson plan or ask questions about my assessment materials. So in that aspect, it was nice because I was able to control what was being reviewed and looked over. I was able to set up a meeting and go over things if I needed it. I felt like that was helpful. As far as other things that I felt like I was in control of...I don't know. In a way, it was nice not to have control over everything like making our groups or creating the virtual meetings. It was nice to be able to focus on getting my lesson plan and materials done and that was pretty much it. I enjoyed that aspect of it because I didn't have to worry about who my partner was going to be or how to get people to be in my group or anything like that. It would have been interesting to see the different pairings for the second round just to see the different...just being able to see how different people teach and seeing different ways that we could collaborate with other people. I know in my group I was paired with two other people with similar backgrounds so I didn't really have a chance to work with someone outside of that. In a way, I do wish that the groups were a little more mixed up because I wanted to see how other people would have gone about that collaborative part.

Do you feel like working collaboratively in a group has been a realistic simulation for a real world teaching experience?

H: I think it was pretty close. I mean, I haven't really been in a formal teaching setting but from what I've heard from my past teachers is that everyone in the department will get together and discuss what everyone is going to do for the week. So I feel like from my understanding of it, I feel like that would be pretty close. It is harder, depending on where you are placed when teaching, because you might only have one music teacher who does everything. The idea of having a planning period and talking to other arts teachers and bouncing ideas off of others might be harder, but I think it would be closer to the first and third rounds that we did, where you are kind of on your own and figuring it out but you can still reach out and ask other people what they think of certain ideas and they can give you their input but in other situations there might be three music directors in one school and that reflects more on round two. I don't know if that makes sense at all but that is my idea of how it all relates with that.

Yeah, that makes sense. You were working collaboratively in groups but this was all online, so how do you feel about opportunities to work in groups in online classes? Do you think it is beneficial, especially given some of the frustrations that you mentioned earlier?

H: I think that if it were in person, it probably would have been a little bit easier to track people down and set times to meet up and figure things out because instead my group got each other's contact information and we set up virtual meetings, so in that aspect I think there are pros and cons to both. In the online setting, being able to work in a group, it had its challenges because in my own experience there were things that were lost in translation. It was also nice because we were able to set a time to meet over the phone or online instead of picking a time and place that might be inconvenient. This way, I could just be at home or wherever I needed to be and meeting with the other teachers was easier. So there are pros and cons to both, being asked to work in a group was really beneficial even though I didn't have the best experience with it. I still think that it was really beneficial and I hope that we can still work in small groups like that in the future. It is a little bit...online, there is less pressure than being in a classroom. Being able to sit down with a smaller group and go through everything like that, being able to break it down with our graduate teaching assistants and just a few other people, and being able to go through the teaching cycles together was really helpful.

I'm curious as to how you felt from the beginning of the semester when we were sitting in class, socially distanced with masks, and then we transitioned into an online component where you are engaging with each other in a different way. How was that shift for you?

H: Yeah, so in the beginning of the semester it actually felt really isolating because even though we were in the same room we were sitting six feet apart with masks on and you could really only see the top half of everybody's face. I feel like it can lead to a big disconnect in our personal relationships and just being able to make friends in class and talk about different things. But, I feel like being online had a different type of disconnect for me. I was able to see everybody else and actually put names to faces for the first time in a long time. We were all supporting each other but we weren't there physically able to support each other. It had a different feeling to it, which I guess it should because it was fully online and I was just sitting in a room by myself but

still teaching other people. So, this whole year I have felt a disconnect between my personal relationships in my classes and with my professors and everything like that, but being able to have that visible switch and be in person but also online where we could see each others faces and clearly hear each other's voices even though we were miles apart...so there are pros and cons to both I think.

Can you describe some aspects of the overall practicum experience that have made you feel particularly successful or competent and on the other hand, particularly frustrated or overwhelmed?

H: I would say that there was one point where I was feeling really overwhelmed, obviously with round two I was a little freaked out. The part that I can remember the most is that I honestly...was kind of freaked out about making the lesson plan. I had never dealt with anything like that before. I had never..I mean I had planned out what I was going to teach before that roughly but having to plan out every minute of my ten minute lesson was pretty hard for me because I am a pretty go with the flow kind of person in my teaching like "We are going to do this broad thing, how are we going to do it...I don't really know!" so having to sit down and really think through where we start and then exactly what the warm up is, having that aspect of it and making it so that I had to plan everything out was really hard for me and a little overwhelming. But we got there eventually, lesson plans actually turned out okay! That part was tough for me. I would say that the highs for me were being able to watch other people teach. I know I keep saying that, but all throughout our years we have been students to different teachers so without actually knowing it we have experienced these different teaching strategies but we've never quite made those connections and nitpicked it like we are doing now - like, how can I do that too? So being able to see the different ways that they would introduce something or do certain things like in the third round someone did a call and response with the student and it went really fast but the student had a really good understanding. I never would have thought to do it that way so it was really helpful to get those different perspectives. In a way, I feel like that simulates teaching in a normal sense just a lot. Being able to watch other people and then being able to ask questions about how they came up with something or a certain strategy - so I feel like that was the highest point for me. The stress that came along with practicum and the idea that I was on my own, like my lesson plan and materials and everything depended on me. Having to teach people who are also wanting to be teachers was a little daunting to me. I've taught students and I've taught kids that I'm older than but having to teach other people who are learning the same thing as me and thinking about how they are also paying attention to my teaching - it was a big back and forth in my brain. That was a little bit daunting, especially having older graduate students in there. I never thought that I would be teaching a teacher who is older and more experienced than me. Then in the first practicum round I kind of had that realization that I was supposed to be the teacher so that was intimidating for me.

What about the feedback that you received from your peers? You have mentioned the benefit of watching other people teach, but they also watched you and gave you feedback either through a formal process or maybe through informal conversations. What kind of feedback did you get and how did you feel about that?

H: I personally got a lot of positive feedback from everyone including the graduate teaching assistants which was really encouraging for me. Being able to think back and think that I'm being looked at as a decent teacher and am executing at least some things well and my peers can see that, they can see the work that I've put into this, that was really helpful for me. It can be daunting having everything come from your professor, because for me, and especially online, it can seem like you are here, and the professor is just all the way over there - they are on a completely different level than you and so having all of your feedback come from them can be overwhelming. Having peer feedback and feedback from the graduate students, I really enjoyed it because it allowed me to get a different perspective. I am getting feedback from the people that were actually my students during the lesson instead of people who are just watching me teach. Someone said "the way that you explained this totally clicked for me" and I never would have known that, or had that personal reflection if it was just someone else observing me teach other people. I really enjoyed that aspect of it. Being able to also give that feedback to the people I was watching teach was helpful because it made me be engaged in the lesson as well. We are in college, we have a lot of classes, so I have the tendency every so often to drift off, but this made me really focus and be engaged in the lesson and notice what they were doing so that I could tell them what I liked. So it was also helpful to be the one giving the feedback.

Can you describe what your initial interest and perception of practicum was before we started the first round?

H: Before it started, I was a little scared. Just thinking about having to teach three times, teaching with other people, and wondering how it is all going to work. Like, how am I going to watch other teachers and know how to comment on it? It seemed like a lot at the beginning. Once we got into it and I started teaching, it just went by so fast and I wasn't nearly as freaked out as I thought I was going to be.

Did working with other people throughout practicum influence or change those perceptions?

H: I think it was really helpful because I was able to talk to my friends and talk to my peers and realize that they were in the same boat. Everyone was at least a little freaked out and overwhelmed at first, especially by the idea of teaching a bunch of times. It was nice to know that I wasn't the only person thinking and feeling that way. Just being able to see the different ways that people approach things, or build lesson plans...in our round two, we put all of all of our things from round one together so that we could look at what we had all created. Like, how did you write your lesson plan? What is this worksheet they created? Sharing things like that was really, really helpful.

Did you find that the overall experience was meaningful to you or did you feel like it was more of just a course requirement you needed to do?

H: I thought that it was really helpful, I mean, being able to put what we were learning into a real context like...okay, here is how to build a lesson plan and now go build one and try to teach from it. That was just so helpful for me. It did feel relevant to what we were learning because it was sequential and everything made sense. We started with the components of a lesson plan, here is how to write one, now write one, now teach from it, now you get feedback. The steps made sense to me and it flowed really well. Being able to put those things into a real situation was the most helpful. I thought that it was really relevant and interesting to me. Especially that we got to choose from three different topics to teach - so for my round one I chose to teach the circle of fifths and key signatures and that was helpful for me because it really helped me learn that material better. Honestly, I didn't have all of them memorized at the drop of a hat until I taught it. Thinking that I have to teach something to other people means that I need to know it even better and now I have that tool that I can use for my own benefit in the future. It's the same with the solfege hand symbols and being able to teach a tune that way. I didn't get a chance to do the rhythmic subdivision, I really wish I did so that I had that same experience with all of the concepts. So being able to break it down into smaller portions is helpful because now I have these tools that I got through teaching.

How did you feel about your interactions with and the dynamics between you and your peers? Can you just describe your thoughts on those relationships and if you feel like they had any sort of effect on your experience?

H: I thought that everyone was so supportive of everyone else which was really, really helpful - especially since I know that there are some kids in the class who have never taught before in their life and this was really their first time doing it. So a lot of us were very supportive, especially in our feedback, like maybe they weren't confident in their teaching but the lesson plan was great so working on teaching persona and being like "you have such a great personality, bring that out!" and being able to have those interactions with your peers was also really helpful. It was especially helpful to me because I put a lot of weight on what my peers think of me. Being in this course where it is all people in my degree and who are doing the same things that I am, I personally put a lot of weight on what they think of me. Being able to bounce ideas off of each other and be like, "oh, hey, I'm thinking about teaching it like this, what do you think?" and being able to just talk to everybody openly was so helpful and encouraging to me. Again, getting that positive feedback was really helpful as well.

So, for some final thoughts, is there anything else you'd like to add or just share about your overall experience that you feel was particularly important to you?

H: I would say that overall, and I've probably said this a million times already, I really enjoyed practicum. Being able to teach and watch other people and being guided through the process without someone holding my hand the whole way, like it was kind of...I'm going to use an analogy. It's kind of like we had floaties on and you threw us in the pool, so we could kind of get through it, but it's that initial shock of like - okay, I'm in the pool, I'm swimming, I'm not going to drown, okay, I'm teaching! But there were still people sitting on the sidelines to watch and

make sure everything didn't explode and that everyone was okay, which was so helpful, but it wasn't suffocating and it wasn't like - here, do this so that everything that everyone does will look the same. I really enjoyed that aspect of it because it enabled us to look and see just how different everything can be, in a good way, even though we learned the same guidelines and format. It was really interesting to see that and I really enjoyed it. I'm really looking forward to having more discussions about teaching videos and overall, that's probably it!

APPENDIX M

THEME #1 CODE BOOK: ONLINE COLABORATION

Pattern	Code	Description	Example
Learning Environment	prob	Distractions, physical barriers to learning	"...there is less distraction when you're in an actual classroom" (Jamal)
	com	Communicating online	"...another problem with the online setting was just communication with the other two people in my group." (Charles)
	tech	Technology supporting student learning	"The features that you have online, like the little chat function, is fantastic for me." (Raina)
Connections with Others	inf	Informal, social connections with others	"We could chat like, "How's everyone doing?" (Raina)
	pers	Noticing emotions, personalities	"...it was really fun to see people just being themselves, and seeing other people have a connection" (Raina)
	disc	Disconnected, feeling isolated	"...it had a different feeling to it, which I guess it should because it was fully online, but I was just sitting in a room by myself." (Charles)
	group	Dynamics in group work	"A couple of people were upset with who they were working with because their group members didn't do what they were supposed to" (Charles)
	new	Making new connections during practicum	"Working in groups online actually was the first time I felt like I got to know other people in the class." (Jamal)
Peer Support	nerv	Helping/noticing anxiety & nervousness	"A lot of us were very supportive...like maybe they weren't confident in their teaching but the lesson plan was great." (Hope)
	same	Working together toward the same goal	"I was able to talk to my peers and realize that they were in the same boat." (Hope)
	feed	Asking for help, getting feedback from peers	"Being able to bounce ideas off of each other and be like, "oh, hey, I'm thinking about teaching it like this, what do you think?" (Jamal)

THEME #2 CODE BOOK: TEACHING AS LEARNING

Pattern	Code	Description	Example
Observation and Reflection	obs	Watching/noticing peer behaviors	“Being able to watch other people and then being able to ask questions about how they came up with something or a certain strategy...” (Hope)
	refl	Reflection on one’s own/peer’s teaching	“It was very good to sit down and just look at what you did and be able to take away good things and also notice bad things that you did.” (Charles)
	idea	Teaching strategies/ideas sparked by others	“It was really interesting to see how people took variations, cause no lesson was the same, like someone took a different path and I just kept thinking how cool all of the lessons were.” (Raina)
Personal Growth	ins	Feelings of uncertainty, insecurity	“I was kind of worried about it originally, kind of like anyone would be I guess” (Jamal)
	conf	Feelings of confidence, independence	“Over time you internalize what you are teaching, and you trust yourself more, you practice it a couple times, and you’re very confident with it.” (Charles)
	grow	Noticing growth in peers	“I think that once they were able to see who they were working with, and sit down and be comfortable with them, I think then that the true teachers were able to come out of these people.” (Charles)
	plan	Lesson planning as an obstacle	“In the beginning, I totally procrastinated, and I was working the night and the morning of.” (Raina)
	time	Noticing growth over time	“I really enjoyed having three rounds to be able to improve. Round one was a little bit rough for me...once I was able to go on to the third round...I saw that I grew a lot more.” (Hope)