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Investigating the Use of Social Media in Undergraduate and Graduate University Music Students' Practice Routines

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ACCEPTANCE

This dissertation, INVESTIGATING THE USE OF SOCIAL MEDIA IN UNDERGRADUATE AND GRADUATE UNIVERSITY MUSIC STUDENTS' PRACTICE ROUTINES, by LINDSAY HESTON MCCRANIE, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education & Human Development, Georgia State University.

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INVESTIGATING THE USE OF SOCIAL MEDIA IN UNDERGRADUATE AND GRADUATE UNIVERSITY MUSIC STUDENTS' PRACTICE ROUTINES

by

LINDSAY HESTON MCCRANIE

Under the Direction of Martin Norgaard and Jennifer Esposito

ABSTRACT

This study was an exploratory qualitative case study designed to investigate the use of social media as a tool to promote self-regulatory skills in student practice with undergraduate and graduate university music students. In addition, this study explored participants' experiences of sharing practice to an online community, viewing other students' practice, and how their practice habits may have been affected by recording with the intention of sharing their practice online. The research questions included: (1) How do music students use a social media group to document and share their practice? (2) What is the experience of students who post clips of their practice, view their peers' practice, and interact with their peers in a private online environment, which is visible by peers and the researcher? and (3) How do students practice differently when excerpts from their private practice are shared with their peers? The participants partook in a 3-week long Facebook research group where they were asked to post videos of their practice 5 times a week. Following the three weeks of posting in the Facebook group, participants were invited to take part in

an interview with the researcher. Data consisted of surveys taken by participants before the Facebook group began, the posts, videos, comments, and feedback posted during the 3-week Facebook group, and interviews. In total. 74 posts were collected and analyzed from 18 participants including 72 videos, 15 interactive comments, and 186 clicks of emoji feedback. The findings from this study indicate that many participants changed their approach to practice when intending to share their practice online. Participants said they spent more time working on what they intended to share and held themselves to a higher standard than they would have if they were not intending to share their practice. Two participants indicated that sharing practice online intrinsically encouraged them to be more deliberate in their approaches to practice.

INDEX WORDS: Practice, Self-regulation, social media

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DEDICATION

This dissertation is dedicated to my daughter, Maisie. I hope that you always follow your dreams, be kind, value honesty, seek truth, remain silly, find the good in others, have the courage to take risks, and know that you are loved beyond measure.

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1 INTRODUCTION

> **Researcher:** Do you ever use Instagram as a way to help yourself practice?
>
> **Annie:** Oh my gosh, yes. It holds me accountable and it is the best thing that has ever happened to my practice time. We think that we're being critical and analytical while we practice, but then whenever you actually turn a camera on yourself and you know that you have an audience that is actually going to hear you, it just drives your analyticalness up a lot. (Annie, personal communication, January 22, 2017)

Annie's personal experience utilizing social media to document practicing cello is indicative of almost every formal and informal interview I have conducted with musicians in response to the posed question. Several musicians have shared that they experience a heightened sense of awareness and analytical sharpness when they share their practice on a social media platform. Practicing an instrument is traditionally an independent and private activity and posting practice on social media allows other social media users to see an experience, which is typically unshared. This has led me to question whether feeling a heightened sense of awareness and analytical keenness during a practice session when it will become publicly shared, could be a common phenomenon.

Practice is a central component to becoming and being a musician. In this study, the term practice will be used to define the independent practice a musician engages in to improve his or her skills. Furthermore, practice can be divided into two categories: formal practice and informal practice. Informal practice includes activities such as playing by ear, improvising, or playing through one's favorite music (Bonneville-Roussy & Bouffard, 2014; Sloboda, Davidson, Howe, & Moore, 1996). It should be noted that considering improvisation as informal practice is problematic when considering improvising musicians. A musician can engage in the formal practice

of improvisation. Formal practice is defined as goal directed and includes both self-regulation and deliberate practice strategies (Bonneville-Roussy & Bouffard, 2014).

Self-regulation is essential to achieving formal practice. A self-regulated learner is someone who takes an active role in his or her own learning process (Zimmerman, 1989). In its simplest explanation, self-regulation can be broken down into a three-step process; identification of the problem or selection of a goal, selection of strategies to solve the problem or meet the goal, and self-evaluation. This process is a main component in the practice of expert musicians (Duke et al., 2009). It has been found that beginning musicians spend approximately 90% of their time engaging in informal practice because they do not have enough self-regulation skills (Mcpherson & Renwick, 2001).

Deliberate practice is part of formal practice and it includes the use of activities or practice strategies which have been designed to improve the current level of performance (Ericsson, Krampe, & Tesch-Romer, 1993). Deliberate practice is a very structured activity in which musicians target areas of weakness and seek improvement. Self-regulation and deliberate practice have several overlapping qualities, such has monitoring one's own progress and being able to identify areas of weakness. Self-regulation and deliberate practice will be further explained in chapter two.

Students' knowledge of practice strategies does not automatically result in effective self-regulation or deliberate practice. Byo and Cassidy (2008) found that participants in a study were able to articulate efficient practice techniques, such as slowing down, changing something in the music, isolating difficult passages, or repetition on a written survey. However, few participants were able to apply these techniques during observed practice sessions. Several additional studies have identified effective practice strategies used by expert musicians and have found that the

strategies used determine the quality of performance and retention of material far more effectively than the length of time spent practicing (Duke, Simmons, & Cash, 2009; Miksza, 2012). Despite a significant amount of research pointing towards the effectiveness of practice centered in goal setting and self-regulation, students are often unaware of how to practice effectively.

Byo and Cassidy (2008) offered several suggestions that could potentially close the gap between students' understanding of practice strategies and their ability to apply strategies during formal practice. Among these suggestions were: viewing practice not as preparatory, but instead as a performance that an audience is watching, deliberate identification and selection of specific performance targets, being able to discriminate among performance targets, and the development of an aural image of the music that functions to guide self- evaluation. It is possible that using social media platforms in practice could help students close the gap between understanding practice strategies and implementing practice strategies.

Social media is defined as a form of electronic communication, such as websites for social networking through which users create online communities to share information, ideas, personal messages, and other content, such as videos (Merriam-Webster-online, 2018). Several current social media platforms include Facebook, Instagram, LinkedIn, Twitter, Snapchat, or YouTube. A digital report reveals that 97% of internet users have accessed a social media networking site within the past month (Globalwebindex, 2020).

I was interested to learn if social media could be used as a tool to promote and encourage self-regulated and goal-oriented practice. For example, to close the gap between students' understanding of practice strategies and their application of these strategies, Byo and Cassidy (2008) suggested viewing practice as a performance. Could social media platforms could provide a

space for students to post part of their practice and have it actually be a performance for the online community?

Experimental studies investigating student practice have often examined the preparation of an assigned etude or excerpt (Miksza 2007, 2010, Hallam 1997, 2001a, 2001b, Killian and Henry 2005). The researchers of these studies have typically looked at the strategies students use while practicing. Some of these strategies include the use of mental practice (Theiler & Lippman 1995, Ross 1985, Miksza 2005), modeling (Rosenthal 1984, 1988) and repetition (Renwick and McPherson 2002, Rohwer 2005, Miksza 2007, 2011, Maynard 2006). The amount of time spent practicing has also been investigated (Nielsen 1999, Williamon & Valentine 2000). However, I have not found research that has studied practice through the use of social media.

Background

The idea of combining social media with practice came from when I was a student in an arts-based research course. The purpose of the assignment was to form a deeper understanding of my own evolving identity and relationship that I had with music as a musician, a music educator, and a Ph.D. student. During this assignment, I committed to practicing daily for three weeks and documenting my experience on Instagram. I posted video clips of my practice sessions daily and I included short journal entries about each session. I allowed my account to be public and used a variety of hashtags including #cello, #practice, or #musician to attract followers. Anyone search-ing through Instagram was able to view my posts and read my content. A screenshot from one of my original posts is below:

Figure 1 *Image from Instagram*

Instagram is a social media website and app which allows users to post and share photography and video content. The photographs and videos can be edited with digital filters. I chose to use Instagram for this assignment because of its visual appeal to display my assignment upon its completion. Instagram allows the original poster to write text beneath the photo and add hashtags, which is what allows the content to be searchable. Other users can find posts through hashtags or by following certain users. Followers and other users can comment on the original posters content. The content posted on Instagram is user-generated and is not limited to certain subjects. Instagram users can make their accounts public, or private and allow access only to people they choose. Initially I wanted to use Instagram to complete the research for this dissertation, but because of privacy settings I chose to use Facebook as the social media platform. I will share more about the details of Facebook in chapter 3.

During each practice session I would decide what I wanted to post. Some days I posted something that I was proud of, while other days I would post a clip of something I had just started working on and write in my journal entry that I would post a video several days later so I

could see my improvement. Very quickly my Instagram account accumulated followers and I found myself within a network and community of supportive musicians. The feedback and comments I received in response to my practice-based posts were motivating and I felt encouraged to practice more often. I found myself working more efficiently during my practice time to generate higher quality content. Although the initial aim of this assignment was to learn more about my identity as a musician, the realization that my Instagram account had possibly improved my own ability to self-regulate was a huge revelation. The experience of posting my personal practice on social media increased the amount of effort I put into practicing, increased my efficiency, and introduced me to a community of musicians who have been a source of encouragement and motivation. This experience also sparked my interest in learning more about how social media could be used in an educational setting.

Purpose of Study

The purpose of this study was to investigate the use of social media as a tool to promote self-regulatory skills in student practice with undergraduate and graduate university music students. I was also interested in learning about the participants' experiences of sharing practice to an online community, viewing other students' practice, and how their practice habits may have been affected by recording with the intention of sharing their practice online.

Research Questions

1. How do undergraduate and graduate university music students use a social media group to document and share their practice?
2. What is the experience of students who post clips of their practice, view their peers' practice, and interact with their peers in a private online environment, which is visible by peers and the researcher?

3. How do students practice differently when excerpts from their private practice are shared with their peers?

Need for Study

A quote, which is often attributed to John Dewey, although no formal citation can be found states, "If we teach today's children as yesterday's, then we rob them of tomorrow." Every year the number of people who have access to the Internet and use social media platforms increases. A report from 2015 shows that an estimated 92 percent of teens report going online daily and nearly 75 percent of teens have smartphones (Lewandowski, 2015). Only three years later in 2018 it was found that 95 percent of teens have smart phones and 45 percent of those teens report being online almost constantly (Pew Research Center, 2018). With the rapid growth of both access and usage of technology and social media, we could expect to see their increased integration into schools and into the music classroom.

Research centered on students' use of social networking sites in educational settings is in its infancy (Vasbø, Silseth, & Erstad, 2013). However, social media has the potential to be a cost-efficient and effective tool for educators to supplement aspects of their teaching (Abe & Jordan, 2013). With practice being an essential component to a musician's life and social media becoming increasingly important to our society it could be a logical next step to utilize the platform of social media to strengthen practice skills. It is believed that researchers must remain in close contact with the multiplicity of today's formal and informal musical learning practices (Partti & Karlsen, 2010). Utilizing social media in the music classroom could help keep music education current as well as begin to close the gap in students' understanding of practice.

Theoretical Perspective

This research is grounded in the theoretical perspective of symbolic interactionism. The foundation of symbolic interactionism is traditionally credited to Herbert Mead, who was a pragmatist (Charon, 2004). Pragmatism is a philosophy that examines the humans' relationship to the environment, in contrast with other animals and their relationship with the environment. Pragmatists propose that what is real for human beings depend on the human's active intervention and own interpretation or definition (Charon, 2004). Pragmatism can be used to explain what knowledge is for human beings and how humans actually see things in their environment. William James (1907), a founding thinker of pragmatism said,

> But if you follow the pragmatic method, you cannot look on any such word as closing your quest. You must bring out of each word its practical cash-value, set it at work within the stream of your experience. It appears less as a solution, then, than as a program for more work, and more particularly as an indication of the ways in which existing realities may be changed (James, W., 1907, pg. 41).

James is arguing that nothing is absolute and that what we think we understand can change depending on the way something is viewed. How the world is interpreted is within each individual's understanding of their own environment.

In addition to pragmatism, the theoretical perspective of symbolic interactionism is also closely associated with the ideas of social constructivism. Russian psychologist Lev Vygotsky is credited as the father of social constructivism (Churcher, 2014). Vygotsky continued James's emphasis on language as being the most important way in which view the world around us. He said we use language in communication with other people in a social environment to create knowledge and understanding in our own psychology. We use these socially shared psychological experiences to construct the meaning of things (Churcher, 2014). Pragmatist John Dewey

also contributed to the development of social constructivist thinking. Dewey calls learning a social process in which individual experiences and social interactions combine to create meaning (Johnson, 2003).

The theoretical perspective of symbolic interactionism focuses on the meanings that individuals attach to objects and can help understand the attributed meanings of participants' experiences. Objects are not limited to physical material, but also include: actions, individual people, groups of people, relationships, language or anything that could be perceived or interpreted. As opposed to a traditional view of "a window is a window or a violin is a violin" symbolic interactionism sees meaning as a product that is formed in and through the interaction of people with each other and those objects (Blumer, 1969). For example, playing in the orchestra for one student could serve as a mental escape and a source of friendship and community, whereas another student may experience performing with an orchestra as a chore or dreaded activity. The meaning of something resides in the interaction of the person who experiences it. The way students experience posting their practice and interacting in an online environment will vary between the meanings they attribute to social media, practice, or music in general.

The social interaction between humans is inherently symbolic (Charon, 2004). Goffman (1978) suggests that whenever we come into contact with another person our main obligation is to judge our behavior based on what the other person could perceive to be happening. People's actions are often intended for someone else and it is also intended that those actions are representing the person who is doing them. The social interaction of human beings creates our individual identities and creates society (Charon, 2004). The social interaction of humans creates the symbols that we understand.

There are three key concepts, which establish the framework of Symbolic Interactionism (Blumer, 1969). The first key concept is that people act towards things in the way that they understand them. The second key concept is that different people attribute different meanings to things and meanings are established based on those interactions. The third key concept is that the meaning given to things can change based off various interactions (Blumer, 1969). These three concepts are important to this study to understand why certain students may respond differently in an online environment, how the interactions in the online environment and with practice could influence their experience, and how their experience of practice and the online community could change through different interactions.

During this study I wanted to understand not only how students used social media to document their practice, but also how students interacted with one another online. Following the three key concepts of symbolic interactionism, I was able to gain a deeper understanding of how students used social media to document and share their practice and how students responded to a community of peers viewing their independent practice, which is traditionally an isolated activity. Through this study I also sought to understand the different types of experiences students may have in an online environment and how those experiences may change based on students' interactions within the online environment and within their individual lives.

In addition to symbolic interactionism, I utilized a framework of self-regulation designed to study self-regulated learning in music (McPherson & Zimmerman, 2002). This framework combines scientific questions, psychological dimensions, and socializing processes that help students develop self-regulatory processes. When these elements are combined, this framework can help develop strategies that improve music instruction. The process of self-regulation involves

the students' ability to identify areas of weakness, select strategies that will lead towards improvement, and monitor one's own progress. Examining students' practice in an online environment could provide a glimpse at how they utilize self-regulation strategies and monitor their practice. Self-regulation will be discussed in further detail in chapter 2. Combining symbolic interactionism and self-regulation will provide a unique lens to gain a deeper understanding of how the symbolically and socially interactive process of utilizing social media may influence the inner process of self-regulation.

I chose to specifically focus on the framework of self-regulation from McPherson and Zimmerman because of its applicability to music education and the ability to understand where students excel with self-regulation and where they need more practice. However, self-regulation as a process stems from cognitive psychology. This framework was developed from earlier work by Zimmerman, which explains the triadic process of self-regulation as it relates to learning in general and is not music specific (Zimmerman, 1989). The ideas of self-regulation were formed primarily in conjunction with the work from Albert Bandura, a cognitive psychologist. Bandura defined self-regulation as,

> In social cognitive theory human behavior is extensively motivated and regulated by the ongoing exercise of self-influence. The major self-regulative mechanism operates through three principal subfunctions. These include selfmonitoring of one's behavior, its determinants, and its effects; judgment of one's behavior in relation to personal standards and environmental circumstances; and affective self-reaction. Self-regulation also encompasses the selfefficacy mechanism, which plays a central role in the exercise of personal agency by its strong impact on thought, affect, motivation, and action (Bandura, 1991).

Definitions

Formal Practice: "Formal practice should be defined as a goal-directed and focused period of practice that includes both self-regulation and deliberate practice strategies" (Bonneville-Roussy & Bouffard, 2014, p. 686).

Informal Practice: "Informal practice also involves playing alone with the instrument, but includes activities that are less formal, such as playing by ear, improvising, 'messing about' with the instrument and playing one's favourite music" (Bonneville-Roussy & Bouffard, 2014, p. 689)

Deliberate Practice: "Deliberate practice is a highly structured activity, the explicit goal of which is to improve performance. Specific tasks are invented to overcome weaknesses, and performance is carefully monitored to provide cues for ways to improve it further" (Ericsson et al., 1993, p. 368)

Self-regulation: "To qualify specifically as self-regulated in my account, students' learning must involve the use of specified strategies to achieve academic goals on the basis of self-efficacy perceptions. This definition assumes the importance of three elements: students' self-regulated learning strategies, self-efficacy perceptions of performance skill, and commitment to academic goals. Self-regulated learning strategies are actions and processes directed at acquiring information or skill that involve agency, purpose, and instrumentality perceptions by learners." (Zimmerman, 1989, p. 329)

Social Media: "forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)" (Merriam-Webster Online, 2018)

Follower: “In social media, a follow represents a user who chooses to see all of another user's posts in their content feed” (Blogcommerce.com, 2018)

Post and Poster: throughout chapters 4 and 5 I refer to “posts” and “posters” a post is the information a participant chose to add to the Facebook group. The poster refers to the participant who posted the material.

2 REVIEW OF THE LITERATURE

This study investigated the experiences of undergraduate and graduate university music students posting videos of their independent instrument practice to a social media community made of their peers. To understand how practicing music could be explored through social media, I examined three areas of research: practicing music, self-regulation, and the integration of technology into practicing music, specifically social media. All three of these topics provide a clearer understanding of the overall aims of this study. The literature selected for this review has been limited based on its relevance to this study. For example, deliberate practice has been researched in many fields but only research regarding deliberate practice within a musical context has been included in this study.

The first section will cover the general importance of practice and deliberate practice. The second part will discuss self-regulation and the topics of practice strategies and motivation, which support self-regulatory learning. The third section will include research pertaining to the integration of social media into music education.

Practice

Regardless of one's ability or age, practice is fundamental to the development of any musician. How musicians practice or what a typical practice session entails can vary widely. Beginning musicians often practice informally and spend time repeating an entire piece of music without identifying errors or concentrating on problematic sections (McPherson & Renwick, 2010; Rohwer, D., & Jeremy Polk. 2006). Advanced musicians focus on aspects of their practice that need improvement and can implement strategies to meet their goals (McPherson and Zimmerman 2011). Expert level musicians have most often accumulated over 10,000 hours of deliberate practice before the age of 20 (Ericsson et al., 1993; Lehmann & Ericsson, 1997). However, 10,000 hours of deliberate practice does not guarantee a musician to reach a level of expertise.

Researchers have found that the most accomplished experts have an effective combination of accumulated deliberate practice, optimal training resources and learning environments, as well as an enjoyment of practice (Ericsson et al., 1993; Lehmann & Ericsson, 1997).

It is common for music educators to stress the need to practice and encourage students to practice regularly (Austin & Berg, 2006; Lehmann & Ericsson, 1997; Leon-Guerrero, 2008). However, the ability to identify errors and select practice strategies to fix the errors can be challenging for beginning students (Leon-Guerrero, 2008; McPherson & Renwick, 2010). A study investigating the practice habits of middle-school band students found that over 50% of participants utilized repetition as a practice strategy (Leon-Guerrero, 2008). However, 20% repeated from the beginning of the piece every single time, and 28% repeated a segment of the piece, which did not begin at the beginning. Only 2.7% of students repeated an individual measure and .5% practiced a group of notes. This would imply that students understand that repetition is important in practice, but are unable to select the sections that need the most practice (Leon-Guerrero, 2008).

Expertise has been studied across many domains including chess, medicine, sports, and music performance. One of the goals of expertise research has been to understand how expertise develops and how training could be improved (Lehmann & Ericsson, 1997). A study examining the influence of different activities on the development of expertise in chess found that the most experienced players spent more time strategically studying specific chess moves (Charness, Tuffiash, Krampe, Reingold, & Vasyukova, 2005). The experience of playing in tournaments and playing in active chess games contributed to higher levels of expertise, but the act of studying specific moves allowed players to target their weakness and create repetitions to discern be-

tween stronger and weaker chess moves. This type of repetition and strategic planning is not possible in an actual game or tournament. This is very similar to findings about deliberate practice in music performance, which is further explained in the next section.

Perhaps the most apparent factor associated with expertise, or advanced performance, merely is the experience of performing. The level of a musician's performance increases gradually as opposed to a sudden jump in expertise (Lehmann & Ericsson, 1997). Expert musicians have spent extended hours engaging with music, and both practice and experience are essential to reach expert level performance. It is agreed upon that expert levels of performance are only achievable with steady practice over many years. However, experience alone is not enough to reach expert level performance (Ericsson et al., 1993; Hallam, 2011; Lehmann & Ericsson, 1997; Sloboda et al., 1996). There are many factors, which contribute to high levels of expertise. In the following sections, I will discuss the research surrounding deliberate practice, self-regulation, practice strategies, and motivation, which shape expertise. Aptitude, innate talent, and practice environment are additional factors considered in research surrounding the development of experts. However, these factors will be excluded from this literature review, as they are not a focus of this dissertation.

Deliberate practice and Self-Regulation

One of the most substantial differences between how novice and expert musicians practice is the implementation of deliberate practice. Ericsson (1993) characterizes deliberate practice as practice in which the musician's goal is to identify errors and improve performance. Ericsson (1993) states,

> In contrast to play, deliberate practice is a highly structured activity, the explicit goal of which is to improve performance. Specific tasks are invented to overcome weaknesses, and performance is carefully monitored to provide cues for ways to improve it further.

> We claim that deliberate practice requires effort and is not inherently enjoyable. Individuals are motivated to practice because practice improves performance. In addition, engaging in deliberate practice generates no immediate monetary rewards and generates costs associated with access to teachers and training environments. Thus, an understanding of the long-term consequences of deliberate practice is important
>
> (Ericsson et al., 1993, p. 368).

An empirical study examining advanced violinists found that a framework of deliberate practice was able to predict musicians' current level of performance through analysis of accumulated amount of deliberate practice (Ericsson et al., 1993). In this study, violinists studying at an advanced music academy were divided into one of three groups: students who had the potential for international solo careers, students who were very good but not headed towards a solo career, and music education students who were not focusing on violin performance. Participants in all three groups were paired by matching age and sex. The participants provided biographical information and kept diaries detailing the use of their time, including time spent in deliberate practice. The diaries revealed little differences between the best two groups but found that the two performance groups spent three times longer than the music teachers in deliberate practice. All of the violinists rated practice as the essential component to improving violin performance. They found through biographical interviews that the most advanced group of violinists had spent more time in deliberate practice during adolescents than the other advanced group (Ericsson et al., 1993).

Similar results were found in a study that examined at a group of 257 students, ages 8 to 10, who were learning to play an instrument (Sloboda et al., 1996) These students were divided into 5 groups depending on their level of musical achievement. Through interviews and partici-

pant diaries they found that regardless of which group students were placed, it took approximately 3300 hours of practice to achieve the highest level according to their scale. It was found that differences in practice habits started very early, both in age and from the time the participant began studying their instrument. Like Ericsson et al. (1993), Sloboda et al. (1996) found a direct correlation between the amount of accumulated deliberate practice and musical achievement.

The differences in quality of practice can be accounted for by an integrative framework, which includes the quantity of time spent in deliberate practice in addition to practice strategies and self-regulation (Bonneville-Roussy & Bouffard, 2014).

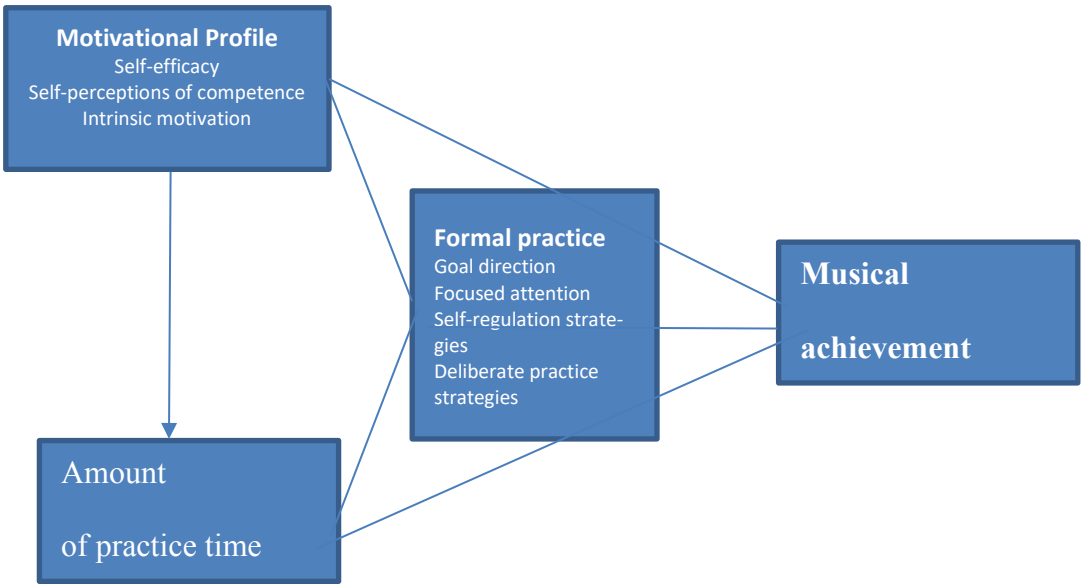

Figure 2 *Integrative Framework of Self-Regulation*

The correlation between musicians' current level of performance and time spent in deliberate practice was independent of quantity of time and did not account for variances in quality of deliberate practice. These variances could contribute to the inability to achieve expert level performance despite similar numbers of accumulated hours of deliberate practice. The results from

these studies show that a different process occurs when musicians attain higher levels of expertise as opposed to someone who is unable to reach an expert level of performance.

A self-regulated learner is someone who takes an active role in his or her learning process (Zimmerman, 1989). In its simplest explanation, self-regulation can be broken down into a three-step process; identification of the problem or selection of a goal, selection of strategies to solve the problem or meet the goal, and self-evaluation. The process of self-regulation is a primary component in the practice of expert musicians (Duke et al., 2009). Self-regulation acts a cycle of constant measuring and evaluating of one's playing. Within a musical setting, this is the process of identifying a problem, choosing a practice strategy to solve the problem, and evaluating to determine if the strategy was effective and the problem resolved.

Someone who is engaged in self-regulated practice is also engaged in deliberate practice. However, deliberate practice does not necessarily denote self-regulatory learning. For example, someone who sits down to practice with the intention of working on and improving a section of music is utilizing deliberate practice, but that person may or may not have self-regulatory skills to monitor their practice. Expert musicians have very advanced metacognitive skills and engage in practice which is highly self-regulated (Hallam, 2001). These findings likely contribute to the disparity between musicians who are and who are not able to reach expert performance, despite significant deliberate practice.

The integrative framework shown above from Bonneville-Roussy (2014) explains how deliberate practice and self-regulation work together to predict levels of musical achievement. In this study, 173 music students were asked to report the amount of time they spent practicing and playing their instrument informally over the span of 4-months. In addition to the amount of prac-

tice, participants reported data about their use of self-regulation, deliberate practice, and motivation (Bonneville-Roussy & Bouffard, 2014). The data collected on deliberate practice included the use of practice strategies such as changing the tempo, technical and warm-up exercises, and practicing in smaller sections. The data collected about students' self-regulation was focused on the students' ability to plan and manage their practice time. Deliberate practice and self-regulation are qualitatively different from one another. Self-regulation refers to a general learning process used by the students and deliberate practice is when students utilize their self-regulation sills and other specific strategies to increase their musical ability. The results from this study found that when measured separately, levels of self-regulation, deliberate practice, and time spent engaging in formal practice more accurately predicts musical achievement opposed to viewing self-regulation and deliberate practice as one entity. (Bonneville-Roussy & Bouffard, 2014).

Duke et al. (2009) investigated a group of 17 graduate and advanced undergraduate piano students to see if their level of improvements on a musical excerpt could be predicted based off of their practice strategies. The excerpt was chosen based on its difficulty and technical challenges. The researchers determined that this excerpt was not accessible in a first sight-reading, but could be learned in a single practice session. The participants were allocated a two-minute warm-up before they obtained the excerpt, a metronome, and a pencil. The participants received the following instructions,

> Practice this excerpt until you feel that you have learned it well and can play it confidently at the target tempo (120 bpm) without the metronome. Take as much time as you need. A pencil and metronome have been provided if you wish to use them during practice. When you return tomorrow, you will play this excerpt again. The purpose of this

> project is to describe the changes that occur in your playing of the excerpt between today and tomorrow (Duke et al., 2009, p. 312).

The participants were allowed to practice as much as they wanted and no instructions were given regarding how to practice (Duke, Simmons, & Cash, 2009). Twenty-four hours later the participants returned and were asked to warm-up for two minutes, playing no part of the excerpt. Following the warm-up, the participants were asked to, "Play straight through this excerpt at the target tempo 15 times. Please do not stop during any of your performance trials" (Duke et al., pg. 313).

The final performances were ranked according to tone, character, and expression of the performance (Duke et al., 2009). Video data collected during the practice sessions were also coded, and three important observations emerged among the top performers. The first observation was that when the participant changed the tempo they were able to play the music accurately on the first attempt in the new tempo. The second observation was that after the initial learning of the excerpt, errors were not persistent and occurred only occasionally. The third and final observation was that at least 20% of all attempts were complete and correct performances. The researchers hypothesized that the top performers were able to correctly identify the location and source of their initial errors and corrected the errors. The researchers also found that the tempos of the performance trials varied according to logical changes in the music. For example, the participant slowed down enough to play the excerpt correctly and did not speed the excerpt up too quickly. The final observation was that the participants who had the most efficient practice sessions repeated the target passages until the errors were correct and stable. These observations are closely related to a high degree of self-regulation in practice as well as deliberate practice.

McPherson and Zimmerman (2002) propose that self-regulation could be learned through a hierarchical learning model based on the sequence of observation, emulation, self-control, and self-regulation. For example, first a student would observe a specific music skill, the student would then try to emulate the skill with support from a teacher, then he or she would be able to practice the skill independently, and lastly they would be able to apply the new skill and monitor the skills development. As students engage more regularly in self-regulatory learning, they can draw conclusions about their own practice. These findings are either adaptive or defensive conclusions. Adaptive conclusions direct the student towards new and more advanced forms of self-regulation and defensive conclusions limit personal growth (McPherson & Zimmerman, 2002). These differences in students' self-beliefs and findings of their own practice may be a substantial determining factor between students who progress quickly or find themselves stuck.

McPherson and Zimmerman (2002) offer a theoretical model of self-regulation that explains the process of self-regulation. This theoretical model also describes how educators can support the development of self-regulation in students. Three types of self-regulation are defined: behavioral, environmental, and covert self-regulation. Behavioral self-regulation refers to the student's ability to observe and adjust his or her performance or method of learning. For example, this could include a student understanding the shortcomings of his or her practice and selecting deliberate practice strategies to target areas of weakness. Environmental self-regulation refers to the environmental conditions of a student's practice such as seeking a quiet distraction-free space for practice or making sure the conditions for learning are optimal and being able to adjust them if they are not. Covert self-regulation is the result of self-monitoring and altering his or her conscious mentality. Covert self-regulation includes things such as focusing on the performance instead of the audience when performing to reduce nerves (McPherson & Zimmerman, 2002).

These three types of self-regulation work together to create an open cycle to self-monitor ones growth (McPherson & Zimmerman, 2002). The feedback learned from previous performances and practice allows the musician to adjust their efforts and strategies and is constantly changing.

Self-regulation should not be viewed as an unchanging characteristic but as a set of processes that students can utilize and develop as they learn to support their learning (McPherson & Zimmerman, 2002). Within this set of processes, six dimensions have been characterized, including motive, method, time, behavior, physical environment, and social factors. These dimensions in conjunction with scientific questions, socialization processes, and self-regulation processes can provide a framework for which self-regulation can be studied and help improve music teaching (McPherson & Zimmerman, 2002). A table of this framework is below:

Table 1 *Dimensions of Musical Self-Regulation*

Dimensions of Musical Self-Regulation			
Scientific Question	Psychological Dimensions	Socialization Processes	Self-Regulation Processes
Why?	Motive	Vicarious or direct reinforcement by others	Self-set goals, self-reinforcement, and self-efficacy
How?	Method	Task Strategies are modeled or guided socially	Self-initiated covert images and verbal strategies
When?	Time	Time use is socially monitored and evaluated	Time use is self-planned and managed
What?	Behavior	Performance is socially monitored and evaluated	Performance is self-monitored and evaluated
Where?	Physical environment	Environments are structured by others	Environments are structured by self
With whom?	Social factors	Help is provided by others	Help is sought personally

Educators can use the table above to support their students' development of self-regulation. For example, the scientific question of "when?" refers to the time a student spends practicing. The self-regulation process of time refers to time as being well planned and managed. If an educator wanted to help a student be better at managing practice time it could be beneficial for the teacher to encourage the student to self-plan reasonable practice times that fit into their schedule. If a student needed help with self-regulating their method of practice, the teacher could assist by offering a list of self-regulated strategies targeted towards the students areas of weakness. Viewing self-regulation within these six dimensions could make it easier for teachers to target specific areas of weakness in their students.

Miksza (2012) designed a questionnaire to assess several dimensions of student practice including time management and practice habits. This questionnaire is designed to measure self-

regulated practice behavior for beginning and intermediate music students. The construct validity and reliability of this questionnaire was tested on 302 middle school band students in grades 5 through 8. The dimensions assessed were self-efficacy, method of practice, practice behavior, time management, and social influences. The results suggested that the construct validity was stronger when method of practice and practice behavior were viewed as one category as opposed to separate responses. The method of practice referred to participants' preparation, routine, and mental organization of practice and the behavior dimension assessed participants' ability to adjust their practice, set goals or learning outcomes, and monitor their independent practice.

The relationships between the method and behavior of practice were found to be predictive of the amount of time participants spent practicing as well as the amount of time participants spent in deliberate practice (Miksza, 2012). For example, students who reported using self-regulated strategies more often also reported spending more time practicing. The results of this study supported the aforementioned theoretical framework of self-regulation proposed by McPherson and Zimmerman (2002). This measurement tool could benefit researchers in further examination of self-regulated learning as well as teachers who are helping novice musicians develop into independent musicians (Miksza, 2012).

Byo and Cassidy (2008) investigated the practice behavior of music education students and discovered that the majority of participants were able to articulate self-regulatory practice techniques, such as slowing down, changing something in the music, isolating difficult passages, or repetition, but few participants were able to apply these techniques during observed practice sessions. This study consisted of survey and observational data. The survey collected data from 38 undergraduate music education students about their time spent practicing, the use of time dur-

ing practice, and attitudes regarding practice. Observation data was collected from 9 of the students who participated in the survey. The students who provided observation data were instructed to video tape themselves practicing but were not given any further directions. Using video analysis software, participants' practice behaviors and strategies were recorded. The only practice strategy used by all nine participants was repetition.

The survey results from this study implied that the majority of participants were able to describe effective practice techniques. However, the students in the observation study used the majority of the techniques described, they were unable to use them effectively (Byo & Cassidy, 2008). For example, some students noticed an error and repeated the phrase, but it wasn't always an accurate repetition and they would move on to something new before the error was corrected. These findings would imply that knowledge of practice techniques, and ultimately self-regulatory skills do not necessarily correlate with the ability to engage in self-regulated practice.

Several suggestions were offered to potentially close the gap between understanding and doing (Byo & Cassidy, 2008). Among these recommendations are deliberate identification and selection of specific performance targets and the development of an aural image of the music that functions to guide self-evaluation. Performance targets should be goals, which are achievable now, and those that require effort across time. The development of a strong aural image can help guide self-evaluation and practice goals. In addition to given practice recommendations, Byo and Cassidy (2008) note that all of their practice suggestions imply that practice should begin with planning for practice before the actual practice begins.

An additional study utilizing the self-regulation model proposed by McPherson and Zimmerman (2002) observed 7 children ages 7 to 9 that regularly videotaped their practice over a three-year period. The private teachers of the students gave the standard advice of practicing 15-

20 minutes at least five days a week and that the student should repeat their assigned pieces until they are fluent. Video data revealed that the children did not apply additional strategies and spent their practice time simply playing through their piece one time without making corrections (McPherson & Renwick, 2010). The practice data collected during year one compared with data collected in year three revealed that their practice routines had remained the same.

While the students in the study mentioned above did not show improvement in self-regulated practice, it is possible to guide students towards higher levels of self-regulatory behavior. Miksza (2015) found that college students who received specific instruction in self-regulation made greater gains in performance as opposed to those who did not receive instruction in self-regulation. Twenty-eight undergraduate music majors were randomly assigned to one of two research groups (Miksza, 2015). Participants in both groups were instructed to watch videos that included descriptions of practice strategies and demonstrations of the strategies being applied. The experimental group had additional content about self-regulatory strategies, including information on how to structure a practice environment, set goals based on personal learning tendencies, and self-evaluation. The group without the self-regulation content saw examples of strategies demonstrated by both woodwind and brass players and the experimental group saw only one instrument demonstrate the strategies. The differences in the amount of strategy demonstration allowed for the videos to be similar in length. All participants were required to record themselves sight-reading an excerpt on day one of the study, practice for 20 minutes, and record the excerpt again. The recordings were submitted to an online website, which is where they watched the videos. The participants watched a different video containing similar practice information for 4 days. On the fifth day of the study, the participants once again recorded a sight-read excerpt, practiced the excerpt for 20 minutes, and recorded the excerpt again.

Results from this study showed that students who received instruction in self-regulation were able to make greater improvements in performance. There were no significant differences found in practice behaviors between the two groups (Miksza, 2015). The students who received self-regulation instruction were significantly older and more experienced than the students observed by McPherson and Renwick (2010) however; the results suggest that the self-regulation instruction enabled the participants to be more efficient and effective in their practice routines (Miksza, 2015).

The results of these and other studies indicate that educators should include the instruction of self-regulatory skills (Hart, 2014; Leon-Guerrero, 2008; McPherson, 2005; StGeorge, Holbrook, & Cantwell, 2012). McPherson (2005) recommends having students reflect on what they are doing and how they working towards their goals during practice. Hart (2014) suggests that supervised practice with an adult may be very beneficial for young students. However, the benefit of supervised practice might decrease as students become more independent. StGeorge et al. (2012) recommends that teachers become more aware of their students' attitudes towards learning or practice and offer personalized solutions. These issues could potentially be addressed through discussion, instruction, and modeling (McPherson & Renwick, 2010; StGeorge et al., 2012).

Integration of Technology

There is a large body of research investigating the integration of technology into the music classroom. This research typically deals with the use of YouTube to explore different recordings of the same piece, the use of iPads as a teaching tool, or the use of video instruction. There is a much smaller pool of research focused on the use of social media or other online-community forms of technology. Since technology is such a broad term, the following section of this literature review will be limited to research looking specifically at the integration of social media, or

other online learning communities in the music classroom. Social media is defined as a form of electronic communication, such as websites for social networking through which users create online communities to share information, ideas, personal messages, and other content, such as videos (MW-online, need citation).

Every year the amount of people who have access to the Internet and utilize social media platforms increases. With the rapid growth of both access and usage of technology and social media platforms, it could be expected to see their increased integration into schools and the music classroom. Abe and Jordan stated,

> To effectively integrate social media into the course curriculum, it is necessary to instruct students in using social media critically and intentionally to optimize learning outcomes. While it is unreasonable to expect educators to increase their level of self-disclosure through social media such as Facebook, it is important to recognize the benefits of connecting with students as well as to consider alternative ways in which students may be motivated to participate in the classroom (Abe & Jordan, 2013, p. 18).

This implies that it is not expected for teachers to share their personal life through social media with students, but that there are benefits to connecting with students in non-traditional ways.

A study among college students integrated Twitter into the classroom as opposed to banning social media use during class (Abe & Jordan, 2013). Students were encouraged to tweet responses during the lecture as well as outside of the class. Although findings were limited, a survey distributed at the end of the course found that students' perception of Twitter usage during class was positive and may have improved enthusiasm and participation (Abe & Jordan, 2013).

As I have already discussed, motivation is an important part of self-regulation. In addition to self-regulation, motivation is necessary for effective practice to occur (Austin, 2006). Students who can understand effective practice strategies and self-regulation may not be able to enhance their performance quality if they are unmotivated (Austin, 2006). It has also been noted that the motivational components of self-regulated learners could help students keep going when they face challenging tasks (Dabbagh & Kitsantas, 2012). Self-esteem and motivation are not identical. However, self-esteem and motivation share many similarities. It was found through a survey-study among university students that updating ones profile on social media establishes one's sense of self-esteem and generates a self-verification process (Cho, 2015). Typically, users post good aspects of themselves online, and eventually those good elements will create a positive image of them as a person resulting in a feeling of heightened self-esteem among their friends and acquaintances (Cho, 2015). It could be that through using social media platforms, a student may create a positive image of himself or herself as a musician, and heighten their sense of practice motivation.

Learning Community

Technology has made it possible for people to create, perform, learn, and interact with other people in ways that were previously inconceivable. A student can share music worldwide, listen to global performers, and perform and receive feedback from audiences in cyberspace with a single click. The communities and platforms available for learning are ever expanding. It has been suggested that teachers need to recognize the knowledge students obtain from online learning communities as well as bridge the gap between the informal and formal learning communities by including participation in online communities as part of formal music education (Partti & Karlsen, 2010). Also, it is suggested that online learning communities could be a platform to create peer-to-peer learning communities (Partti & Karlsen, 2010).

Utilizing online communities could potentially create a space that bridges the gap between informal and formal instruction as well as supports peer teaching and self-regulatory skills. Hanken (2016) and Johansson (2013) found it important for students to experience a sense of ownership as learners and as musicians. The integration of social media could give students a space to express personal choices in what they are posting, viewing, or commenting on, as well as decisions on how to interact with their peers. Peer teaching is also centered around social participation and participatory culture (Forbes, 2016). Social media serves as a platform to connect use socially and provides opportunity for social participation. Nielsen (2001) recommended peer teaching as a method for increasing self-regulatory skills, it could be that online learning communities could also be support and aide in the development of students' ability to self-regulate. Peer teaching allows the student to be in control over the learning situation and exercise choice in their own learning. It is argued that students cannot develop self-regulatory skills when they are not able to have personal choice (Nielsen, 2001).

To support the growth of self-regulation skills, a framework was developed to assist higher education faculty in supporting student self-regulation skills through the use of Personal Learning Environments (PLEs) (Dabbagh & Kitsantas, 2012). A PLE is similar to a social media platform but was explicitly designed for e-learning. The framework developed to encourage self-regulation through PLEs contains three levels: (1) personal information management, (2) social interaction and collaboration, and (3) information aggregation and management (Dabbagh & Kitsantas, 2012). Dabbagh (2012) has not systematically tested this three-level framework; however, they believe that when students engaged in this type of self-oriented system of feedback with the support of their teacher that they will become both motivated and empowered to created PLE's to enrich their learning experiences, including self-regulation, and motivation.

A study examining the use of a web-based portfolio, called iSCORE, aimed to improve the experiences of students and teachers and encourage higher levels of self-regulation (Brook & Upitis, 2015). iSCORE is a web-based portfolio for students to store audio or video recordings of their practice. On the website, several functions have been created for planning, executing, and reflecting on one's own learning. Additionally, there is a calendar, files of documents or recordings, and a mailbox to communicate with their teacher. iSCORE also includes a space for the student and teacher to comment directly on the video or audio recording. It was found that through the use of iSCORE students were able to more clearly identify their goals and receive feedback from their teacher in between instruction periods (Brook & Upitis, 2015). Feedback from participants indicated that students enjoyed sharing videos of their progress with their teacher, but were less willing to share their playing with other students. It was also noted that the students did not know the other students in the study and may have felt uncomfortable sharing their performances while still in progress.

Student Perspectives

Research on students' use of social networking sites in educational settings is in its infancy (Vasbø, Silseth, & Erstad, 2013). Vasbø (2013) studied the use of a social media site called, Space2Cre8 (S28). S28 connected students from around the globe in an online environment where they can chat and share and develop new knowledge about each other. This study explored the students' perspective of using social media in the educational setting and found two main patterns of usage (Vasbø et al., 2013). One group of students retained a school-oriented learner identity when using S28, and the other group oriented themselves towards an out-of-school learner identity. The two groups of students were not mutually exclusive and were mainly defined by the resources they used when using the social media site.

University students involved in a study investigating participation rates and engagement through the integration of Facebook in the classroom reported positive feedback (Graham, 2014). Students were initially surveyed regarding their interest in incorporating social media into their course, which was overwhelmingly positive. Students' voted to determine which social media platform would be used, in which Facebook and Twitter received the majority of votes. The use of Facebook in the classroom was found to be an innovative process that made students think more in-depth about their studies and gain a stronger understanding of the material. Graham (2014) posits that social media networks could address criticisms concerning a lack of technology and that a platform like Facebook has the potential to fulfill various pedagogic functions.

Conclusion

Utilizing social media platforms as a way to both motivate student practice habits and help students develop self-regulatory practice skills could be a promising solution to the disparity between students' knowledge of effective practice and students' application of their knowledge in effective practice. Social media has the potential to be a cost-efficient and effective tool for educators to use to supplement aspects of their teaching (Abe & Jordan, 2013). With practice being an essential component of a musician's life and social media becoming increasingly important to our society it could be a logical next step to utilize the platform of social media to strengthen practice skills. It is believed that researchers must remain in close contact with the multiplicity of today's formal and informal musical learning practices (Partti & Karlsen, 2010). Utilizing social media in the music classroom could help keep music education current as well as begin to close the gap in students' understanding of practice.

3 METHODOLOGY

The purpose of this study was to investigate the use of social media as a tool to promote self-regulatory skills in student practice with undergraduate and graduate university music students. As noted in Chapter 2, previous studies investigating practice strategies and behaviors have identified self-regulation as a key component of efficient practice and a missing component in practice of many students as compared to experts (Austin, 2006; Leon-Guerrero, 2008; Nielsen, 2001; Sikes, 2013).

This study was designed to investigate not only how students practiced, but also what happened when students' private practice was shared with their peers. I was interested in learning more about how students interacted in the online environment and how comments and online interaction could have impacted participants' practice. I wanted to determine if the use of social media incorporated into a practice routine could affect students' ability to achieve more successful rates of self-regulated and goal-oriented practice. As stated in chapter 1, the following questions were used to guide this study.

1. How do undergraduate and graduate university music students use a social media group to document and share their practice?
2. What is the experience of students who post clips of their practice, view their peers' practice, and interact with their peers in a private online environment, which is visible by peers and the researcher?
3. How do students practice differently when excerpts from their private practice are shared with their peers?

Methodology Adjustments

This dissertation has undergone several significant changes since the original prospectus. My original intention with this study was to research at a group of high school students who participated in an orchestra program at a large diverse high school in the South Eastern United States. The initial IRB was approved by the University but denied by the school district where the study was proposed to take place. The reason for denial was cited as the study not aligning with the county's research goals.

The proposed location for this study was then moved to a private high school with a relatively large orchestra program. An amendment was filed through IRB and a letter of support from the school's headmaster was acquired. The teacher at this school was eager to participate but after two attempts it became clear that students were not willing to participate. The teacher felt that this particular group of students was unmotivated and generally unwilling to do anything "extra" for orchestra.

After two unsuccessful attempts to recruit participants a decision was made to simplify the study procedures and to require less time from the participants. The original proposal of this dissertation included a mixed methods approach, which would collect quantitative performance data from students before and after data collection. In addition to quantitative data it was also proposed to repeat the 3 weeks of data collection with two groups for a total of 6 weeks. The survey was originally intended to help form paired samples to create two research groups. One of the groups would be able to see their peers' posts and the other group would not.

The simplification of study procedures included taking out the quantitative performance data and focusing only on the qualitative data. The simplification also included collecting only one round of data over a three-week period with only one group of students. I speculated that

many of the students did not have a regular practice routine and asking them to post their practice 5 times a week was too time consuming.

The teacher from the private school felt that her rising eighth grade students would be more interested than the current group so it was decided to try to recruit from the school again in the following school year with a new group of students. The hope was that the reduced time commitment and easier procedures would be more enticing for students. In an effort to successfully recruit students, it was also decided to include a youth orchestra as a study site. I thought that students who are committed to an auditioned ensemble would likely have a more established practice routine and thus be more willing to participate. An additional amendment was filed with the IRB and a youth orchestra was approved as a second study site.

Recruitment procedures took place at both study sites. I visited during a rehearsal, read the recruitment script and handed out parental permission and child assent forms to all students. The private school orchestra (n=50) again did not yield enough participants to carry out the study. The youth orchestra (n=120) yielded only 5 parental permission forms. Several students (n=10) expressed interest in participating but over a month of attempting to collect returned permission and assent forms only 4 students had completed the documents. These students were invited to join a Facebook group, but from the 4 students only 2 students followed through. One of the students posted diligently 5 times a week over a period of three-weeks. The other student posted once. Neither student interacted with one another within the group. An interview was conducted with the two youth orchestra participants. The data collected from the youth orchestra participants did not yield extensive information and was not included in this dissertation.

After nearly 18 months of unsuccessful recruitment with high school students, a decision was made to change the population to undergraduate and graduate university music students. I

contacted a music professor and asked her if she would be willing to allow me to recruit her students for this study. I found that several of the students within the studio were already posting their practice online. This was being done on the students' personal social media accounts and was not being required or monitored through the studio. However, the studio did have a Facebook group already in place for the purpose of sharing practice. An amendment was again filed and approved through the IRB and the population of the study was changed to focus on undergraduate and graduate university music students.

Theoretical Framework and Theoretical Model

This study is conducted within the theoretical framework of symbolic interactionism. Rooted in pragmatism, symbolic interactionism views the meanings that individuals attach to objects as a lens to help understand the attributed meanings of people's experiences. As stated in Chapter 1, the social interaction between humans is inherently symbolic (Charon, 2004). Goffman (1978) suggests that whenever we come into contact with another person our main obligation is to judge our behavior based on what the other person could perceive to be happening.

Since practice is most often done in isolation, the theoretical framework of symbolic interactionism will help decipher the experiences of participants when their practice is shared and viewed by peers. The theoretical framework of symbolic interactionism will also help understand how and why the students chose to share selected parts of their practice. A person's actions represent the person doing the action, but that action is often intended for someone else. The way human beings interact socially shapes individual identities and create our society (Charon, 2004). The social interaction of humans creates the symbols that we understand.

In addition to symbolic interactionism this study utilized a framework of self-regulation. As stated in Chapter 2, a self-regulated learner is someone who takes an active role in his or her learning process (Zimmerman, 1989) and the process of self-regulation is a primary component

in the practice of expert musicians (Duke et al., 2009). A framework of self-regulation created by McPherson and Zimmerman (2002) identifies six dimensions and corresponding scientific questions. Each dimension has two sets of processes: socialization and self-regulated. The socialization and self-regulated processes are on opposite sides of a continuum and teachers can use this framework to identify students' ability to self-regulate and detect which areas need improvement within each dimension. I used this framework to understand how students used the Facebook research group within their practice. A table of this framework can be found in chapter 2. Combining symbolic interactionism and self-regulation provided a unique lens to gain a deeper understanding of how the symbolically and socially interactive process of utilizing social media may have influenced the inner process of self-regulation.

Methodology and Research Design

This study was a qualitative exploratory case study. Yin (2014) posits that case study research is the preferred method when the main research questions seek to answer "how" or "why", when the researcher has little or no control over the behavior of participants, and when the focus of the study is a contemporary phenomenon.

Case study is an appropriate methodology to explore the questions of this study because they all seek to understand "how, why, or what" is happening. This study was exploratory and did not include any additional propositions or subquestions. The boundary of this case study was defined as undergraduate and graduate music students who elected to be a member of a Facebook group where students chose to document their practice.

Population and Sample

The population for this study was undergraduate and graduate music students. I chose to narrow this study to undergraduate and graduate music students because they likely have more

developed and consistent practice routines compared to younger students. The integration of social media also made this study more suitable for older students. I did not have any personal connections to the students who participated in this study.

The participants in this study attend a large public university (n = 53,000) in the southeastern United States. All the participants in this study were students within the School of Music (n = 465). Due to the qualitative nature of this study only one group of students were asked to participate (n=18). This group of students were chosen through purposive sampling based on the participants' willingness to post videos of their practice and on their professors' willingness to allow me to recruit during their class time. Purposive sampling allows for the criteria of the sample to directly reflect the purpose of the study and allow for a sample to be selected, which offers the richest data (Merriam P. 78).

A private Facebook group of students attending the university was already in existence prior to the study. This Facebook group was created with the purpose of sharing practice-related materials before the study began. However, this Facebook group was largely inactive. This group was primarily comprised of students from one studio within the School of Music. Additionally, I invited a second music studio to join the study based off the professor's willingness to participate. These additional students joined the original Facebook group. There were additional people in the Facebook group who chose not to participate in the study and their data was not reported.

The final group of participants were 18 university music students. Age, race, and gender data can be found in chapter 4 within the results of the survey. 61% (n=11) of participants were undergraduate students and 39% (n=7) were graduate students. Six of the graduate students were pursuing a master's degree in music performance and one of the graduate students was pursuing

an artist's diploma. From the undergraduate participants 64% (n=7) were music education majors, 27% (n=3) were performance majors, and 9% (n=1) was studying composition.

Data Collection Methods

A written survey was administered to participants to elicit information about their use of social media as well as their practice habits. The data collected regarding students' use of social media was intended to provide richer information about the students' engagement with social media and how that may have impacted the study. Prior to the study I thought that students who spent more time on social media may have been more likely to participate. However, I was unable to see any relationships between this data and actual participation rates. The survey also collected information about the participants' practice habits and most frequently used practice strategies. The practice habit and strategy data were used to help analyze the videos and to gain a deeper understanding of the participants' knowledge of practice.

Facebook posts and comments were analyzed. Participants were asked to post video clips of their practice 5 times a week over a three-week period. The participants were also encouraged to interact with posts made by their peers. The data collected from Facebook included the actual video posts and any written information from the original poster about the video. In addition to posting videos, participants were asked to comment and interact with their peers online. Any comments made on posts were analyzed, including emoji feedback. All of the data collected from Facebook was coded and analyzed using descriptive coding and in vivo coding.

Interviews were conducted after all Facebook data were collected. It was my original intention to include focus group interviews comprised of purposeful sampling. However, I had trouble getting participants to show up for the interviews. The first interview was set to have 6 participants, but I ended up only having 2. The same thing happened during the second inter-

view. While I was scheduling the third interview the campus closed due to the coronavirus pandemic and I invited two participants to participate in a phone interview. The interviews were all semi-structured and lasted about 30 minutes each.

Procedure

Permission for Research

Permission for research was obtained from the Institutional Review Board (IRB) at the university. At the beginning of the spring semester I visited two studio classes and invited students to participate in the study. An IRB approved script was used during these meetings for explaining the study and students were given an opportunity to ask questions. The majority of students in one of the studio classes were already members of an online group of students interested in posting their practice online. This pre-formed Facebook group was used to collect the data for this study. Students were told that they could invite peers to join the online group if they were interested in participating. The students were told several times that their participation in this research would not impact their grade or participation within their respective studios. The private Facebook group contained 24 members, including the researcher. However, only 18 members from the Facebook group were participants in the study.

Collecting Informed Consent and Survey Data

During these initial meetings within the studio class, informed consent forms and surveys were distributed among interested participants. If students were not members of the private Facebook group the researcher made a "friend request" and added them to the group. The researcher created a research-only Facebook account, which contained no personal data and was only used for the purpose of this study. Once informed consent forms were returned, surveys were collected, and all participants were added to the private Facebook group an email was sent to all participants notifying them of the start date of the study.

Data Collection

On the first day of the study I posted one reminder in the Facebook group that read, "just a reminder that the practice study beings today and will continue for the next three weeks! Please refer to the informed consent form for study details." Over the course of three-weeks students posted multiple times a week. The first week of the study contained the most video posts, comments, and emoji feedback. Participation lessened over the course of the study.

When the three weeks of posting were over, I screen shot every post in the Facebook group and downloaded them as images to my computer. I created an excel file and organized the text of each post along with the date, time, participant code, number of comments, number of emoji feedback, and length of video. I also created a space within the excel file for a description of the video which accompanied the post.

I was unable to download the video files directly from Facebook, so I used the screen capture feature on my iPhone to make new recordings of all the videos posted to the Facebook group. I made a second excel file to organize the video data. On this sheet I copied the descriptive data I included on the first file and added a list of practice strategies used in each video and added additional descriptions like if the participant was posting something from a warmup routine or something from their repertoire. Additionally, I commented on whether the video sounded like something that was a polished performance or if it was in-progress practice. I then imported the excel files into Nvivo and coded my data using descriptive coding and in vivo coding. A detailed explanation of my approach to coding can be found in chapter 4.

Interviews

Interviews took place 2 weeks after the Facebook data collection ended. I was able to organize the Facebook data prior to meeting with participants which allowed for me to ask more specific questions about their experiences. As explained above, the initial plan was to have focus

group interviews but due to circumstances beyond my control only two people showed up to each interview. I ended up having three interviews with two participants in each interview. The first two interviews were in person and the third interview was done over the phone because of unexpected university closures.

All three interviews were audio recorded. The two in person interviews were recorded with my iPhone using the "memo recorder." The phone interview was recorded using the app "TapeA-Call Pro." All three of the recordings were downloaded and stored on my computer. I transcribed each interview and imported each interview into NVivo to be coded and analyzed.

Data Analysis

The data from this study came from the three data sources described above: the survey, the Facebook research group, and the interviews. I used all three data sources as convergent evidence to understand and draw conclusions about my research questions.

In chapter 4 you will see the results from each question on the survey. The survey consisted of 7 questions including 3 short response questions and 4 questions which asked the participant to circle the most relevant answer. The three short response questions were put into NVivo using descriptive and In vivo coding. The procedure I followed for coding is further explained in chapter 4.

The questions that required the participant to circle the most relevant answer were all about the length of time he or she had spent playing their instrument, how many days a week they practiced and how many hours per day they practiced. For each of these questions I was able to calculate the averages for the total group, and calculate the averages for different groups of students with my sample. For example, I looked at graduate students and undergraduate students or performance and education majors separately.

The survey data provided some insight into how students practice. I imported all the participants' survey data into an excel sheet so I could easily compare and examine answers among participants. I also included how many posts each participant had made throughout the course of the study to see if there were any correlations between time spent online and their engagement in the study. I also used this data to see how often graduate student participants posted compared to undergraduate or if performance students posted more frequently. I was unable to draw many conclusions from the survey data about my research questions. However, the survey data did support some of my findings in the videos. The strategies that students listed on the survey were also the most common strategies I observed in their practice videos. The survey data also influenced some of my questioning during the interview process. For example, one of the participants rarely engaged with social media, yet he was the most frequent poster within the Facebook group.

The Facebook data were divided into three parts. I analyzed the original text from each post, the videos that accompanied each post, and the comments, including emoji feedback from each post. I organized data first in Excel and later in NVivo. I coded all the text using descriptive and in vivo coding. I re-coded the Facebook data twice. The first time I coded each interview separately and the second time I coded across all three interviews according to the interview questions.

The text that accompanied each post primarily centered around what the students were doing in each video. This helped me to understand what kind of content the participants posted most often. I also counted the amount of posts from each participant and calculated averages of posts among participants, level of study, and field of study.

I watched the videos and wrote descriptions of what I saw happening within each video. I was able to use descriptive coding to organize the contents of the videos. I included the practice strategies the students were using, what type of material the students were working on, and if their video was more like a performance or more like in-progress practice. I also noted the length of each video in minutes. I was able to use some of the survey data to further look at the practice strategies used by students in the posted videos.

The last group of Facebook data I analyzed were the comments and emoji feedback. I copied all the comments and coded them using descriptive coding. I made a list of all participants in excel and counted the amount of emoji feedback given by each participant throughout the course of the study.

The last source of data were interviews. These interviews were imported into NVivo and coded initially using descriptive coding and in vivo coding. Once I saturated the interviews with codes and subcodes I developed categories. The development of these codes and categories allowed for two main themes to emerge from the data.

4 RESULTS

Social media has been a successful tool for undergraduate and graduate university music students' to document and share their practice. Participants expressed feeling compelled to spend more time working towards a goal when they knew they would share their practice video with their peers. Some participants revealed that they saw shortcomings in their own approach to practice and learned new practice strategies from watching their peers' practice videos. Participants were influenced by how they felt they were going to be perceived online by their peers. This influence impacted their choice of repertoire, how they represented their practice, and which parts of their practice they chose to share.

This study included three primary sources of data: the survey, the Facebook group, and interviews. The first section of this chapter will explain the results of the survey data. Following the survey data, I will share an analysis of the data collected from the Facebook research group. The Facebook data are divided into three sections including comments that accompany the original Facebook post, videos, and feedback comments from peers including emoji feedback. The analysis from the interviews will be presented by the themes, which have emerged from the data. The final section of data will include an analysis from the semi-structured interviews and six character sketches and a detailed look at the practice routine of one participant.

Research Questions

4. How do undergraduate and graduate university music students use a social media group to document and share their practice?
5. What is the experience of students who post clips of their practice, view their peers' practice, and interact with their peers in a private online environment, which is visible by peers and the researcher?

6. How do students practice differently when excerpts from their private practice are shared with their peers?

Survey Data

I met with students during their music studio class to recruit and collect informed consent. During this time I administered a survey to participants to elicit information about students' use of social media as well as their practice habits. Seventeen out of the eighteen participants completed the survey. The survey consisted of 7 questions including 3 short response questions and 4 questions which asked the participant to circle the most relevant answer. The survey also collected participants' age, however, data on participants' race and gender were not initially collected in the survey. Follow-up questions regarding race and gender were emailed to participants and 11 out of 18 participants replied with self-reported race and gender data. Additionally, data pertaining to participants' degree programs were collected and recorded by the researcher directly from participants. Data were transferred by the researcher to an Excel file and the short responses were coded and analyzed using NVivo. The following section will summarize the findings from the survey. Some of these findings will be interpreted in chapter 5.

Participants' ages ranged from 18-30 with a median age of 22.5. From the self-reported gender data completed by 11 out of 18 participants, 55% (n=6) of participants identified themselves as male , 36% (n=4) of participants identified themselves as female, and 9% (n=1) identified themselves as nonbinary. Self-reported data on race and ethnicity indicated that 64% (n=7) of the participants identify as White, 18% (n=2) identify as Black/African American, 9% (n=1) identify as Hispanic, and 9% (n=1) identify as Asian.

Question 1

The first question asked, “How much time do you spend each day on the following social media platforms?” Participants were given a list of social media platforms including Facebook, Instagram, Snapchat, Twitter, YouTube, or Other. They were instructed to circle their answer from the following categories; never, less than 1 hour, 1-2 hours, 2-3 hours, 3-4 hours, or more than 4 hours. 16 out of 18 participants completed this question.

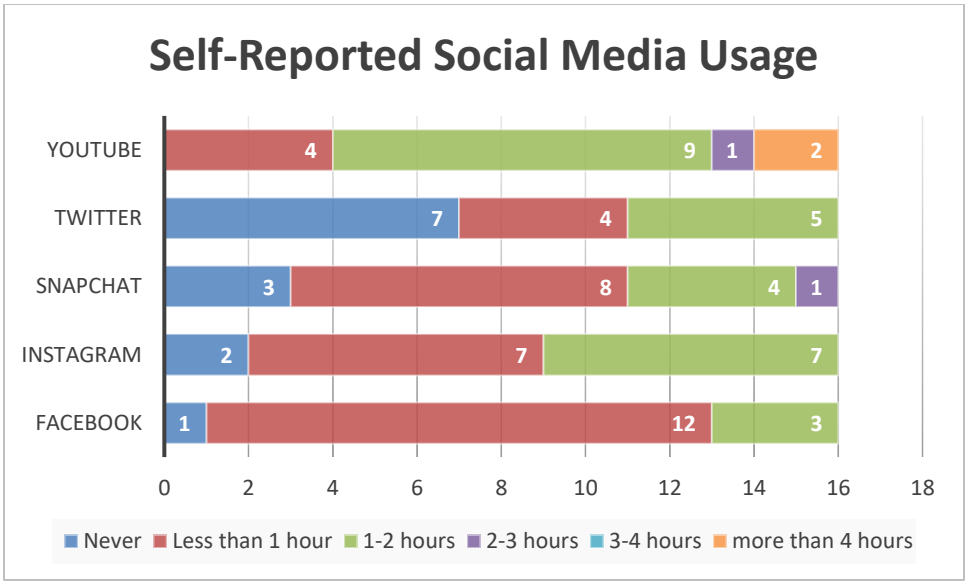

Figure 3 *Self-Reported Social Media Usage*

All participants indicated that they spent time on YouTube daily. Participants spent nearly twice as much time on YouTube than any other social media platform. 75% (n=12) reported spending at least 1-2 hours daily on YouTube and 13% (n=2) reported spending more than 4 hours on YouTube daily.

Instagram ranked second in popularity among participants with daily use. 44% (n=7) indicated they spent 1-2 hours on Instagram daily and 44% (n=7) reported spending less than 1 hour on Instagram daily. Only 13% (n=2) reported never using Instagram.

Snapchat was the third most used social media platform. One participant indicated spending 2-3 hours on Snapchat daily. 25% of participants (n=4) reported spending 1-2 hours daily,

and 50% (n=8) reported spending less than one hour on Snapchat daily. 19% of participants (n=3) reported never using Snapchat.

Facebook ranked fourth in daily use among participants, although Facebook had the second lowest number of participants that did not access the platform daily. Only one participant indicated never having used Facebook while 75% (n=12) reported using Facebook for less than 1 hour daily. 19% of participants (n=3) indicated using Facebook for 1-2 hours daily.

Twitter was the least commonly used social media platform among participants. 44% of participants (n=7) reported never using Twitter, 25% (n=4) indicated that they used Twitter less than 1 hour per day and 31% (n=5) reported using Twitter 1-2 hours daily.

To summarize the number of hours participants' spent using social media I assigned each possible answer on the survey a numerical value which represented the category the participant circled. The numbers were totaled to calculate an approximate amount of time that each participant spent using social media daily as well as how the social media platforms ranked in popularity among participants. The participants' answers were coded as follows for each social media platform:

Table 2 *Calculating Participants' Social Media Usage*

Possible Answers	**Approximate amount of time (hours)**
Never	0
Less than 1 hour	.5
1-2 hours	1.5
2-3 hours	2.5
3-4 hours	3.5
More than 4 hours	4.5

Using these numbers, the range of time participants reported accessing social media daily was between 3 and 8.5 hours. The average amount of time spent on social media daily was 4.6 hours. 37% of participants (n=6) reported spending over 6 hours on social media daily and 63% (n=10) reported spending 4 hours or less on social media daily. The following graph depicts the approximate hours spent on social media daily by participants. I use similar graphs throughout this section. The participant numbers across the bottom of the graph may represent different participants depending on the graph. For example, "participant 1" on this graph may not be the same participant as "participant 1" on a following graph.

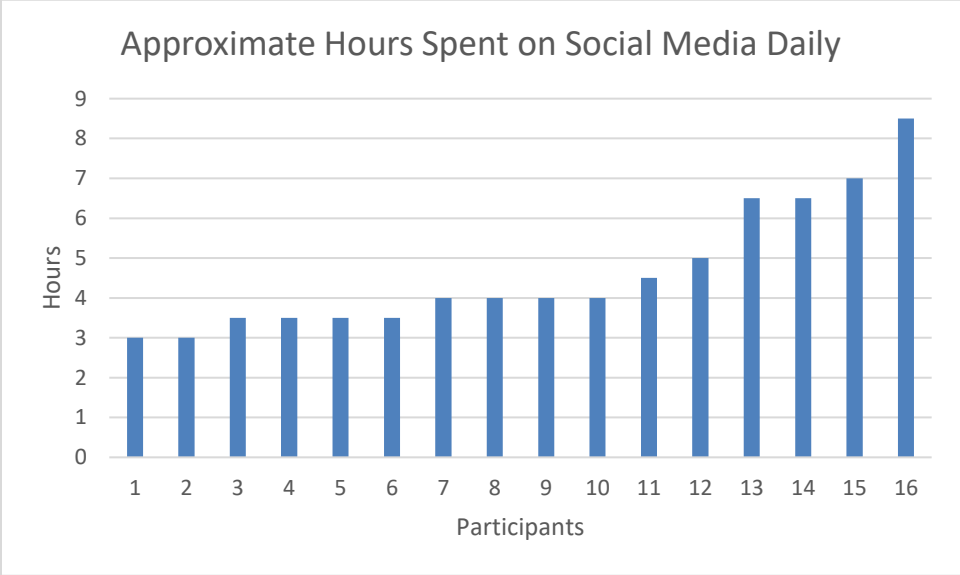

Figure 4 *Approximate Hours Spent on Social Media Daily*

The amount of time participants reported spending on each platform daily was used to rank the popularity of the social media platforms. Combining all the participants' total hours on each platform, YouTube was being used nearly twice as much than any other platform.

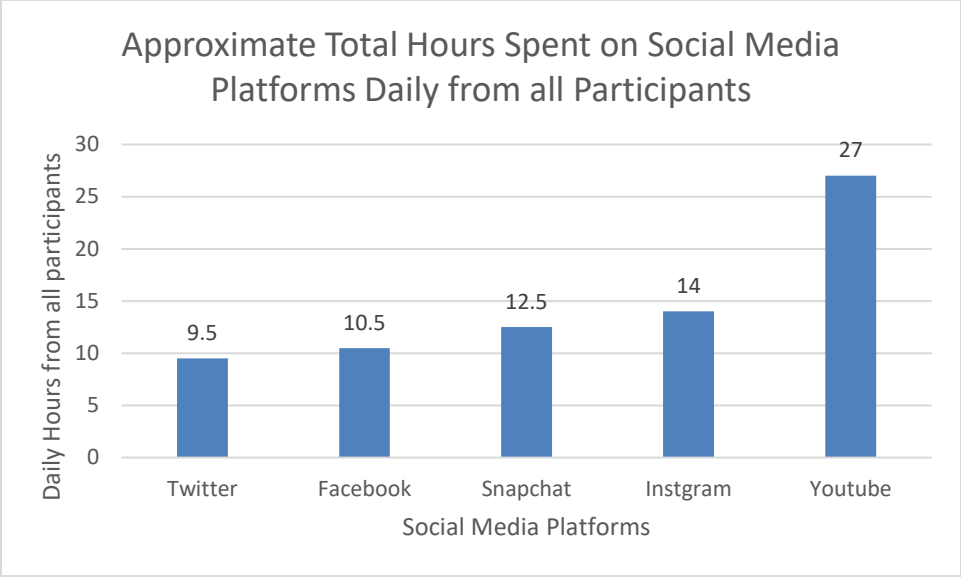

Figure 5 *Approximate Total Hours Spent on Social Media Platforms Daily from all Participants*

Question 2

The second question on the survey was a short answer question and asked participants, "What do you do on social media?" The answers to this question were imported into the qualitative analysis software NVivo and were coded using In Vivo coding. I first read through the data and created codes from the responses that were duplicated among participants. For example, four participants shared that they liked to "browse, scroll, or surf" on their short answer response. I initially assigned these short answers the code of "browse." All four of these responses included other elements, such as "browse music" or "scroll and watch videos." Two additional participants listed "entertainment" on the short response form. Through re-reading the data and creating and combining new codes I was able to create one code of "entertainment" which also included "browse music" and "scroll and watch videos." Additionally, entertainment included "burning time" and "watching web shows." I continued the process of rereading the data and regrouping codes until I stopped with 4 main codes. The codes are: entertainment (n=10), staying current (n=5), communicating with friends and family (n=10) and sharing (n=3).

Entertainment and communicating with friends and family were the most frequent responses on this survey question. 59% of responses (n=10) indicated that they primarily used social media for entertainment. 59% of responses (n=10) also indicated that they use social media to remain connected to friends and family. If the participant did not mention connection with friends and family specifically, they did mention following musicians, artists, news, or TV shows as their main activity on social media. Some of their answers include:

- "Scroll, watch videos, interact with friends, post"
- "look at posts from friends, look at ballet videos, watch web-shows, and talk to friends"
- "look at posts by friends, artists, musicians, etc. that I follow"
- "Mostly personal, social (friends/family), news, professional accomplishments"
- "mostly surf and follow people I know and some other entertainers (youtubers, influencers)"

Several responses indicate that participants' use different platforms for different reasons. For example, one participant wrote:

- "I post usually just personal photos to social media like Instagram, accompanied by sporadic videos of my practice. I generally use other things like Facebook to connect with friends and family and YouTube for entertainment."

Similarly, a second participant wrote:

- "Facebook - to keep in touch with family. Instagram- decompress mentally, food videos mainly:-) Twitter for political posts and new-music Snapchat- chat w/ friends. YouTube- vines and smash."

Question 3

The third question on the survey asked, "Do you follow any social media accounts that feature musicians? If so, who?" The participants were given a yes or no to circle and then a blank space to write an answer if applicable. 100% (n=17) of participants answered yes to this question. Participants' wrote out lists of the musicians they follow. A list of individual artists was most commonly indicated as a response to this question. The following musicians were written down by multiple participants. The number next to each musician represents how many participants included them in their response:

- Adam Neely (x4)
- TwoSet Violin (x3)
- Timothy McAllister (x2)
- Nikita Zimin (x2)
- Hilary Hahn (x4)
- Chloe Trevor (x2)

In addition to individual artists, some common responses were symphony pages (The Berlin Phil and New World Symphony) or generic categories such as "Musician's health and wellness pages" or "composers." Multiple participants indicated that these musicians or music pages were followed on either Instagram or YouTube. No other social media platforms were mentioned in this question.

Question 4

Question 4 collected information about how long the participant has played their instrument. The question asked, "How long have you played your primary instrument?" and the participant was asked to circle the corresponding answer from a list of options. The options included

less than 3 years, 4-5 years, 6-7 years, 8-9 years, and 10 or more years. All participants (n=17) have played their instrument for at least 8 years. 65% of participants (n=11) have played their instrument for 10 or more years.

Question 5

Question 5 asked, "How many days a week do you typically practice your instrument independently (not in an ensemble)?" The participants were asked to circle their answer from a list of numbers 1 through 7. 18% of participants (n=3) reported typically practicing 5 days a week. 29% of participants (n=5) typically practice 6 days a week and 35% of participants (n=6) typically practice 7 days a week. 82% of participants (n=14) practice 5 or more days a week. One participant indicated practicing 2 days a week, one participant indicated 3 days a week and 1 participant reported typically practicing 4 days a week.

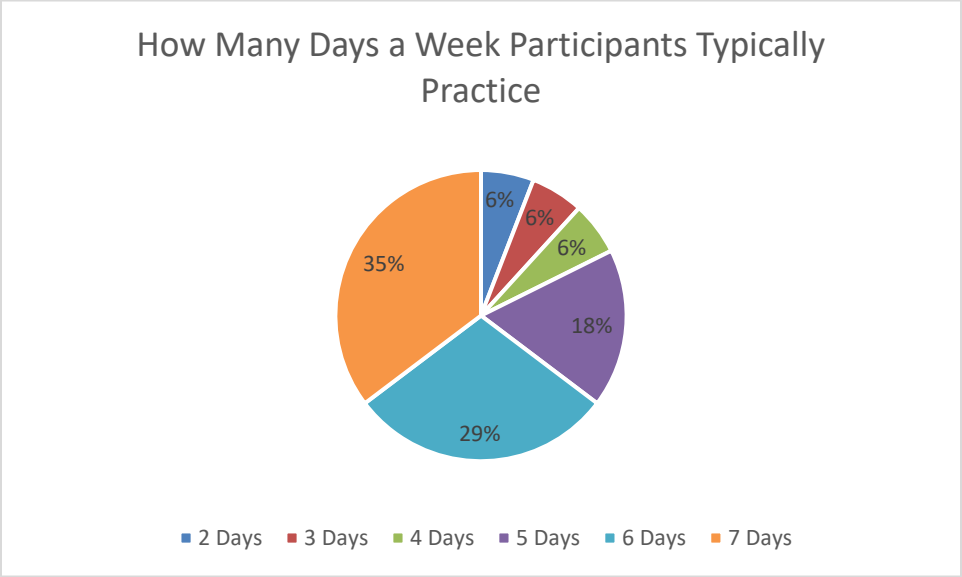

Figure 6 *How Many Days a Week Participants Typically Practice*

Question 6

Question 6 asked, "How long do you usually practice each day on average?" Participants were asked to circle the corresponding answer from a list of options including less than 1 hour,

1-2 hours, 2-3 hours, 3-4 hours, and more than 4 hours. 41% of participants (n=7) reported practicing an average of 1-2 hours each day. 29% (n=5) reported practicing an average of 2-3 hours each day. 24% (n=4) indicated practicing 3-4 hours each day and 6% (n=1) reported practicing 4 or more hours each day.

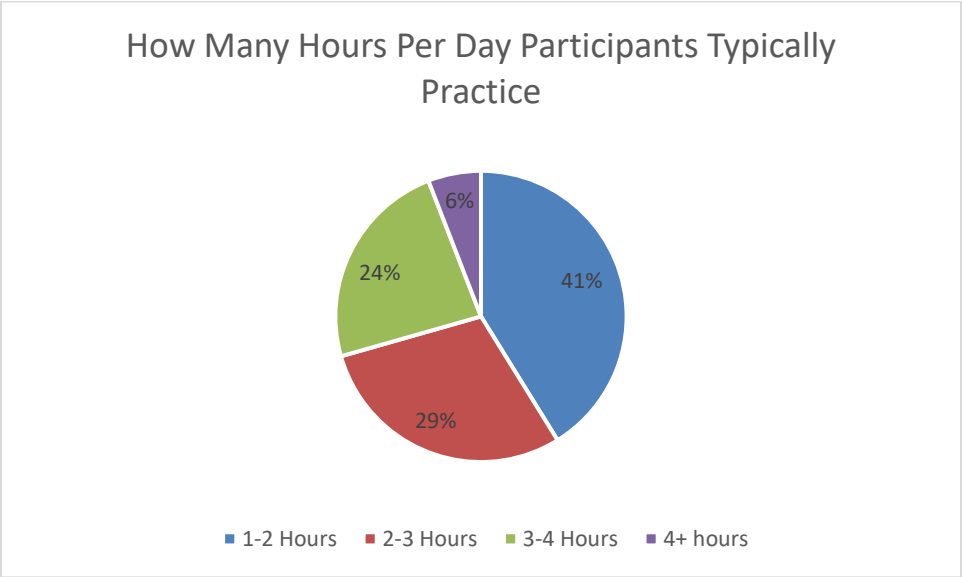

Figure 7 *How Many Hours Per Day Participants Typically Practice*

In order to gain a better understanding of how participants' practice habits may impact their participation in this study, I also looked at the amount of time graduate students spent practicing as compared to undergraduate students. Graduate student participants (n=7) reported to practice an average of 18 hours per week. Undergraduate student participants (n=10) reported an average of 12 hours each week.

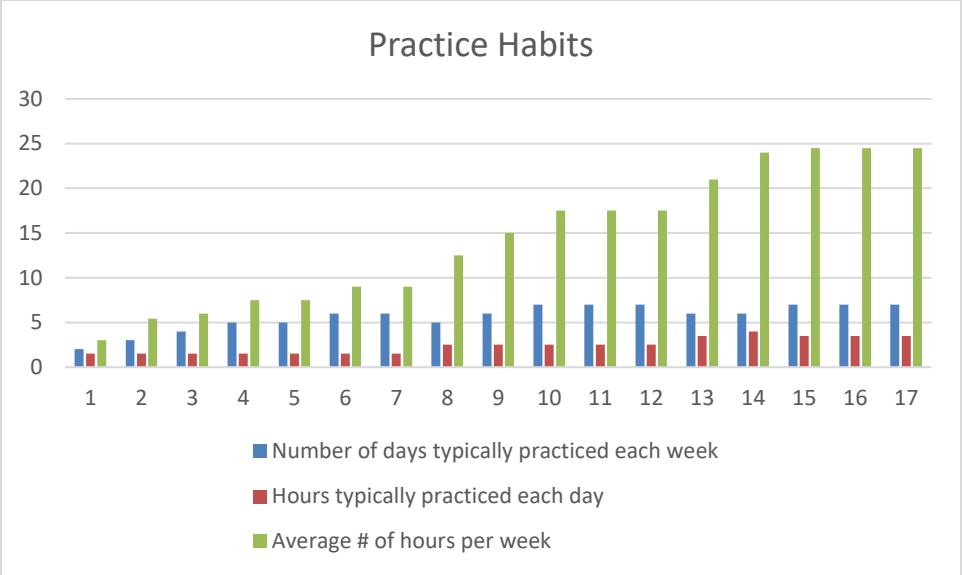

Figure 8 *Practice Habits*

Question 7

Question 7 asked, "Which strategies do you use in your practice?" Participants were given space to respond with a short answer. The answers were coded in NVivo. In total, 24 different practice strategies were listed by participants (n=17). Several of these strategies were listed by multiple participants. Some of the strategies listed may overlap slightly. For example, decontextualization and utilizing a practice rhythm may be the same strategy but since they were listed without explanation, I have listed them separately. The strategies were divided into 5 broader categories: thinking and planning, utilizing practice tools, technique, decontextualizing the music, and reflecting. I have indicated the number of times a strategy was listed by multiple participants. If the strategy does not have a number, it was only listed once.

Table 3 *Practice Strategies*

Thinking and Planning	brainstorming or creative problem solving goal oriented mindfulness score study (x2) structure practice session (x2) conducting
Utilizing practice tools	Using a tuner Drones (x6) Using the piano Using a metronome (x8) Singing (x2)
Technique	Long tones (x4) Scales (x4) mouthpiece technique
Decontextualizing the music	slow tempo (x9) repetition (x6) practice rhythm (x10) looping chunking or isolating (x4) decontextualization (x3)
Reflecting	having others listen listening (x3) performing recording (x5)

Using a practice rhythm, practicing at a slower tempo and using a metronome were the three most listed practice strategies. These strategies were also very frequently represented in the data collected from Facebook. This will be discussed further in the next part of this chapter.

Facebook Data

Data were collected from the private research group over a 3-week period. This Facebook group had previously been formed by a professor as a place for her students who had expressed interest in sharing their practice online. However, the group had not had any activity prior to this research study. All members of the group were asked to join the study and they were

encouraged to invite interested peers. However, it was not a requirement to be a part of this study to belong to the Facebook group. During the time of the study the group had 24 members. 18 of the 24 members were participants in the study. Of the six members from the group who were not a part of this study, two of those accounts belonged to me. I was initially added to the Facebook group from my personal Facebook account and I later created a research-only Facebook account which I used to add students to the group. Both of those Facebook accounts remained part of the research group. Additionally, two of the other members from the group who were not participants in the study were the participants' music professors. One of the group members not included in the participants was a former student and the last member not taking part in the study was someone who was a member of the original Facebook group but did not wish to take part in the study. Their data is not included in this study. The professors, former student, and I did not post or interact with any of the participants during the course of this study. The participants from the Facebook group consisted of undergraduate and graduate music majors at the same university. Six of the participants belonged to a string studio and 12 of the participants belonged to a woodwind studio.

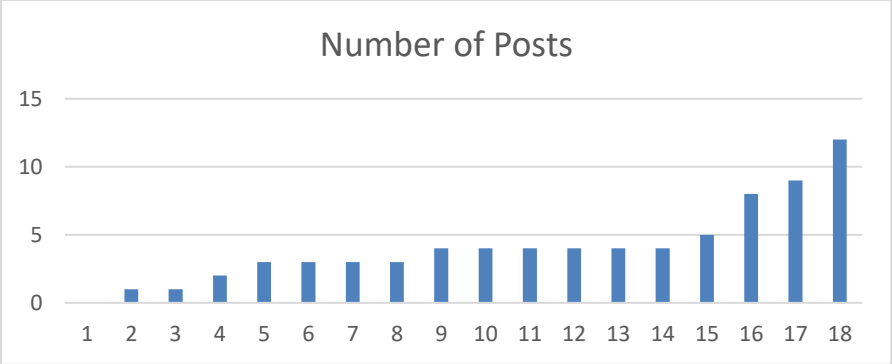

Figure 9 *Number of Posts*

During the study, which took place over three weeks, 74 total Facebook posts were made within the research group. On average, each participant posted 4 times. However, the range in posts among participants was 0-12. 56% of participants (n=10) posted at least 4 times. 72 of the 74 posts were accompanied by a video and 2 of the posts only contained text. The following section will analyze these posts and videos. The data has been divided into three categories:

1. Participants' posts (the text/comment from the original poster for each of the 74 posts)
2. Videos that accompanied the original post from the original poster.
3. Interactive comments (comments and feedback from peers including comments and emoji feedback)

Participants' posts

All the text from the original posts on the Facebook research group were copied into an excel file and imported into NVivo. I used NVivo to code and sort posts through descriptive coding. The first time I read the text I did not make any notes or create codes. The second time I read the text I made notes in a column adjacent to each post about what was in the text. For example, I wrote "title only" or "title and description of struggle." I reread the text for a third time and created descriptive codes for each post within NVivo. I then compared the code I assigned each post with the description I had written in the side column. All the posts were coded into one of 4 main codes: description only, description with a goal, description with a strategy, and description with a goal and a strategy.

The descriptive coding itself was not consciously influenced through my theoretical framework. However, the necessity of creating codes from the descriptions that participants shared with their posts is deeply driven by symbolic interactionism. Through the text each participant chose to post, they were assigning meaning to their post and to themselves. This language

helps other people form assumptions. People behave towards other people with the meanings that they have been given. I will first summarize the data and conclude with an interpretation through the theoretical framework of symbolic interactionism.

From the 74 posts, 73 contained at a minimum a description of what you could expect to hear in the attached video. However, most of the posts contained a description plus extra information such as a goal, a strategy, or the process they used during their practice session. The one post which did not contain a description was a funny reaction of "yikes" that accompanied a video of their playing where they made a mistake along with a humorous facial expression. Below is an example of how the posts appeared on the Facebook group. The text analyzed within this section is the text that is attached to the video recording.

Figure 10 *How Posts Appeared on Facebook*

Description only

18% of posts (n=13) contain only a written description of what is in the video. These posts listed only the title of a piece or of a scale. Some examples of posts from this category include:

- "Ferling Étude No. 4"
- "F# Harmonic Minor Scale"
- "Reading feeling #5 for the first time"

Description with a strategy

11% of posts (n=8) contain only a description and practice strategy. These posts have the description of the piece and included how they were practicing in the attached video. Some examples of posts from this category include:

- "Using practice rhythms to iron out a lick in Creston three"
- "Practicing extended major scales upside down as a review"
- "Practicing Harmonic Minor Scales and isolating segments where needed."

From the three examples above "a lick in Creston three" is the description and "using practice rhythms" is the strategy. This information tells us that the participant is using practice rhythm but does not state a specific goal within "a lick in Creston three," Likewise, "Practicing Harmonic Minor Scales" is the description and "isolating segments where needed" is the strategy. In both examples the participants tell us how they are practicing but do not specify the details of what they are practicing within the piece of music. All the strategies within this category are also found in the practice strategies collected from participants' surveys.

Description with goal

40% of posts (n=30) contain a description and a goal. Posts that were categorized into this group all contained a description and a goal, but some are also accompanied by different information such as a process or extra information. Some examples of descriptions with a goal include:

- "Ironing out my "walnut chin" in the mirror"

In this example the description and goal are one in the same. This participant is working on her "walnut chin" by "ironing it out" but she does not write how she is doing that.

- "Working on the Scherzo from Schumann's first quartet. The forte E major part is awkward and tends to be sharp so I am working on tuning, getting the shifts in tune, as well as getting my lower strings to speak in that register."
- "I was focusing on three main things in this passage. Introducing some better fingering choices, making the Dim. that happens part way through show, and not anticipating the Sforzando at the end."
- "Movement 2 of Tableaux. Things I need to work on, breathing in correct places, phrasing, and better timing."

In the examples above it is evident what the participant is working on, but they do not describe how or what strategies they are using to achieve their goal. The first example uses the description of "working on the scherzo from Schumann's first quartet." The participant states that, "the forte E major part is awkward and tends to be sharp so I'm working on tuning." The participant does not tell us how he is working on tuning. Participants used these posts to write out their practice goals or to organize what they needed to work on. This is not to say the participant did not have additional strategies in mind, but they were not shared within the written text of the

post. Most of the posts within this category list multiple goals, which is evidence of participants using goal oriented, mindful, or structured practice. These are all strategies listed by participants in the survey data.

It was also common for the posts within this category to share part of their process. For example:

- "9. Canzonetta – Dancla. This is a little bit of my process for getting fast double stops down. The most difficult part is trying to train my fingers for muscle memory also figure out if it's possible to adjust my left-hand shape so that it doesn't cramp up so easily."

This post was accompanied with multiple videos which showed how the participant practiced the double stops in Dancla. While the participant did not list strategies specifically in the text, he did show strategies within the videos. Listing a goal can be a practice strategy. For example, the participant below lists a description of the piece, includes what the goal is and posts the realization of something else that needs to be worked on, which was identified by watching the practice video. While this participant did not state a strategy specifically, he listed his goals and used the video to reflect on and identify weaknesses in his playing, which is strategic practicing.

- "Andantino grazioso – Pleyel. Attempting to work out some intonation issues in a melodic passage. My 2nd and 4th fingers are usually the problem. I'm also trying to be aware of not clipping the ends of phrases and letting them sing out. p.s. I didn't realize that my bow was at the fingerboard at certain moments until watching this video..."

Description with a goal and strategy

31% of posts (n=23) contained a description with a goal and a strategy. These posts not only listed what the participant was working on but also how they were going to practice the selected goal. For example, the first post below lists, "practicing everyone's favorite multiphonic" as the

description. The goal is stated as, “get all of the notes to be audible at the written dynamics” and the participant is going to accomplish this by “experimenting with tongue position, air quantity, air support, and embouchure pressure.” The participant also lists isolation as a practice strategy. The participant described a very clear summary of what and how they are practicing.

- “Practicing everyone’s favorite multiphonic. Experimenting with tongue position, air quantity, air support, and embouchure pressure to a) isolate each note, and b) get all of the notes to be audible at the written dynamics.”
- “I isolate some shifts in the 2nd movement of Rontgen sonata. M. 62 gives me the most trouble and is the bulk of this video/session. I realized I needed to release my fingers on the arpeggio leading up to the shift, then I spend some time breaking it down/tuning intervals before putting it back into context.”
- “Kreutzer Etude no. 5 Working on a martelé stroke and being mindful of my bow angle at the tip. Practicing at a very slow tempo for now to familiarize myself with carefully marked fingerings in higher positions.”
- “Symphony no. 5 – Mendelssohn using a metronome to practice one of the many fast passages in this piece. Trying not to fight against the metronome and clean up some notes and string crossings.”

In addition to descriptions, goals, and strategies many participants posted about things they realized when watching the practice video used to accompany their post. Some of these examples include:

- “Bid Call (viola/E-flat alto sax duet) - Libby Larsen After watching this video, I realize my double stops towards the end need to be cleaner and more clear. I probably need to slow it down a lot to feel the changes from 5/8 - 7/8 - 3/4 and so on. The whole piece is

supposed to sound like fast talking auctioneers. I also need to keep my intonation consistent through the section at the beginning of the video."

- "Tried to play through the Kreutzer etude earlier today without stopping (unless necessary) and without warming up at all. I did this to see if my left and right hand remembered what I practiced over the weekend. I notice that my bow stroke suffers when I get distracted with my left hand, so that's something to work on."

While most of these examples show students realizing areas of weakness, one example shows a participant recognizing something she enjoys about her playing:

- "Run of the first page of Gotkovsky Variations Pathetiques mvt 1. It's mostly a cadenza. My altissimo came out decent, but I cracked a palm key e? 🤦‍♀️ it happens. It's nice to actually see how much I move and what I'm doing with my left elbow... Getting ready for DMA audition #2!"

Interpretation of Results

As mentioned earlier, being able to identify areas of weakness is essential to self-regulated and effective practice. Several students listed recording as a tool used in practice, but many did not. Posting in the Facebook group not only encouraged students to write out what they were practicing, which often translated into goal setting, but also encouraged the student to watch and record their playing. A large component of self-regulated practice is being able to identify the weakest areas and being able to select strategies to improve them. In order to show improvement, it is important to know exactly what needs to be worked on. Another important part of self-regulation is being able to identify when the selected strategies are working or when they are not working. Recording, reflecting, listening, or watching practice can also be included as practice strategies. As mentioned above, some participants were able to use the video recording they

shared to the Facebook group as a tool to discover areas of weakness.

Video Data

97% (n=72) of the 74 posts on the Facebook group included videos of the participants' practice. At the start of the study participants were asked to post videos of their practice but were not instructed on how long these videos should be or which parts of their practice should be included. Most posts (89%, n=64)) contained only 1 video. The remaining 11% (n=8) of posts with video contained 2 or more videos. Only 2 posts were posted with text only. In total, 84 videos were posted to the Facebook group. The videos ranged in length from 8 seconds to 7 minutes and 47 seconds long. The average length of video was 1 minute and 27 seconds long. This section will explain what type of content participants posted in the videos.

I want to note that in this section I make many value judgments about participants' playing. These judgments are subjective and are based on my experience as a musician. When I refer to something as "sounding good" or "well-done" it means that I could not immediately identify aspects of their playing that were incorrect. Similarly, when I refer to participants as "playing at a very high level" or another similar expression I mean that those participants are performing at a professional level, or near professional level.

To understand more about the videos posted, I watched each video and made notes in an excel spreadsheet about what happened in the video. For example, the following image is a screen shot from a video post.

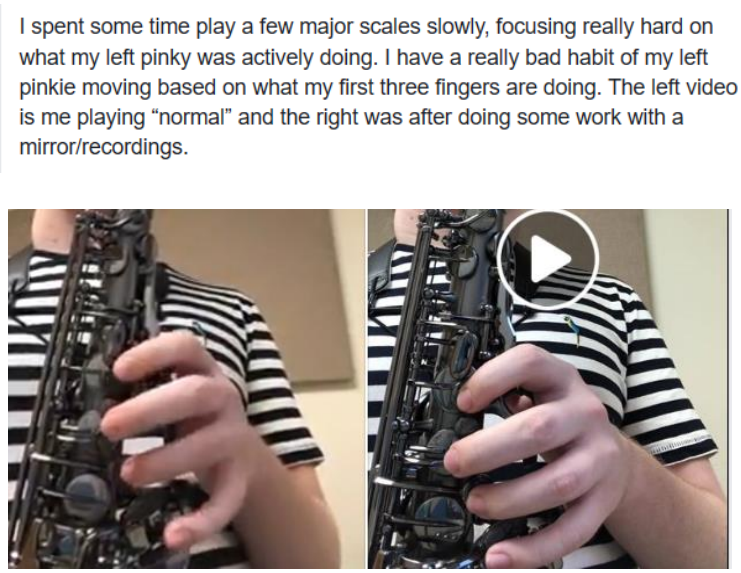

Figure 11 *How the Videos Appeared in the Facebook Group*

In the above video I knew from the comment that the participant was working on major scales while working on some issues with his fingers. When I watched the video, I watched him isolate sections within the scales as well as use repetition to correct his mistakes. I could see his pinky start to move as he described in the comment and I could see him hold his pinky still. I made notes about what type of practice the participant was doing. For example, this participant was doing scales, which I coded as "warm-up/technique." I also noted if the video was more like a performance or more like in-progress practice. I watched all the videos multiple times and wrote down what was happening for each of the videos into an excel spreadsheet. I imported the data into NVivo where I continued to apply descriptive codes for each video. From the posts with multiple videos, all the videos attached to the original post fell into same category and I counted them as one post. I found that participants' videos were one of two main codes. The two main codes could each be broken down into two subcodes. The two main codes pertain to what type of material the participant chose to post, and the two subcodes within each main code are the performance level of the video posted. The following chart shows the division of the codes

and subcodes. The total number of videos appears higher than the videos totaled within the codes. This is because when a participant posted multiple videos to one post, those videos were all coded the same and I considered them to be one post.

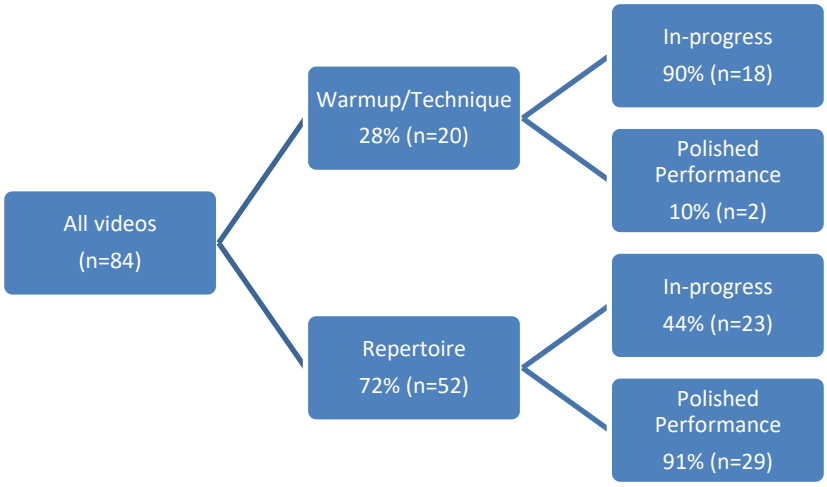

Figure 12 *How Videos were Categorized*

Within the main codes of what participants' chose to post, all practice videos fell into one of two groups: repertoire or warmup/technique. 28% (n=20) of videos were categorized as warm-up or technique. These videos included content like scales, mouthpiece exercises, vibrato exercises, or specific breathing exercises. 72% (n=52) of videos were categorized as repertoire. Repertoire consisted of solo pieces, chamber music, orchestral excerpts, or performance-like etudes.

Within the subcode of performance level, all videos fell into two subcodes: polished performance and in-progress. While these videos were not meant to be performances, some participants chose to post practice videos very reminiscent of a polished performance while other students posted more raw clips of struggle, errors, and videos that showed obvious room for improvement. 57% (n=41) of participants posted videos that showed in-progress practicing and 43% (n=31) shared videos of polished performances or run-throughs of their practice material.

In-Progress Practice Videos

It appears that participants were more comfortable posting in-progress practice videos when they were sharing part of their warm-up or technique exercises as opposed to repertoire. 90% (n=18) of warm-up/technique videos were in-progress performances. From posts containing repertoire videos, 44% (n=23) of repertoire videos were categorized as in-progress. Some of the posts simply described what the participant was working on. For example,

- "Struggling to play harmonic minor scales upside down to basically relearn them"
- "Practicing some articulation at varying dynamics."

In the first example above, the participant used a metronome and frequent repetition in the video posted. However, the scales still sounded in-progress at the end of the clip. Either he chose to post the grittier part of his practice and did not include his improvement, or the strategies he chose were not working. Either scenario, the poster did not feel the need to defend his limitations or explain what he was going to do next. Similarly, in the second example the video showed the participant playing different articulations with different dynamics. The participant did show some successful and unsuccessful attempts, but the video was more haphazard than showing a trajectory towards improvement. However, among these in-progress videos it seemed important to the participants to show progress. For example,

- "I spent some time playing a few major scales slowly, focusing really hard on what my left pinky was actively doing. I have a really bad habit of my left pinkie moving based on what my first three fingers are doing. The left video is me playing "normal" and the right was after doing some work with a mirror/recording."

  In the above example, the participant posted two videos in the post. The first video, as he

explained, shows his hands moving and you can clearly see the movement in his left pinky finger. The second video shows some improvement, but you can still some unnecessary movement. His post was openly sharing an area of weakness, but he also showed himself improving the area of weakness. In another example a participant posted:

- "Practicing G Harmonic Minor Scale, focusing on fluidity of fingers and tempo."

This video showed the student struggling with intonation but also showed him isolating intervals, using repetition and it was easy to hear improvement towards the end of the video. If a posted video did not show progress, the original poster often acknowledged their weakness and explained that they knew what the problem was. For example,

- "4. Andantino grazioso – Pleyel. Attempting to work out some intonation issues in a melodic passage. My 2nd and 4th fingers are usually the problem. I'm also trying to be aware of not clipping the ends of phrases and letting them sing out. p.s. I didn't realize that my bow was at the fingerboard at certain moments until watching this video..."
- "I isolate some shifts in the 2nd movement of Rontgen sonata. M. 62 gives me the most trouble and is the bulk of this video/session. I realized I needed to release my fingers on the arpeggio leading up to the shift, then I spend some time breaking it down/tuning intervals before putting it back into context."

In both above examples, the participant clearly explains the area of weakness. While it was obvious that the shared videos were practice, it seemed important for the participants to explain that they understood what was wrong. Sometimes the original poster would acknowledge their area of weakness and include an explanation of how they were going to make improvements.

- "Realizing my ears just struggle to hear these high notes in tune. So, I'm working on getting a clear sense of my mouthpiece pitch against a drone. I have the flexibility, now I just need the intonation 😅"

In the above example the participant acknowledges that he is out of tune and admits to struggling with hearing the high notes. He also includes what his strategy is for improving the intonation. However, he does not show the improvement in the video. A small number of posts showed something exciting that happened during practice. For example, the following post is from a participant who was practicing overtones. The video was in-progress practice but captured the surprise of the participant as she was able to accomplish something unexpected.

- "I was trying hard to maintain good embouchure while getting the pitches. I got an overtone at the very end of this video that I didn't try to get and it surprised me because I've never gotten that one without the side key assistance before!"

Polished Practice Videos

43% (n=31) of the videos posted to this study were assigned the subcode as a polished performance. These videos demonstrated the participant playing something that sounded more like a performance and less like practice. Of the 31 videos in this category, 91% (n=29) were categorized as repertoire. These videos often showed the product of the practice and not the process.

As previously stated, 40% of posts (n=30) from the entire study contain a description and a goal. 67% (n=20) of these posts also fall into the category of polished practice. However, the goals described within the category of polished practice were vaguer and were often more nuanced than in-progress practice. Participants who posted a video with a goal and description within in-progress practice had goals that you could hear and see being worked on in the video.

Table 4 *Examples of Videos with Descriptions and Goals*

Repertoire videos accompanied with a description and a goal	
In-progress practice	Polished practice
• Practicing the instant piano articulated g in this measure. Still a little fuzzy, but it's getting there. • Symphony no. 5 – Mendelssohn. Using a metronome to practice one of the many fast passages in this piece. Trying not to fight against the metronome and clean up some notes and string crossings.	• Warming up by playing a Chick Corea tune. Using vibrato and adjusting intonation. • Movement 2 of Tableaux. Things I need to work on; breathing in correct places, phrasing, and better timing.

In the videos of in-progress practice, you can hear and see the goals being worked on. The goals are not always consistently met. In the second in-progress example the participant says, "Trying not to fight against the metronome and clean up some notes and string crossings." In this video I could hear the intonation errors in the video and watch the participant deliberately work on emphasizing the string crossings and rhythmic consistency. In the first polished example the participant wrote, "using vibrato and adjusting intonation." He did use vibrato in the video, but it did not sound or appear to be a struggle and the playing had great intonation and any struggle with adjusting pitch was not obvious. However, some of the examples in the polished practice subcode did show goals being met. For example,

- “Working on some tone and articulation as well as note accuracy in Boutry. (Unfortunately can't use met and video at the same time)”
- “9. Canzonetta – Dancla For these phrases, I am focused on: 1) not lifting my bow off the string unless notes are marked staccato, 2) making it all the way back to the frog on downbeats - two things I ignore unless I go slow enough to really think about them. (I don’t really like using practice mutes but it is necessary at times)”

In the two examples above both participants stated their goals, and both videos showed their goals being met. In the first example the participant did use some repetition, but the level of playing was very high, and most of the video consisted of him playing through the piece, giving extra attention to the articulations. He showed the articulations being played very well, but also showed himself repeating and refining his execution. In the second example the participant clearly defined her goals in the description and very deliberately showed the goals being met in the video.

As previously mentioned, 18% (n=13) of posts from this study contained only a written description of what is in the video and did not include a strategy or a goal. 54% (n=7) of posts in polished performance were accompanied by a text that only listed a description. Some of these examples include,

- “This is from yesterday 😂😂 but I was working on the first two lines of Ryo Noda’s Improvisation 1”
- “First 40 seconds of Creston with a brief cameo by [student’s name] at the beginning.”
- “Ferling Étude No. 4”
- Reading feeling #5 for the first time

All these videos show the participant playing a accurate run-through of what he or she

described. More than half of the participants had a metronome in the background while they played the piece, but no other practice strategies or goals were evident.

One participant clearly described the difficulty level of the piece he was posting in each of his posts. He mentioned the need to "clean up" his triplets and keep intonation consistent. However, the videos he posted were well-done run-throughs of polished practice. This participant later revealed in an interview that he felt significant anxiety over what other people thought about him. Making sure the difficulty level was clear likely made him feel justified in posting a video that may have been perceived as in-progress.

- Doing more slow work on a tricky passage where sixteenth notes are tied across each bar. This passage is also tricky because the piano plays sixteenth-sextuplets, so it's easy to get off track. I think I'll have to try to ignore the piano until the end of the passage, where we arrive and play sixteenth-sextuplets together.
- After watching this video, I realize my double stops towards the end need to be cleaner and more clear. I probably need to slow it down a lot to feel the changes from 5/8 - 7/8 - 3/4 and so on. The whole piece is supposed to sound like fast talking auctioneers. I also need to keep my intonation consistent through the section at the beginning of the video.
- I probably need to isolate the double stops and get the intonation more consistent. I'm also having trouble getting the slurred triplets to sound clean

It should also be noted that some of the participants perform at a very high level. It is possible that they hear errors in their playing that are not obvious to other listeners or to people who do not intimately know the piece of music they are studying. However, the three examples above are the only self-critical posts that I have categorized as polished practice.

Comments and Emoji Feedback

Commenting and interacting are one of the most interesting and useful aspects of social media. This section will be divided into two parts: comments and emoji feedback. Comments are the text that different participants used to reply to another participant's original post. Emoji feedback are the "likes" or "loves" someone gives on Facebook. The emoji feedback involves a simple click or reaction while a comment takes more time and effort to write out.

Comments

From the 74 original posts on Facebook, only 15 posts received written comments. 11 of those 15 posts had only one comment and 4 posts had two or more comments. In total, 19 comments were made from 5 participants. 95% of comments (n=18) happened during the first week of the study. Only one comment was made during the second week and no comments were made during the third week of the study. One of the participants was responsible for 11 out of 19 comments. Another participant contributed 4 comments, one participant contributed 2 comments, and two participants contributed 1 comment each.

The comments fell largely into two categories: comments offering suggestions and comments offering social connection. From the 19 comments, 9 were offering suggestions to the original poster about the video and 8 comments were comments offering social connection with the original poster. The two additional comments not accounted for in these two groups were both critiques of the practice video and did not offer suggestions.

Comments offering suggestions

The suggestion comments broke down further into two categories: suggestions only, and suggestions with a compliment or encouragement. These first two comments offer the original poster concrete ideas on how to continue practicing. All comments in this section are direct quotes from participants' and have not been edited for grammar or spelling.

- “Definitely continue to practice this at a slower tempo as it’ll make runs super easy, barely an inconvenience.”
- “this seems to happen consistently when you go over to that lower string. maybe its getting used to the new way of using the bow with the pinky change. maybe try a little faster bow on that string change? maybe its physics? the bow is faster on all the other notes. I think you slow it a little for that one to allow for phrasing, but physically the energy in the bow is like hitting the breaks in rain....the tires "skip" because of the change in speed. interesting puzzle!”

Some of the comments left by participants feel more sympathetic, as the commenter tries to relate to the original poster. For example:

- “Don't push the wrist out when you go to 4! Makes it harder to tune. So easy to do it without realizing.”

The participant commenting gave a concrete piece of advice “Don’t push the wrist out when you go to 4” but also wrote “So easy to do it without realizing” this was a subtle way the commenter relates to the original poster. These attempts to relate to the original poster happened with several other posts:

- “So it sounds like you could use your metronome a little more effectively. sometimes your 16ths end up on the beat and sometimes the 8th ends up on the beat. I really really try to be strict with myself when I'm using the met, making sure that, even if I'm isolating just a few notes of a larger section, that I'm still lining up what I'm supposed to with the met - otherwise, we risk unintentionally practicing it wrong.”

In this example the commenting participant explains the suggestion by telling the original poster what she does in her personal practice that has helped. During the interviews, which will

be explained in detail in the next section of this chapter, none of the participants who had received comments felt insecure about the advice they received. The participants noted that the comments and feedback were helpful and that they always welcomed the advice. In is example:

- “Very interesting. if I'm understanding what you're talking about, it looks like you revert to Walnut a little bit when you breathe and come off the mouthpiece - is there a way to keep the posture in the interim so that you don't have to reset every time? our equivalent would be keeping the bow on the string so we don't have to reset after taking it off every time. I hope this helps!”

The original poster played a wind instrument and the commenting participant played a string instrument. The participant was unfamiliar with “walnut” chin but tried to connect to the original poster by commenting with what she felt was the equivalent advice for a string player. These comments were offering critical feedback but were not received as being disparaging.

Only a few comments were overtly complimentary. The following examples are the comments left by participants that have clear compliments. The first two examples are complimentary, but do not go into much detail. In the third example, the participant described a personal experience and offers the original poster direct encouragement.

- “Hey good work on these. Check that left pinky out..”
- “Hey great concept to focus on. Next time you do this, put a drone on so you can also practice intonation! 🎷”
- “When I was learning this piece my teacher had me play the cadenza at my goal tempo for the fastest sections. It seems odd, but you can’t truly have a sense of how to speed up evenly and cleanly if you can’t play the whole thing at 1 tempo. With that being said, I encourage you to find a goal tempo you would like to be the “peak” of your accel. And

then work with a metronome the entire cadenza to that peak tempo. And then you'll be able to do the creative, no metronome work. Just a different prospective! But you sound wonderful [student's name]!"

Comments seeking connection:

I think all the comments left by participants sought connection from the original poster or from the group. However, the comments in this category did not offer any type of suggestions. These comments were less detailed and more casual than the comments containing suggestions. For example:

- "Learned what sul ponticello is in our rehearsal today 😂"

One of the original posters posted a video of themselves practicing a sul ponticello section of his piece and one of the participants commented that they had just learned what this meant. This type of comment did not "help" the original poster but did encourage community and friendships between the participants. When one of the first videos from a string player was posted in the study another member of the string studio replied with:

- "Yay video! I'm nervous and excited to see mine as I don't record regularly"

Again, this comment does not help the original poster, but these types of comments do encourage conversations among online groups. The participant who commented, expressed that he was nervous, which may have made the original poster feel more at ease with being the first poster among the string studio.

Some of the comments were meant to be funny reactions to the original posters video. For example, one of the participants posted videos of himself doing a very high-pitched warm up that, while intentional, sounded more like a screeching bird than an instrument. The participant who commented said:

- “Lol, I just walked into a dead silent CVS and this started playing 🤣🤣🤣”

  Another participant posted her struggles and concerns with learning a piece and a participant responded in solidarity.

- “But saaaaaaaaame”

Throughout the comments, only one time did two participants converse in the comment section. One participant left a suggestion and the original poster responded with:

- “Thanks for the tip! I notice it too watching this video back.”

Emoji Feedback

Emoji feedback was the feedback left by participants by clicking the “like” or “love” buttons on Facebook. During the time of this study Facebook offered its users 6 different “emoji responses.” The possible emoji responses included “like, love, laugh, wow, sad, or angry.” It is possible to respond to any content posted on Facebook by clicking on one of these emoji responses. The posts in this study received 186 “likes” or “loves” from participants.

During the first week of the study 134 clicks of emoji feedback were left on participants’ posts. From this feedback, 82 clicks were “likes” and 52 clicks were “loves.” On average, each post had 2 “likes” and 1 “love”. The first week of the study accounted for 61% (n=45) of the posts in the study and 72% (n=134) of the total amount of emoji feedback. 100% of posts in the first week of the study had at least one form of emoji feedback.

The two posts with the highest amount of emoji feedback from the entire study were both posted on the first day of the study. The very first post added to the group was from a graduate participant, and likely one of the most advanced members of the studio. Her post had 7 emoji reactions. Her posts throughout the study consistently had a higher than average amount of emoji feedback, which is likely to come from the respect her peers feel towards her or that her content

may be more advanced than her peers. On the contrary, the post with the highest amount of emoji feedback was from one of the youngest participants in the group. She shared a particularly vulnerable post, which did not feature beautiful playing but showed her working through a technical process. Her dedication to resolve the technical problem in the posted video was obvious and participants in the study seemed to show their support through emoji feedback.

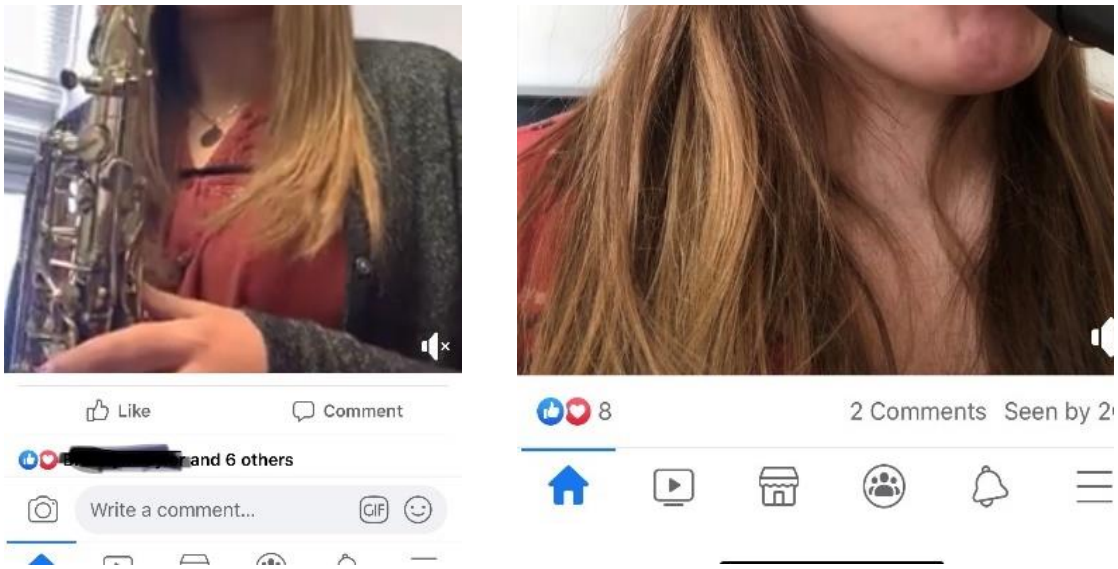

Figure 13 *Example of Facebook Post Containing Emoji Feedback (image has been cropped for privacy)*

During the second week of the study 43 clicks of emoji feedback were left on participants' posts. From this feedback, 21 clicks were "likes" and 22 clicks were "loves." On average, each post had 1 "like" and 1 "love". The second week of the study accounted for 30% (n=22) of the posts in the study and 23% (n=43) of the total amount of emoji feedback. 91% (n=20) of posts in the second week of the study had at least one form of emoji feedback.

The same two participants from week 1 with the highest amount of emoji feedback also had the highest amount of emoji feedback in week 2. The younger of the two participants had the highest amount with 5 overall clicks of feedback, which is more than twice the average from

week 2. The graduate student participant had 4 clicks of emoji feedback.

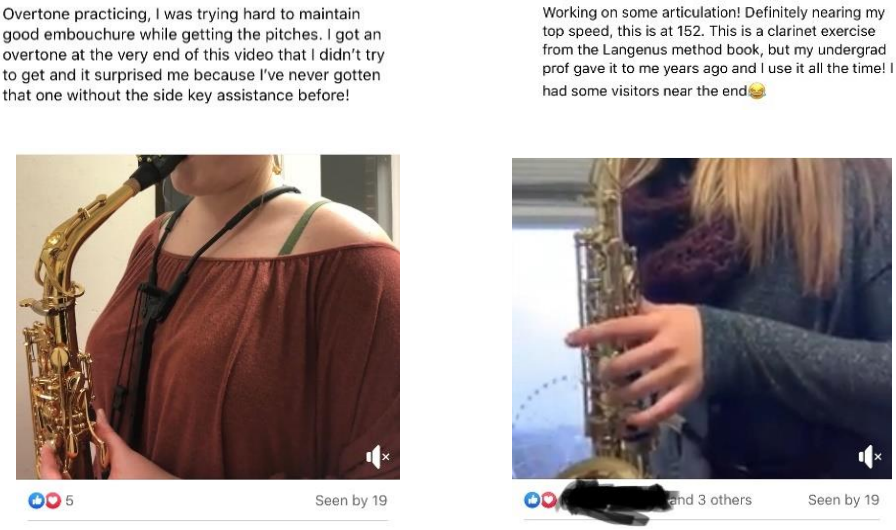

Figure 14 *Images from Facebook with Emoji Feedback*

In the above images you can see the comment from the original post, a thumbnail of the video, and the emoji likes and loves at the bottom. Like week 1, the undergraduate participant shared what she was working on and that she was excited to notice an unexpected improvement. The post from the graduate participant showed a beautiful clip from a very difficult sounding etude. The tenacity from the undergraduate participant and the skill from the graduate participant most likely attributed to the higher rates of emoji feedback.

There was only one post in week 2 that had a comment as well as higher than average emoji feedback. This participant is an undergraduate student and she expressed frustration with practice session in her post.

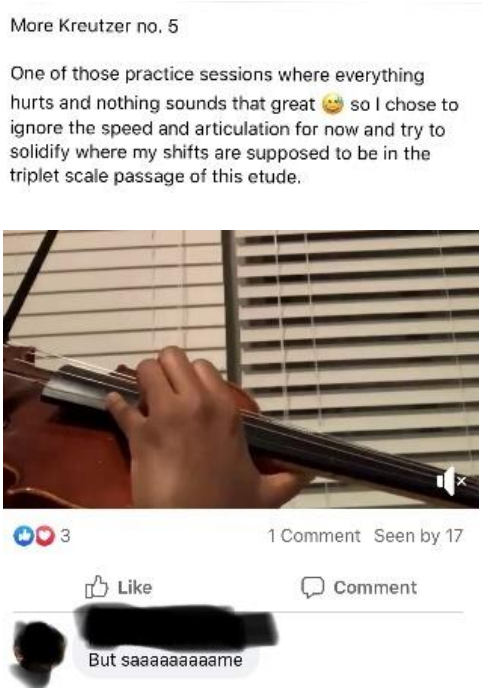

Figure 15 *Image from Facebook*

She stated, "one of those practice sessions where everything hurts and nothing sounds that great." She also wrote about how she dealt with the frustrating practice session, "so I chose to ignore the speed and articulation and try to solidify where my shifts are supposed to be in the triplet scale passage of this etude." In the video she shows all the practice skills she wrote about: isolating the problem, slowing down the music, and decontextualizing sections. One of the participants, and a peer from the original poster's studio, commented "but saaaaaame." This reaction shows the support and solidarity to the original poster. Similarly, to the undergraduate participant in the first example, this post received higher than average feedback likely to its vulnerability.

During the third and final week of the study, 9 clicks of emoji feedback were left on participants' posts. From this feedback, 6 clicks were "likes" and 3 clicks were "loves." On average, each post had .9 "likes" and .4 "loves". The third week of the study accounted for 9% (n=7) of the posts in the study and 5% (n=9) of the total amount of emoji feedback. 57% (n=4) of posts in

the third week of the study had at least one form of emoji feedback.

One post in the final week of the study had 3 clicks of emoji feedback, which was double the average. Like weeks 1 and 2, this post showed a considerable amount of skill and refinement compared to some of the other posts that week. It is likely that this post received higher rates of feedback because of the performance level of the post.

Only 6 of the 18 participants posted or left emoji feedback in the final week of the study. 3 participants posted, and 4 participants left emoji feedback. One of those participants posted and left emoji feedback. The three participants who posted all had double the amount of posts than the study average. The 4 participants who left emoji feedback in the third week of the study had consistently left feedback throughout all weeks of the study.

Interview Data

All participants were invited to take part in an interview following the study, but only six participated. Initially two interviews were scheduled with 5 participants each, but due to illness and unexpected circumstances only two students showed up to the first interview. The participants who were scheduled to attend but missed the first interview were invited to join the second. A similar scenario occurred with the second interview and only two participants were present. I reached out to the participants who offered to interview but did not make the first two groups and two more participants agreed to interview via phone. An in-person interview was not possible during the third interview because of the Corona virus pandemic[1]. In summary, this data comes from three interviews. Each interview had two participants. Two of the interviews took place in

[1] The Corona virus caused a pandemic in 2020, which forced many schools and universities to stop face-to-face instruction and communities were put under shelter-in-place orders which restricted people from congregating.

person on the university campus and the third interview was done over the phone using a group call. All participants have been given a pseudonym to protect their identities.

Table 5 *List of Interview Participants with Pseudonyms*

Student (pseudonym)	**Degree Program**	**Studio**
Interview 1		
Kaleb	Undergraduate - Performance	String
Nick	Graduate - Performance	String
Interview 2		
Evelyn	Undergraduate – Music Education	Woodwind
Theo	Undergraduate - Performance	Woodwind
Interview 3		
Holly	Undergraduate – Music Education	String
Elizabeth	Graduate - Artist Diploma	Woodwind

The interviews were semi-structured around a short list of questions. However, follow-up questions were used within the guidelines of responsive interviewing (Rubin & Rubin, 2005) to clarify the participants' comments and for probes to keep the conversation on topic. Each interview lasted about half an hour. The interviews were transcribed by the researcher in a word document and imported into NVivo for analysis.

My coding process for the interviews was not linear. The first time I coded the interviews I read each interview twice and then coded the interviews individually. I applied descriptive codes to each interview within NVivo. I did not code with connections in mind and coded each thing as it was written. For example, if someone said “this gave me anxiety” or “this made me

nervous" I coded them separately. From the three interviews, I initially had 93 codes. The first and second interview had 43 codes and the third interview had 49 codes. 11 codes were found within all three interviews, 19 codes were found in two of the interviews and 63 codes were found in only one interview. The codes that were found in all three of my interviews were the interview questions. I struggled to make sense of my initial set of codes and tried a different approach.

The second time I coded the interviews I created a new project file with NVivo and started by coding for the interview questions across all three interviews. Again, I used descriptive coding. For example, when I asked the interview question "How did you choose what you posted to the Facebook group?" I coded that question as "Q-Post Selection." After I coded all the questions I went back and coded the responses related to each question. For example, the response to my question about post selection was coded as "R-Post Selection." By doing this I was able to see the responses for each question across all three interviews. Within each of the "response codes" I coded more specific descriptions. For example, under "R-Post selection" I had codes such as, "chose spontaneously" or "wanted to show a balance." I was then able to regroup some of the codes within larger codes. For example, in the above example I was able to create a larger code of "planned posts" and "unplanned posts." These codes were still nested under "R-Post Selection." Through much reflection and some memo writing I was able to create four broad codes.

1. Recording and Sharing Posts
2. Social
3. Feedback
4. Hypothetical/Overall

As stated in chapter 1, the social interaction between humans is inherently symbolic (Charon, 2004). Goffman (1978) suggests that whenever we encounter another person our main

obligation is to judge our behavior based on what the other person could perceive to be happening. People's actions are many times intended for someone else, but it is the intended actions which represent the person who is doing them. In this section I explain the experiences of the participants through this lens of symbolic interactionism.

Recording and sharing posts included participants' inward feelings about their experience and things that happened before sharing their posts online. Experiences within this category included post selection, approaches to practice while recording, knowing peers were going to see their video, and reasons the participant may not have posted. Some of this category overlapped with social because many of the reasons they chose to post certain things were determined by the social relationships with their peers and level within their studio. The second code was social. This category included experiences related to peer relationships, the dynamic between the different studios, and the experience of seeing peers' practice. The third code included feedback. The participants shared the experience of receiving and giving feedback. And the final code was the participants' overall experience and how they think this could be used in the future. Using the four main codes I further compared the data and two main themes emerged from the analysis of interview data. These themes capture the experiences of the participants across the data and represent my main conclusions.

Two Main Themes

Perceived Perception of Peers

The participants' perceived perception of what their peers thought about them and their musical abilities was a strong sentiment throughout the interview data. The thought of, "what are they going to think about me" was represented in nearly every aspect of this study. It was present in both positive and negative scenarios and gave both stress and encouragement to participants. This perceived perception of peers not only affected how the participants chose what to post, but

also influenced their practice standards, the rate at which they gave feedback, and their feeling of accountability. Participants at higher levels within the university programs felt more pressure because of their status as graduate students. The expectations associated with being at a higher level made them feel that they could be judged more harshly. Similarly, an undergraduate who was new to the program felt pressure to create a good reputation surrounding her musicality. All these sentiments and experiences came from the participants' own feelings of how they would be received by peers.

Positive Peer Relationships Matter

The participants in this study came from two separate studios within the university, a woodwind studio and a string studio. Many of the participants have likely performed in ensembles together or had classes together. However, it is reasonable to assume that the students had closer friendships within their own studio group. Evelyn even mentioned living with two other members of her studio who were also participants in this study. All the participants in the woodwind studio talked about a close-knit bond and a sense of community between their peers. Even beyond their own studio, Elizabeth mentioned that saxophonists, in general, have a strong community bond. The participants in the string studio, by my own observations, seemed to respect, enjoy, and appreciate their peers. However, none of the participants alluded to strong bonds, friendship, or a sense of community among the group. Across the data, participants with more positive peer relationships within the online community were more open to posting, more receptive to feedback, and less likely to feel anxiety or stress over posting.

Perceived Perception of Peers

Post selection

Choosing what to post was heavily influenced by how the participant felt it was going to be received. Participants were not given any specifications on what kind of practice or which elements from their practice should be shared. Initially, Nick said that he spontaneously chose from his repertoire and his posts came from whatever he happened to be practicing. Kaleb, shared his process for selecting a video to share:

> *I kind of just tended to record, like I didn't really go through full pieces or anything. I would pick like small sections of stuff or like a segment of something and just kind of play that and record it on multiple takes and just whatever mistake that I kept on making, it was just the process of fixing that one mistake, in regular practice, that's how I practice. Like pick out a couple of small things, work on that for the day and then move on later. I kinda did it in order from like where I started and then as I made small improvements … because obviously that's a lot of really short videos... I would just, if there was a video where I like made kind of like a small breakthrough, then that would be the next one that I'd post … and I tended to post multiple videos at a time.*

Kaleb said that posting an improved version of whatever he was working on was often his end goal in selecting a video to post. In the same interview, Nick agreed with this sentiment following Kaleb's explanation. While Kaleb nor Nick explicitly said their post selections were made out of concern for what others will think, they both stated that showing something improve was important. In addition, they knew that their professor was a member of the Facebook group and may view what they post. This importance to show improvement is likely from knowing that

other peers will view these videos and make judgments about the participants musicality and ability to practice.

Seeing what other peers were posting also influenced what participants chose to share within the group. While no group-norms were established regarding what type of practice should be posted, Theo shared that he felt like some participants were just posting performances and it made him uncomfortable to share grittier practice. Theo was one of the youngest members of the study and its probable that his age and experience could have impacted his view of other participants' posts. Similarly, Evelyn shared that it was important for her to find a balance between fundamentals and repertoire. Evelyn also shared that her clothing choices made her re-record some of her videos because she did not want her peers thinking she was wearing the same clothes two days in a row.

> *[Theo]when I looked at everyone else's posts it was like they were like doing like a, like a performance almost. And I was just over here like just getting the worst part of my fundamentals in. And it was just cool … getting feedback and seeing how others were practicing, seeing what they were doing. But I just felt like sometimes like people were just posting their performances instead of practice regimens and I got like kinda uncomfortable, like posting it cause I'm like, man, I sound horrible*
>
> *[Evelyn] I tried to make it as random as possible … but I kept in mind like I didn't want it all to be like the same fundamentals or the same repertoire. So I kind of did different things and tried to space them out as much as I could. There were a couple of times where I was wearing the same jacket [laughter] and it was like, this is going to look like I am wearing the same clothes from yesterday. So I had to rerecord and take off my jacket.*

Elizabeth talked about the struggle between wanting to present something that sounded perfect and wanting to be authentic about what happened during her practice sessions. Like Evelyn's experience, Elizabeth wanted to consciously post both performance type videos and videos that showed elements of practice. However, one of the participants posted a video which included a quartet rehearsal where Elizabeth was a member. This video showed the group decontextualizing a section of their repertoire and working on rhythms with a metronome. It sounded good but was definitely a video which contained elements of practice. When I asked Elizabeth why she did not like that it was posted, she responded:

> *Well I think I wasn't prepared for it cause if something's going to go online I want to be like very aware of what's going to be out there of myself just because it's a representation of who I am, you know? Um, yeah. I mean, I think it showed improvement, but it's still like, I don't know, we were kind of messing around …. And then like the video wasn't even edited well and it was, there was a lot of downtime. So, yeah … I was a little annoyed*

Elizabeth is one of the most advanced musicians in the study, and it is likely that she holds herself to a very high standard. She is enormously invested in being a skillful musician and how her peers perceive her playing is likely very important. Since Elizabeth is one of the most advanced participants, peers may have a different set of expectations for her than they would for a younger student. How people choose to represent themselves online may or may not mirror reality and people often choose to post an ideal image or portrayal of how they want to be viewed by others. The quartet video may have reflected the reality of their rehearsal but was not a reality Elizabeth wanted on portrayal. The quartet video posted was a comfortable level of practice to share from the original poster, however, Elizabeth had a different set of expectations because of others' perceptions of her playing.

Meeting expectations

In many instances' participants shared that they were concerned with what people thought about them because they felt like they had to meet a set of expectations. When asked, no one in the study said that someone else made them feel pressure to meet expectations, but that the feelings were self-imposed. Nick and Elizabeth both shared an increased feeling of pressure to perform at a higher level because they were graduate students.

> *[Nick] I guess as a grad student I feel more is expected of me. Um, especially since I did do my undergrad here, so people know me. I guess I was just more worried about trying to sound like a grad student, you know,*

Not only did Nick worry about what people thought about him, he also compared himself to other graduate students. Nick posted only very polished sounding videos of his practice, in which he often criticized his own playing. This was likely done to make sure his image was projected in the way he wanted to be perceived.

> *[Nick] I know the majority of the group were saxophones and I know the graduate saxophone players are really good. And when I listened to them I'm like, Oh wow, like they're grad students and I'm a grad student too. Am I as good as them? You know, I felt like I wasn't as good I guess. Um, even though I'm a second-year grad student, but in a way I was like, Oh, I don't know if I can play like them.*

Elizabeth talked about having someone else in the group playing the same piece of music as her. As a graduate student she felt that her standard needed to be higher and that she was worried about getting too much criticism.

> *[Elizabeth] someone in the same group was playing the same piece as me as well [laughter]. Yeah. So I was like, Oh gosh, I'm like a little bit older. It's not even like I'm older. I*

just have, I guess more experience with school. So I've just fell a little bit of pressure to like not hopefully get too much criticism.

Not only graduate students felt insecurities when talking about their reputation. Holly and Kaleb both shared the need to be perceived as "good enough" to be a part of their degree programs. Kaleb said he always feels more nervous performing in front of his peers because he feels the need to "legitimize" himself and make sure that "he's in the right place." Holly described her insecurity over making sure that she made a good impression:

[Holly] I feel like I always struggle, like musically with the feeling of I'm not good enough or not advanced enough. But I would say in this particular experience [posting online] I was a little bit insecure because I'm like not super far along in my degree and I'm at a point where people don't really know me, so I want to make a good impression out there. That's what it was for me. Like I wanted to, you know, just make myself look good. I think that's where a lot of the insecurity came from as far as posting. I've tried not to be super concerned with it, but it definitely was something that I thought about every single time I posted.

The feelings participants held towards sharing in-progress practice varied. However, those feelings were all impacted by what they thought other people would think. Theo shared that posting "honest" practice might make other people feel more comfortable to look at your content. He also shared that sounding "bad" during practice might be considered a "good thing" because you are working on the right things. Nick held more anxiety over letting people see his struggle:

Well … I would post a video and then go back and listen to it multiple times and I'd be like, Oh my God, I really do sound like that. Huh. Um, and then I would, you know, start

having anxiety. I'm like Oh my God, what do people think? I sound bad. But I knew that wasn't really the case. I don't know. That's just what was going through my head.

Working harder

In addition to influencing participants' post selections and feelings towards meeting expectations, the perceived perceptions of peers also effected how the participants spent their time practicing. When participants practiced something with the intention of sharing it, the added pressure of what others would think about them often lead to more precise practicing and extra effort.

[Evelyn] if I know that at the end of this practice session that I'm going to record myself, I want to make it sound better than if it was just me and my practice room. And so it was like, if I'm doing this articulation exercise … like my standards might be at one level for just me. But if I'm sharing it with other people, it's at a completely different level. So, I might spend a couple more minutes, maybe even just 10 more minutes doing something to make it sound better so I can like post it and not feel like garbage. [laughter]

Similarly, Holly felt the same.

[Holly] Posting my practice online added on a different layer of, uh, I guess, um, stress. It's kinda like the same thing with the practice room floor. I've gotten over it a little bit, but like coming into music school for the first time, it's just scary to have people hear you because practicing is the part where you're supposed to get all the bad stuff out I guess. So yeah, it just added a layer of, of fear. But I'm glad I went through it because I feel like it, it made me think about practice in a different way. I think the standards that I hold to myself to are different.

Nick and Kaleb both shared that they sometimes approach practice with a haphazard attitude. They have some ideas about what they should be working on, but it is not clearly structured or defined. As noted in chapter 2, deliberate practice is one of the major differences between how novice musicians and expert musicians' practice. Deliberate practice is characterized as practice that is goal oriented and is focused on identifying errors and improving performance. Approaching practice without a plan can sometimes yield results but approaching practice with clear goals is going to increase results and the efficiency of practice. Sharing practice online intrinsically encouraged Nick and Kaleb to be more deliberate in their approaches to practice.

> *[Nick] In practice I tend to run through the piece and then pick out small sections but posting online helped me focus on one singular section and practice and try to make that sound good.*
>
> *[Kaleb] in my normal practice, I do have like things I want to get done, but I usually don't have any particular order…..posting online kept me a little more goal oriented rather than just like, what am I going to do today?*

Nick further explained that his teacher has worked with him on developing deliberate practice skills, but he still tends to approach practice without much focus. When he saw other students posting videos with deliberate practice, he felt like he needed to do it that way, too.

> *[Nick] it was interesting comparing my practice techniques to my peers. Um, I guess just seeing how they practice. Um, cause it was a little different. I like, I have the tendency to just go and run pieces and our teacher kind of call me out, like, Hey no, just take it chunk by chunk, but I'm like, I want to run the entire piece, you know? And um, so I guess recording myself helped me just take it in chunks. Um, but yeah, it made me realize that my*

peers, you know, probably practice differently than me I guess. Like they focus on one section instead of just running it.

Aside from practicing more efficiently, Evelyn shared that seeing other people she respected in the practice rooms motivated her to go practice.

[Evelyn] Posting online held me more accountable for my own practicing. You know, it was like … I'd see [Student's name] posting every day and I was like, I gotta get into the practice room … it just held me accountable. It honestly like made me work a little bit smarter.

Positive Peer Relationships Matter

Sense of Community

During interviews several members of the saxophone studio mentioned the closeness they felt with their peers. They cited their peers are helpful, supportive, and encouraging. One of the participants mentioned living with two other members from the studio. Within the university, the saxophone studio has a reputation for being involved and visible in the music department. When the students were asked about how it felt knowing that their practice was going to be viewed by their peers, all three of the saxophone participants said that it did not change much for them. They held very carefree attitudes towards sharing.

[Evelyn] The saxophone studio has a very relaxed feeling. Like, I feel like everyone gets along and is friends, so…

[Theo] and everyone's very helpful … never like judged.

Evelyn and Theo are two of the youngest members of the saxophone studio and of the study. They both mentioned having good relationships with the older students in the graduate program. These positive relationships influenced their feelings towards sharing their practice

with the group. They had established among the group of peers that they would be accepted, supported, and encouraged.

[Evelyn] I have always connected well with people that are just a little bit older than me. Like I think I mentioned earlier, I live with {grad student who was also in study], and I also live with [other grad student in study]. Like we have a three-bedroom house, so I literally live with two of the grad students. Um, and I dunno, like the grad students are so cool and like the older people in the studio, I love them. They're so nice and I play for them all the time anyways. And we have studio class every week, which is not the norm in a lot of [university] studios. Like a lot of [university] studios have a studio class twice a semester. I think that breaks down a lot of the barriers is if you are literally playing for each other every week. So that's awesome.

[Theo] So when I was in high school, it was, I was never really able to reach out to some of the older people because they didn't really care as much. I always felt like I cared the most. But when I came here I noticed that everyone cared if not, if not like the same… more than me sometimes. So it was really nice to be able to reach out and they're always willing to help. I've never felt that I was reluctant to ask for help from any grads or anyone in the studio really.

Elizabeth shared that she had learned over the years to expect that people are always observing. She did not feel nervous towards her peer's reactions of her practice online, because like everyone else she was trying to get better.

[Elizabeth] It [posting online] didn't affect me too much just because I, I try to keep a strong practice schedule, but I always know like I'm not doing everything perfect. So it was something to see what others were doing and maybe learn from that. But I mean, I

think I'm at the point where like in music school, you're in a practice room and we're all just trying to get better. Um, I had a teacher in my masters say like, even no matter where you are, people are judging you. And he didn't mean that in a bad way. He just meant people are always observing you, but they're aware of that. Either you're practicing or performing, but in the end you should be trying to get better.

The sense of community was so strong among the saxophone studio that none of them mentioned any hesitation, fear, anxiety or nervousness over sharing any part of their practice. The attitude described above by Elizabeth was a sentiment shared within the saxophone studio. The younger students likely had an easier time adopting this outlook on sharing their practice because it was encouraged by older peers. Theo did share that he, "definitely would feel self-conscious about posting just into the complete public." The positive peer relationships shared within this studio created a safe space for sharing practice.

The participants from the string studio appeared to get along, but there was no mention of close friendships or community from the interviews. There was also no mention of any negative peer relationships. In contrast to the saxophone participants, 2 of the three students who interviewed shared that they felt anxiety and nervousness over how their posts would be received. However, this did not change the content they were willing to share. The participants from the string studio were also half the number of saxophone participants. They could have been quieter about their community since their studio was not evenly represented.

Level of Interest

When the participants were asked about their interest levels of the posts in the group, all the saxophone students agreed that they were most interested in the posts from other saxophone players. Evelyn shared that she did not know enough about strings to always understand what

was being worked on. She did leave a friendly comment on a string participant's Facebook post sharing that she had just learned about the technique he was using (sul ponticello) earlier that day. The saxophone students did not suggest disinterest over the string posts but favored their own. Elizabeth expressed having more interest in the saxophone studio compared to the other groups, but she also shared that this could be problematic.

> *[Elizabeth] It's actually one of the saxophone community's biggest problems is that we get ended, we ended up like kind of getting stuck in our own community and I'm guilty of it. But yeah, every time I see another saxophone post I'm like, who is this? What are they doing? How do they sound? So yeah, I'm trying to get out of that mindset. We just end up sticking around one another.*

From the string studio, Kaleb and Nick both enjoyed seeing the saxophone videos because they learned new things and enjoyed seeing how other people practiced. Kaleb felt like he already knew what his peers were doing in the string studio and like being exposed to new information. Kaleb also has an interest in composition, which made some of the posts about extended techniques extra interesting.

> *[Kaleb] I actually thought it was really interesting to listen to like the extended technique stuff ... cause I like to compose sort of like a secondary thing. So like when saxophonists are doing like multi phonics and all that crazy stuff that was really interesting to watch and like kind of understand. And then um,* [student's name] *who posted a lot of like contemporary excerpts and stuff, but just a lot of cool stuff to listen to. Whereas people from our studio generally, I mean we talk to each other. It's not like we're all strangers. I mean we know what everyone's doing in our own studio. So it was interesting to see like new rep*

Holly explained that wanted more from her studio. She described feeling slightly discouraged being one of the more consistent posters from her studio and that she enjoyed seeing the saxophone videos, she wanted more from her peers.

> *[Holly] Um, I really liked it because I like learning from other people. Whether it's like something I wanted to like do myself or something I want to avoid. Um, um, let me think. Yeah. I just wish I got to feel a little bit more of it, from my peers. But I did like seeing the saxophone videos. It was just hard for me to I guess apply some of the same ideas to my practicing… I kind of wished there was more like, well, I was interested in the posts but at the same time the majority of the posts felt like it was um saxophone studio, which was interesting to me cause I like watching videos, like musical videos anyway. But I kind of wished there was more of a [string] presence cause like we're lucky we have so many in our studio, but it kind of felt like, I dunno a little bit. Um, I don't want to say discouraging, but it was a little bit alienating to only have like just a few [string] posts, um, you know, every week or so.*

Receiving Feedback

Positive peer relationships effected how the participants internalized feedback from peers within the study. Theo received two feedback-comments from a graduate student within his studio. Both comments gave Theo a strategy for improving what he was working on.

> *[Theo] The comments were useful. Yeah, definitely. I was stuck learning, um, soprano saxophone and I didn't really know how to improve. I've never like gotten specific lesson and, having others just tell me exactly what I need to do at that exact moment of when I*

posted that was really helpful. … that was like one of those moments where I was completely stuck. I didn't really know what to do and posting that and having, having them like be able to tell exactly what it was was very helpful.

Theo said he was able to try out the strategies suggested by the other student and see improvement in what he was working on. Evelyn shared a video of herself working on her "walnut chin." I do not have experience with saxophone or woodwind technique, but the "walnut chin" appeared to be something technical with the position of her mouth and how she was breathing. This was a very saxophone specific post, yet a graduate student from the string studio left her a comment giving her some ideas for fixing the walnut chin. Evelyn shared that her "walnut chin" has since improved greatly, and that she did not implement any of the suggestions from the comment. However, the suggestions in the comment did make sense. I was curious how she received the comment, coming from a non-saxophone player.

[Evelyn] I value people that play other instruments, if they have anything to say, if it's not valid, I'll just be like, yeah, whatever. But if it has anything to do with something that's actually valid, I take that in from like a very openminded view because if I see someone and their string or uh their bow is like wacky I can be like that looks kind of wacky and if it's valid, I'm sure, like I would expect them to take it the same way, you know? I don't know, I just don't take things very personally.

Nick, Kaleb, and Holly all received one comment each from a participant in the string studio. Holly felt encouraged by the message and found it helpful.

[Holly] I liked receiving feedback because it kind of felt validating in a way. Like some of her comments were like, Oh, I relate to this or maybe try this. Um, so yeah, I kind of liked it because it made me feel like, I don't know, people were watching and wanting me to get

better. So I liked that. It's [the suggestion] definitely something that has been discussed in performance lab. Um, and it's something I have been aware of, but it's funny cause I didn't actually notice it in the video but after she commented I was like definitely more aware of it, especially in the other videos that I posted. So I guess in a way it was helpful.

Nick, who expressed a decent level of anxiety over posting took a mildly defensive tone when I asked him about his feelings towards receiving feedback.

[Nick] Um, I think she told me not to lose my beautiful tone, which like I was like, okay, cool. You know, I'll think about that. But it was on the Libby Larsen, which is the, that section is supposed to be really gritty and dissonant. Um, so I don't know, I was like, Oh, well it may not apply there

Kaleb, who was more open to posting and was more comfortable sharing his practice online similarly wanted to make sure that I understood that he already knew what he was playing incorrectly and how to fix it.

[Kaleb] I knew what I needed to fix and whatever comment and feedback I got was just additional for me cause I was dead certain on what I needed to fix right there and I was working on that and I think the comment was something, I don't know if it was totally related to it. It might've been. I later figured out that my instrument has a wolf on the F on the D string, so that was the cause of that. And every time I, no matter what it is, every time I hit that F my instrument… and because my bow is kind of light for me .. and I need to get another one, my bow is light so it doesn't like it and it just goes, [made a funny noise] yeah. Every time I play an F on the G string. Yeah. So I figured that out later.

All these feelings likely circle back to how the participants perceive their peer's perceptions of their playing. If a participant has a more developed sense of friendship among their

peers, it is probable that they are more comfortable sharing their practice online with each other because they already have an idea of how their actions will be received. They may be more willing to accept critiques and suggestions in the form of comments because they internally understand that the other person is supporting their growth. The students who are more invested in their peer relationships are likely more naturally drawn towards seeing each other play. However, the higher sense of friendship and increase in positive relationships yielded a higher level of comfort in sharing practice online.

The Practice of One Participant

In this section I will share a description of what practice looked like from one of the participants in this study. I chose to write about Evelyn because her posting habits represented an average experience from the participants. Evelyn did not experience anxiety over posting, although she did say that posting online made her spend more time working on something. Evelyn was also one of the interview participants. First, I will share information from her survey responses, followed by a description of the videos she posted along with interview data, and I will conclude with a summary.

Evelyn is a 19-year-old undergraduate music education student. According to the survey, she has played her instrument for 8-9 years and practices on average 6 days a week for 1-2 hours each day. On the survey she also shared that she most often uses slowing down, changing rhythms, and drones as practice strategies.

The main reason Evelyn uses social media is to talk with her friends and family and share pictures and videos of things she has been doing. Such as vacations, art projects, or fun times with friends. On the survey she indicated that she accessed Facebook, Snapchat, and YouTube daily, but spends less than 1 hour on each of the platforms. Snap Chat was the platform she engages with most regularly for approximately 1-2 hours a day.

During the study Evelyn posted four times within the Facebook research group, which was the average number of posts from the participants in the study. Three of her posts occurred during the first week of the study and one of her posts was in the second week of the study. Three of her posts were warm-up or technical exercises and one of her posts was a selection of repertoire.

Video Post #1:

The first post from Evelyn was on the first day of the study. She posted a video which included the comment, "Ironing out my walnut-chin in the mirror." In this 25 second video clip Evelyn played 3 sustained notes while looking at herself in the mirror. In the video you could not see the mirror, but you could see her eyes shifting and you could see her facial muscles adjusting and trying to relax. The video showed her face and the mouthpiece of the instrument, you could not see her full instrument. During the first sustained note she was looking at the right side of her face in the mirror. When she played the sustained 'A' a second time she glanced down at the camera and shifted her head to view the other side of her face in the mirror. The third time she played the pitch, she again tilted her head to view her facial movements from all angles. Each of the sustained notes lasted approximately 7 seconds. While she was adjusting her facial muscles, the pitch waivered slightly but always stayed within an A. This video received 8 forms of emoji feedback including 6 "likes" and 2 "loves."

Video Post #2:

The second post from Evelyn was posted on the third day of the study, but the comment indicated that it was recorded a day earlier. The comment which accompanied the second post was, "This is from yesterday 😂😂 but I was working on the first two lines of Ryo Noda's Im-

provisation 1." In this video Evelyn played through the piece with no apparent practice strategies. This video looked more in the style of a performance as opposed to practice. The video clip was 1 minute and 31 seconds long. Evelyn started the camera and stood up in complete view of the camera. You can see her entire body and her entire instrument as she read her music from the stand. She began the start of the piece and played straight through for the entire duration of the video clip. She looked at her music the entire video until she stopped the camera and smiled before ending the recording. In the comment from her post she indicated that she was working on the first two lines, but the stopping point in the video was at the end of a phrase so the video recording sounded complete. This video received 3 forms of emoji feedback including 1 "like" and 2 "loves."

Video Post #3:

The third post from Evelyn was also on the third day of the study. The comment which accompanied the third post was, "Working minor scales by lengthening the 1st note in a 16th note passage, 2nd note, 3rd note, 4th note :)." In this 43 second video Evelyn is standing in front of a music stand and you can see her entire instrument. She is using different articulations to practice a minor scale exercise. It is not clear from the video if she is reading music from a technique book or if she is playing the exercise from memory. She repeats the exercise 4 times doing exactly as she described in the comment that accompanied her post. The first time she played the exercise she made the 1st note of the 16th note grouping longer and proceeded to repeat the exercise until the longer note had been placed on each 16th note. There were mistakes such as small intonation errors and some notes which sounded muddled throughout the entire video clip. However, I did hear improvement in the fluidity of the exercise throughout the repetitions. Evelyn

had a metronome playing in the background throughout the video. This video received 3 forms of emoji feedback including 2 “likes” and 1 “love.”

Video Post #4:

Evelyn’s fourth and final post was during the second week of the study. Her comment on this post was, “Overtone practicing, I was trying hard to maintain good embouchure while getting the pitches. I got an overtone at the very end of this video that I didn’t try to get, and it surprised me because I’ve never gotten that one without the side key assistance before!” This video was one minute and three seconds long. During this video Evelyn played very slowly through a series of notes. It was unclear from the video if she was reading music or practicing a memorized exercise. She repeated each series of notes 2 or three times. Three times during the video she held a note extra long and turned her head back and forth to check her embouchure. The way she was watching her face felt very similar to the first video that she posted where she was focusing primarily on her facial muscles and chin. At the very end of the video she played a surprise overtone, and she made an excited smile as she stopped the camera. This video received 5 forms of emoji feedback including 4 “likes” and 1 “love.”

Interview Data

In the interviews Evelyn said that there were many times where she simply forgot to record her practice session. She talked about how her day was packed with classes and work and by the time she got into the practice room at night she was so focused on getting things done that she often left without completing a video. However, she also spoke about how she spent more time working on something if she were going to share it and how she held herself at a higher standard if her practice was shared.

Evelyn was very connected to her peers within her studio. She spoke highly of the other musicians and expressed feely supported by them. When I asked her about how she felt being one of the youngest participants, she said, “the grad students are so cool and like the older people in the studio, I love them. They're so nice and I play for them all the time anyway.”

Prior to starting at the university Evelyn had tried posting parts of her practice to an Instagram account where a few of her friends would watch her practice. She said that this experience was different because from this study because, “like everyone [in the study] are musicians and everyone has a knowledge about things and there's more people and so it has … I guess it was like kind of a little bit more pressure, but not much.”

Summary

From Evelyn’s videos she favored posting exercise and technique videos as opposed to repertoire. She is one of the younger studio members and it is possible that she felt more comfortable showing mistakes on warm-up material where mistakes are expected. It is also expected to have errors in repertoire, but we often hear repertoire in a performance setting, so to share the process of mistakes being corrected in repertoire may feel more daunting. All of Evelyn’s videos were recorded in a university music school practice room. In the following section of character sketches I have further described Evelyn and her practice.

Character Sketches

The following section contains six character sketches. These sketches help learn more about the participants in this study and how this study affected them. The sketches all correspond with my third research question, “How do students practice differently when excerpts from their private practice are shared with their peers?”

Evelyn

Evelyn is an undergraduate music education student. Evelyn noted on her survey that she uses slowing down, thirds, playing backwards, changing rhythms, and using drones as practice strategies. She has had some experience outside of this study with sharing her practice on social media, but does not share practice regularly. While Evelyn was auditioning for college, she made what she referred to as a "spam Instagram account" where she would live-stream her practice in preparation for auditions. This Instagram account was private and had about ten followers which were her close friends. Sometimes her friends, who were not all musicians, would watch for a few minutes. She no longer has this Instagram account. When I asked Evelyn how she felt about her peers in this study watching her practice, she said that she did not care. However, she did say that because everyone in the research group were musicians she felt more pressure, but not "a lot."

While Evelyn said that she did not care if people were watching her, or not, she also said that posting to the online Facebook group held her accountable and made her work a "little bit smarter" She elaborated that if she were practicing with the intention of sharing something online, she would spend more time working on what she was wanting to share. This was a sentiment shared by many of the participants. Evelyn said,

> "if I know that at the end of this practice session that I'm going to record myself, I want to make it sound better than if it was just me and my practice room. And so it was like, if I'm doing this articulation exercise … like my standards might be at one level for just me. But if I'm sharing it with other people, it's at a completely different level. So, I might spend a couple more minutes, maybe even just 10 more minutes doing something to make it sound better so I can like post it and not feel like garbage."

Theo

Theo is an undergraduate music performance student. He shared through the survey that he uses a metronome, repetition, slowing the tempo, and understanding the best recording available as his practice strategies. He also noted on his survey that he does not use any form of social media other than YouTube. He has had no experience with sharing his practice online outside of this study.

Theo agreed with Evelyn that sometimes he will take 10 extra minutes working on the part of his practice that he wanted to post, but that practicing to share online or practicing for himself felt similar. Theo also shared that he thought honesty could be something that made other people comfortable to look at what he posted online. He said, "You're not going to sound good and sounding bad might be a good thing when you're practicing cause you're working on the right things." He was able to place value on the process of practicing and not just the outcome of the performance. Theo also shared that he would have felt more self-conscious sharing into the complete public because if he had shared something that didn't sound great, they could have based their opinion about him on an "off day."

Elizabeth

Elizabeth is a graduate student working on an Artist Diploma. She listed long tones, drones, scales, recording (audio/visual), repetition, and broken rhythms as strategies used during practice. She has never shared her practice online, but she does record herself often. Elizabeth shared that she has always been scared to post her practice online but was glad to have a reason to try it for this study. She said she often struggled during the study with wanting to post a perfect video versus being more real about what she was presenting. Elizabeth also shared that the

experience of posting her practice within the research group has made her more open to sharing on other platforms and she is particularly interested in sharing on Instagram.

Elizabeth said that she holds a very strict practice routine and that planning to post or sharing practice online did not change the way she approached her practice. Like Evelyn and Theo, she was not concerned with people seeing her practice but did think about whether she wanted to show a polished performance or allow people to see more of her process. Elizabeth referred to something she had learned from one of her teachers in graduate school who had said, "no matter where you are, people are judging you." Elizabeth feels like being judged is not a bad thing, but that people are constantly observing. Elizabeth said, "either you're practicing or performing, but in the end, you should be trying to get better." While Elizabeth said she did not change how she approached practice she did say,

> "I think when I record for others there's that just added level of pressure that other people are going to see it. So it's getting more towards like performance level … when I record for myself, I'm less nervous about the mistakes I'll make cause I'll hear them in the recording and I know I can pick them out and fix some later. But people, other people will hear this recording and then hear the same mistakes and I don't want them to."

Elizabeth mentioned that the pressure she felt when recording to share her practice was like how she would feel when presenting a performance. Byo and Cassidy (2008) suggested that viewing practice not as preparatory, but as a performance that an audience is watching could potentially close the discrepancy between students' understanding of strategies and their ability to implement them within their practice.

Holly

Holly is an undergraduate music education student. On the survey Holly indicated that she uses a warm-ups with scales and arpeggios, looping, slow practice, isolating right and left hand, recording herself, and watching and listening to those recordings to see what she needed to work on as practice strategies. Like Evelyn, Holly has posted some of her practice on social media in the past. She created an Instagram account separate from her personal account but was not consistent with posting and eventually deleted the account. She said she was very intimidated posting her practice, especially for people that she knew. In the beginning of the study she was concerned with trying to make things perfect but then decided it was not realistic and she just starting posting. Through the process, she became much more open towards sharing her practice.

Practicing for herself and practicing when she knew she was going to share it online did change Holly's approach to practice. Typically, Holly starts off practicing by warming up with scales, arpeggios, and an etude. When she was planning to record, she felt nervous about what she was going to post and would usually skip her warmup and go straight into her repertoire or whatever she was planning on posting. Knowing that her peers were going to see her practice added on a different layer of stress. Despite this layer of stress, Holly said, "it just added a layer of, of fear. But I'm glad I went through it because I feel like it, it made me think about practice in a different way. I think the standards that I hold to myself to are different."

Kaleb

Kaleb is an undergraduate music performance student. When asked about practice strategies on his survey, he wrote, "I tend to segment my practice and organize it. I'll spend the first half of my practice on etudes/study and the other half on repertoire. I split up each thing into sections and work it that way." However, in the interviews Kaleb shared, "in my normal practice, I

do have like things I want to get done, but I usually don't have any particular order." He went on to say, "posting online kept me a little more goal oriented rather than just like, what am I going to do today?" It seems that he may approach practice by dividing his repertoire and warm-ups into a certain order, but that he does not focus heavily on goals within those divisions.

Kaleb continued to share that when he recorded, he would pick small sections and play a segment with multiple takes and would identify the mistakes within the selected section. He would focus on fixing the identified mistake. Kaleb tended to share multiple videos at a time and would show the process of the segment he posted getting better through the videos. He explained that he practices like this when he is not recording as well, but when he is recording he would approach the entire practice session with his goals in mind instead of just figuring it out as he played through the music. Posting online promoted organization within his practice sessions.

Kaleb has had experience posting his practice to social media. He has spent at least two years posting practice and music to Instagram. He said that he still gets nervous when posting but it is not because people are going to see it. Kaleb stated that he over analyzes his own practice and always feels like he could be better. He also acknowledged to sometimes spending hours trying to get a small clip of practice.

Nick

Nick is a graduate music performance student. On his survey he listed slow playing and working out phrasing as the strategies he uses during practice. From all the participants interviewed, Nick was the most apprehensive about sharing his playing online. He frequently mentioned being anxious or self-conscious and seemed to worry more than the others about what his peers would think about him. Nick said that his teacher encourages him to record himself during practice, but he often does not take this advice because he does not like listening to himself play.

Despite these feelings of anxiety, he felt like the experience of posting his practice online was positive.

When I asked Nick to describe his normal practice without recording he said, “It's like, I'll do this today and do that tomorrow and then whatever kind of happens happens, but that just, I'll have a set of things that I want to work on. It's just there's no particular order.” This haphazard practice approach was contrasted against his experience of practicing when he knew he was going to post online. Nick said, “posting online helped me focus on one singular section and practice and try to make that sound good.

Deliberately identifying and selecting specific performance targets were identified by Byo and Cassidy (2008) as a practice strategy that increases self-regulated practice. They also suggested that the identification and selection of these practice targets should begin while planning for practice before the actual practice begins.

Summary

Evelyn, Kaleb, and Theo were not concerned with people hearing their practice but did want to spend extra time on whatever they were sharing to make it sound better. Elizabeth was also not concerned with people hearing her practice. Elizabeth felt that her practice routine was well established and recording to share online did not change how she approached practice. However, Elizabeth did spend time deciding what to post. It seems that Evelyn and Theo picked what they wanted to share and spent extra time making it sound good whereas Elizabeth let what sounded best dictate what she wanted to share.

Holly was nervous to share initially but became more comfortable as she posted a few times. Holly tended to skip her usual warmup routine when she knew she was going to record because she was focused on preparing the video. Holly also felt that she held herself to different standards when she was practicing just for herself versus practicing to share.

From the participants interviewed, Elizabeth is in the most advanced degree program. It is likely that her practice routine is also the most like that of an expert. It is possible that she did not feel any difference when she practiced to record in comparison to her usual practice because she may be already engaging in consistent deliberate practice.

Kaleb was keen about posting online while Nick remained anxious throughout the study. However, both participants expressed feeling more goal oriented within their practice when they were recording a video to share online. Sharing practice online intrinsically encouraged Nick and Kaleb to be more deliberate in their approaches to practice. Nick also mentioned that he has been told by teachers how he needs to practice, but he continues to run his repertoire most often without breaking it down. Seeing his peers break down their repertoire into chunks made him realize that his peers do practice differently from him and that the recording process forced him to evaluate his playing in smaller sections.

5 DISCUSSION

This study investigated how undergraduate and graduate music students used social media to document and share their practice. I was interested in learning not only about social media use, but also what their experiences were when their personal practice was shared with peers. This final chapter will present a summary of the research methods, conclusions drawn from the data, implications for using social media with students, and recommendations for further research. This chapter will conclude with my personal reflections.

Summary of methods

This study was a qualitative exploratory case study. Yin (2014) suggests that a case study is most appropriate for studies that seek to answer "how" or "why" and for studies that examine a contemporary phenomenon. The participants from this study came from the school of music at an urban university in the southeastern part of the USA. The participants were chosen through purposive sampling based on their participation in a pre-existing Facebook group.

Three types of data were collected and analyzed for this study. The first type of data collected included a survey completed by each participant. The second set of data were collected over a three-week period from a private Facebook research group. During this time, participants were asked to post video clips of their practice accompanied by a short description. Participants were also encouraged to interact with their peers online. Specific parameters regarding what the students should post were not given. These data collected from the Facebook group included comments which accompanied the videos, interactive comments, videos, and emoji feedback. The third type of data are interviews. I was able to conduct three separate interviews with two different participants in each interview.

All the data were entered into the qualitative analysis software, Nvivo, and coded using descriptive and in vivo coding. This study was analyzed within the theoretical framework of

symbolic interactionism along with a framework of self-regulation. These two frameworks guided my thought process and inquiry.

Conclusions

This section will present conclusions and discussion drawn from the data organized by my three research questions. First, I will discuss how students used the Facebook research group to share their practice. Next, I will draw conclusions about students' experiences within a framework of self-regulation, and lastly, I will discuss how students approached practice differently when practicing alone versus sharing their practice with peers online.

Question 1: How do music students use a social media group to document and share their practice?

The participants used the Facebook group to show a variety of practice types, skills, and levels of performance. Within the Facebook group, students shared practice videos that could be divided into either repertoire or warmup routines. Their warmups and repertoire were on a spectrum of performance levels from sounding like works in progress to very polished performances. Students also showed a wide range of ability and skill levels within their videos. For example, some of the graduate students shared their long-tone warmup routine, which is not technically impressive but still essential to their practice routine. In the interviews, the participants commented that it was important for them to share different types of practice. Evelyn said that it was important for her to find a balance between fundamentals and repertoire, and Elizabeth talked about the struggle between wanting to present something that sounded perfect and wanting to be authentic about what happened during her practice sessions.

All shared videos were grouped into one of four categories according to the accompanying description; video with a description only, a description with a goal, a description with a strategy, or a description with both a goal and a strategy. 40% of the videos posted fell into the

category of description with a goal, and 31% of the videos fell into the category of description with and goal and a strategy. Goal-oriented practice is a pillar of effective practice (Ericsson et al., 1993). The number of goals evident in the participants' videos show that students prioritized sharing this part of their practice online.

Additionally, goal-oriented practice was a recurring topic within the interviews. Students indicated that posting their practice online required them to be more goal-oriented in the selection of material they were willing to share. Goal-oriented practice was also indicated in the survey as something the students used during practice. The goals most frequently shared by students were pertaining to improving isolated sections within their music. Identifying areas of weakness and selecting strategies to improve them are essential to self-regulation (Ericsson et al., 1993; McPherson & Zimmerman, 2002). Several participants shared that they spent more time on something when they wanted to share their practice and were more specific in what they were working on. Furthermore, utilizing social media for students to post practice does not require a teacher to intervene, and it still can result in students' using more goal-oriented practice. Simply sharing experiences of their practice with peers encouraged some students to develop more goal-oriented practice. It is also possible in a large classroom that utilizing social media could help with teachers' time management by leading students towards peer teaching and cooperative learning.

In addition to stating goals, students showed a range of practice strategies within their videos. In the survey data, participants listed their practice strategies. Using a practice rhythm, slowing down the tempo, chunking or isolating sections, recording their practice, using repetition, utilizing a metronome, and using a drone were the most commonly listed practice strategies by the participants. These strategies were also found most often in the practice videos shared by

the participants. As explained in chapter 2, research has shown that knowledge of practice strategies does not automatically result in effective self-regulation or deliberate practice (Byo & Cassidy, 2008). However, students in this study did show the application of a variety of practice strategies to meet their goals. Nevertheless, I cannot conclude from the current data that posting in the Facebook group resulted in more successful rates of self-regulation than in other practice as I have no control group or quantitative data in this study.

Participants primarily chose to interact with their peers by leaving emoji feedback. 89% (n=16) of participants left at least one emoji as feedback during the study. 100% of the posts during the first week of the study had emoji feedback, and 91% of posts during the second week of the study had emoji feedback. Although this feedback does not take as much time as writing out a comment, participants shared during interviews that receiving emoji feedback was important to the participants and made them feel good.

In Summary, participants most often shared videos where they stated goals and showed those goals being worked on within the video. Participants valued showing a wide range of practice material and tried to show a range of abilities within their practice. The goals most listed on the survey were also the goals most represented in the participants' videos. The participants chose to primarily interact with one another by leaving emoji feedback. While students did not mention "self-regulation" directly, many of the topics they discussed during the interviews were facets of self-regulated practice. It is plausible that participants focused on goals and strategies when sharing their practice because they understand that these are essential components of "good" practice habits, and they want to be perceived as "good" musicians.

Question 2: What is the experience of students who post clips of their practice, view their peers' practice, and interact with their peers in a private online environment, which is visible by peers and the researcher?"

Through the interviews and Facebook data, I gained a deeper understanding of how the participants experienced sharing their practice with their peers as well as viewing their peers' practice online. Here I discuss how these experiences, which were described in chapter 4, are viewed through a framework developed by McPherson and Zimmerman (2002). A table of this framework, along with a more detailed explanation, can be found in chapter 2. This framework centers around six psychological dimensions and scientific questions along with socialization processes and self-regulated processes. It is important to note that the socialization processes and self-regulated processes should be viewed as a continuum. Students may also be on a different side of the continuum, depending on the psychological dimension and scientific question. This framework is used to view how teachers can help students become more self-regulated in their practice and it is intended to allow for growth on the continuum towards becoming more self-regulated. I will discuss each psychological dimension and question with conclusions drawn from this study.

Why? – Motive

This dimension is concerned with understanding why students are self-regulated and the motive behind the self-regulation. Within the socialization processes students would receive vicarious or direct reinforcement from others. However, within the self-regulation processes students would be in command of self-set goals, self-reinforcement, and self-efficacy. Many students will start off as a musician being supported by teachers or parents, but the goal is to help students become self-sufficient and self-regulated musicians. Posting practice to social media

serves both as an external motivator as well as an internal motivator. In this study students shared feeling motivated to practice from seeing peers post online and students also felt more inclined to spend extra time on what they were sharing. Through the use of posting practice to social media students can develop more towards the self-regulated side of the continuum while continuing to receive support from external sources.

When the student enters the self-regulation processes within this dimension, he or she has taken control over the motive behind his or her practice. For example, Kaleb explained that when he recorded to share his practice online, he spent more time planning and selecting goals within his practice. It was because of the online community (the vicarious reinforcement) that he spent more time engaging in self-regulatory processes. Evelyn and Theo both agreed that when they were recording to share their practice, they would spend extra time working on something to make it better than if it had just been for themselves.

Evelyn shared that her standards of practice might be at one level for her, but if she intended to share her practice with other people she wanted it to be at a higher level. Not only did sharing her practice online make her work harder, it also offered her the unique opportunity to "get it right" before she shared her work. Performing during a traditional performance setting means that musicians typically have only one opportunity to present a piece of music. Hypothetically, if Evelyn were to perform for her peers in studio class or a recital, she would stand in front of them and play through her music. Once the piece was finished, she would be done with the performance. However, in the online environment Evelyn has complete control over how she represents her practice to her peers.

How? – Method

This dimension focuses on how students will become more self-regulated and the methods they will use to achieve self-regulation. Within this dimension students will either need strategies modeled and guided or they will be able to self-select strategies that support their goals. It is suggested that students will become more self-regulated when they have a larger pool of practice strategies to choose from (Hallam, 1997). Using social media allows students who may still be developing on the continuum within this dimension to see practice strategies modeled in different ways and to experiment with applying them to their own practice.

Self-regulation is context-dependent. The strategies that students use to promote their own learning can change and develop (Leon-Guerrero, 2008; Miksza, 2015; Nielson, 2001). Within a context some students may be able to self-regulate with certain levels or processes but not with others. For example, a less experienced student may be able to act within self-regulated processes when practicing a rhythmic exercise but may not be able to work within a self-regulated process when identifying errors in the position of their mouth when doing bugle calls. Through sharing practice, participants experienced a wide range of practice strategies and saw those practice strategies being implemented within various contexts. For some students, seeing strategies used by other participants caused them to alter their approach to practice.

When? – Time

This dimension focuses on who manages the student's practice and how that time is managed. When a student is operating within the self-regulated process within this dimension he or she must decide when to practice and how much time to dedicate towards the practice. This extends further to not only the traditional sense of time, but also when a student needs to work on a

specific piece of music and how to manage their time working on the selected goals. A student must be able to manage the time and the pacing of his or her practice.

Participants recorded their practice videos during their self-scheduled practice time but did not always post their videos to the Facebook group immediately. The Facebook group and the students' practice schedule did not dictate one or the other. However, viewing the practice videos did make some participants feel the need to practice. Theo posted his practice frequently. Evelyn shared that when she saw his posts, she felt like she needed to get into the practice room. As mentioned above, several participants felt that when they wanted to share their practice online, they would spend more time practicing what they wanted to share. Bonneville-Roussy and Bouffard (2014) found that the amount of time students engages in practice, along with self-regulation, deliberate practice, and motivation can most accurately predict students' musical achievement. Posting to the online environment may not have directly affected their practice schedule, but it did extend the amount of time some of the participants spent practicing when students wanted to share their practice.

What? – Behavior

This dimension focuses on what type of behaviors the person is doing to be self-regulated. The socialization process within this dimension is that performance is socially monitored and evaluated. The self-regulation process within this dimension is that performance is self-monitored and evaluated. When a student is operating in the socialization process within this dimension an outside source will critique and evaluate a performance. A performance in this case is not only a formal performance but could also be the presentation of what someone has practiced. For example, a student may work on an assigned piece of music and return a week later to play it for his or her teacher. When the student plays the piece, the teacher would monitor and evaluate the

student's progress. If a student always operates in the socialization process within this dimension they would constantly rely on lessons or teachers to identify their errors.

When a student is operating in the self-regulated process within this dimension, they are going to monitor their progress every time they practice. Their self-evaluation will dictate how their goals change and what kind of strategies they use within their practice.

Thinking about thinking, or metacognition is one of the primary approaches' students use to monitor and evaluate their own performances. Students will be able to operate within self-regulation when they can identify what they do not know and actively think about regulating their own learning. McPherson and Zimmerman (2002) suggest that a teacher's willingness to have students describe what goes on in their minds as they think is an important component to helping students developing metacognitive abilities. During this study, the participants wrote comments that accompanied their practice videos. Most often these comments contained a description of what they were working on and included a goal or a strategy that they were going to use within their practice. The process of including a comment with their video encouraged the students to engage in metacognitive practices every time they posted a video. It is probable that many of the participants are already practicing within self-regulated processes, but this practice of including written goals would have required metacognitive thinking.

Where? – Physical environment

This dimension is concerned with the physical environment where a student will practice. When a student is operating in the self-regulated process within this dimension, he or she oversees their own practice environment. This extends beyond the physical space. For example, a self-regulated learner may put their cellphone out of sight to decrease distraction or hang a paper over the window of the door so they will not see their friends in the hallway. The participants in

this study mostly used the practice facilities provided by the university. They may not have had control over the physical space, but they did have some control with how they utilized the room.

Although the private practice environment is structured by the student, the online environment was created by the group dynamic. How the online environment was perceived varied depending on the student. Evelyn described feeling encouraged to go practice when she saw her peers posting online. Elizabeth expressed feeling happy about seeing other members of her studio working hard. Holly felt alienated at times because not as many members of her studio were posting and Nick felt anxiety about what people would think. The online environment falls entirely within the socialization process, but that socialization process is dictated by the students within the group. While the online group was not a physical space, it became a "space" where students gathered, and all contributed to sharing practice. Group norms within social media are created and shaped by the people who follow each other and create content for each other to see (Greenhow, Sonnevend, & Agur, 2016). Within the Facebook research group, the students themselves shaped and created the environment. It is possible that with more time the environment could have changed. This online space may hold motivation for some students and anxiety for others. The online space may guide some students towards self-regulated processes by sharing practice strategies, providing motivation, and encouraging students to spend more time working on parts of their practice.

With whom? – Social factors

This dimension focuses on with whom the student interacts and how this interaction occurs. If a student is operating within the self-regulation process, they will be able to identify that they do not understand something and seek appropriate help. During this study, none of the participants directly asked for help within the online environment. However, the participants did

share their struggles, which other participants responded to. For example, Theo said regarding a cadenza, “I’m trying hard not to have a precise rhythm written and trying to have more of a flow than approaching it literally.” One of the other participants responded with helpful advice and some strategies to use during practice. While Theo was not directly asking for help, he said in the interview that he appreciated the feedback and was able to apply these ideas to his practice. All the students who interviewed felt positive about receiving feedback from their peers. It is possible that an online environment could serve as a space to ask questions and receive help.

Summary

The online environment can serve as a platform to see self-regulated processes modeled and also as a platform that encourages students to engage in self-regulation. For students who are already engaging regularly with self-regulated processes the Facebook group provided motivation and encouragement to continue working within those self-regulated processes. For example, seeing practice strategies within peers’ practice increased other participants’ understanding and knowledge of strategies. Knowing that peers’ were going to observe the videos posted participants felt inclined to spend more time working on what they intended to share. The act of describing practice facilitated self-monitoring and encouraged self-regulation.

Applying the lens of symbolic interactionism in combination with viewing students’ experiences through this framework of self-regulation can show why social media is a promising tool to help shape students’ ability to move towards self-regulated processes.

The meaning of something is a product that is formed in and through the interaction of people with each other and those objects (Blumer, 1969). In the case of social media, this will cause some students to approach sharing in an online environment differently depending on their prior experiences. However, their experiences within the group will continually shape and

change the way they connect with the social media group. The way people interact creates individual identities and ultimately creates our society (Charon, 2004). Within the context of the Facebook group, students created the "norms" of the group through their interactions. In this Facebook research group, students provided helpful comments, posted videos mostly structured around defined goals, and preferred emoji feedback. A safe space was created by the students to share their practice. Even students who expressed having anxiety, which may have come from prior interactions in an online environment or otherwise, claimed that utilizing the group was a positive experience.

The online platform allowed students to see other students engaged in self-regulated practice and created an environment where self-regulated practice was among the expected norms for the group. This resulted in students who were not as likely to engage in self-regulated practice incorporating self-regulated strategies because of their perception of the group norms.

Question 3: How do students practice differently when excerpts from their private practice are shared with their peers?"

The data to answer this research question come solely from the interviews of six participants. Since I do not have data from how the participants practice outside of this study, I am relying on the interviews and their self-reported responses to draw conclusions for this question. For most participants, posting practice online did change the way they approached practice. The changes that occurred included spending more time on the excerpt they wanted to post, changing the order of their practice routine, and being more goal-oriented.

When practicing to post their practice online several participants stated that they spent more time working on what they intended to share. If something was going to be shared online, they wanted it to be at a higher level than if they were just practicing for themselves and they

dedicated more time to improving their excerpt. In traditional practice circumstances their practice would be private and done in isolation. The students would likely share a performance of what they were working on at some point during a studio class or in their lesson, but other students would not be privy to hearing the work that goes on during practice. Looking through the lens of symbolic interactionism, the meaning or perception of their practice is formed when other people are able to hear it and interact with it (Blumer, 1969). This caused the students to want to spend more time working on something because of the knowledge that someone else was going to form meaning about them from their post.

One participant felt inclined to change the order of her typical practice routine or when she intended to share something online. She typically structured her practice by doing scales and warmups, followed by etudes, and then her repertoire or orchestral music last. When she was going to share her practice, she typically skipped right to what she wanted to share. This was not a desired outcome as it placed extra importance on what she wanted to share and caused her to neglect other parts of her practice. Like the explanation above, she likely focused on what she wanted to share because people would form meaning about her from what she posted. She also shared during the interview that she sometimes felt extra pressure to be perceived as "good" because she was new to the school and people did not know her.

Another participant revealed that he often approached practice without a plan. When he intended to share practice online, he would decide what he wanted to prioritize before starting to practice. Unlike the participant above, he did not typically follow a structured practice routine. Prioritizing what he wanted to share was also likely due to other participants being able to form

meaning about him from his shared playing. The participant with a practice routine likely neglected some areas of her practice when intending to share but the participant without a typically structured practice approach benefitted from prioritizing areas of practice.

Lastly, multiple students noted an increase in goal-oriented practice when they intended to share. One participant said he often did not approach practice with goals and by observing students posting about goals on the Facebook group he realized how differently he approached practiced. When he intended to share his practice, he was more focused on selecting and sharing specific goals. The norms of the group were established by the students within the group. Since most students posted about their goals it became the standard within the group. The way the students interacted created their individual identities and created the culture of the Facebook group, which in turn caused some students to engage in goal setting and ultimately more accounts of self-regulated practice.

Implications

In the following section I will discuss how the findings from this research can influence music education. These implications include peer teaching, accountability, practice strategies, self-regulated practice, and digital learning. Social media can provide a space for students to engage in peer teaching as well as receive comments and feedback from peers where it may not always be possible in the classroom. Several participants noted that posting their practice online held them accountable. Additionally, multiple participants indicated that their understanding of practice strategies was expanded from seeing their peers post practice online and that by posting their own practice online they were more likely to engage in self-regulated practice. Lastly. This section will discuss how the findings from this research can influence music education in digital learning.

Peer Teaching

Some of the outcomes of the online environment could be seen as a type of peer teaching or cooperative learning. Peer teaching is recommended but is not always a viable option in the classroom. It is important for students to experience a sense of ownership as learners and as musicians (Hanken, 2016; Johansson, 2013). Peer teaching allows the student to be in control over the learning situation and exercise choice in their own learning. Peer teaching is also centered around social participation, participatory culture (Forbes, 2016). Sometimes teachers are faced with limited class time or space and it is not always practical or possible to have students teach one another during the given class time. An online platform, such as social media, gives the students an opportunity to engage in peer teaching and learning.

This type of interaction may not take the place of physical peer teaching but using a social media platform can facilitate peer learning and teaching. Nielsen (2001) argues that without personal choice students are unable to develop self-regulatory skills. All of the comments within this study were constructive, although I would encourage teachers of younger students to model the type of comments expected within the online group. Johnson (2017) argues that different models of teaching, including peer teaching, can promote life-long music learners. Utilizing a social media platform could support peer teaching and learning.

Nielsen (2018) posited that reflecting on learning with peers can contribute positively to a heightened awareness about practice but that it does not necessarily lead to an improvement in practice habits if the students are unable to put their new knowledge into action. Social media offers a space where students can not only reflect and discuss practice strategies, but students visually and audibly see those strategies being implicated by peers. This was one of the most notable

outcomes of this study. Several students commented that through seeing their peers post they became more aware of their own practice and how they may not be utilizing the most effective strategies.

Accountability and Motivation

Utilizing social media as a tool for students to post and share their practice may help with practice accountability and motivation. Evelyn shared that seeing her peers post online made her feel like she needed to go practice. In addition to self-regulation, motivation is necessary for effective practice to occur (Austin, 2006). In the university setting students often use practice rooms and can physically see and hear peers working throughout the building. However, in the k-12 setting practice is most often done in isolation in the student's home. Having students post practice online would serve as a reminder that peers are practicing and could provide students another layer of accountability and motivation. Dabbagh and Kitsantas (2012) found that motivational components of self-regulated learners could actually help students keep going when they start to struggle.

Many participants in this study expressed the desire to show a broad range of practice within the Facebook research group. Often times people post only good aspects about themselves, and eventually those good things create a positive self-image, which results in a feeling of heightened self-esteem among their friends and aquaintances (Cho, 2015). Participants also acknowledged that practice is not always a performance but that everyone "sounds bad" when working through certain things. It is plausible that participants' were comfortable posting a range of practice material, including posts that did not sound polished, because practice in itself does not always need to sound perfect. However, most participants acknowledged their practice goals and strategies to let the reader know that they understood what needed to be worked on,

therefore still maintaining their image of being a "good musician." The representation of one's self online can establish a sense of self-esteem and generate a self-verification process (Cho, 2015). Through posting on the Facebook research group, students may have created a positive image of himself or herself as a musician and heightened their sense of practice motivation.

Practice Strategies

Throughout this study participants not only posted their practice but also watched their peers' practice. Seeing peers use different practice strategies increased some of the participants' awareness of how to apply those strategies. Nick said, for example, that his teacher has encouraged him to chunk and isolate sections of his practice but that he typically runs through his music from start to finish. This aligns with findings from previous research that indicates students struggle with identifying errors and selecting practice strategies (Leon-Guerrero, 2008; Gary E McPherson & Renwick, 2010). Byo and Cassidy (2008) similarly found that even if participants were able to describe effective practice strategies, they were often unable to use them effectively. Watching peers isolate and chunk sections of their music made Nick keenly aware that other students practice differently from him. Students may hear one suggestion from their teacher but feel more inclined to try it out when they see a peer successfully using the strategy.

Encourage Self-Regulated Practice

Most all the participants during the interviews said that they spent more time on something when they intended to share it online. Duke et al. (2009) found that students who had the most efficient practice sessions repeated the target passages until the errors were correct and stable. These observations are closely related to a high degree of self-regulation in practice. This is reflected in the participants spending more time on a passage before posting it to the Facebook

research group. Detecting errors, applying strategies, and knowing when something has improved is essential to implementing self-regulated practice. Several participants also mentioned that their standards are higher when sharing their practice than if they were just by themselves in a practice room. Encouraging students to share their practice online may promote more self-regulated learning.

McPherson and Zimmerman (2002) propose that self-regulation could be learned through a hierarchical learning model based on the sequence of observation, emulation, self-control, and self-regulation. The online platform provides a space for students to observe peers engaged in different degrees of self-regulation and emulate and experiment with examples they observe. Self-regulation can be developed and built through experience (McPherson & Zimmerman, 2002). Miksza (2015) found that students who received instruction in self-regulation were able to make greater improvements in performance. While the students did not receive direct instruction in self-regulation through this study, self-regulated practice was shown by many participants and served as examples for students who may not be practicing with as much self-regulation.

Digital Learning

This study was conceptualized long before the threat of Covid-19, which has caused a pandemic and international health crisis. In March 2020, many school districts in the United States began closing their buildings and teaching students exclusively online for the remainder of the school year. Many school districts will remain fully online as we enter the 2020-2021 school year. With the uncertainty of when teachers and students will return to the physical classroom, providing students with a way to share practice through social media may promote increased practice, a sense of community, and an opportunity for students to learn from one another.

Teachers can use social media to encourage social engagement among students when face to face instruction is not possible. This is especially important under the uncertainty of the Covid-19 pandemic. Abe and Jordan (2013) suggested that it may be unreasonable to ask teachers to join students on social media because of privacy. However, they recommend recognizing the benefits of connecting with students and encourage including alternative ways for students to participate. Encouraging students to post practice to a designated social media group would allow teachers to keep the focus of their social media interaction linked to music education while allowing students a space to connect with peers.

Partti and Karlsen (2010) suggested that recognizing the knowledge students obtain from online learning communities may bridge the gap between informal and formal learning communities. With so many students currently learning from home and no longer attending a physical school building the lines between formal and informal education are already beginning to blur. Instead of keeping social media separate from digital education we can utilize it as a tool to help fuse the two learning platforms together. It was found that the use of Facebook in the classroom made students think more in-depth about their studies and gain a strong understanding of the material (Graham, 2014).

As described in the previous study implications, peer teaching, motivation, and increased self-regulation are all implications drawn from this study. With an increase of students and teachers utilizing digital learning, social media could serve as a viable platform to create classroom communities, increase students' motivation to practice, teach self-regulatory skills, and practice self-regulatory skills. Social media platforms are already being used by many students and they would also offer a sense of familiarity while encouraging learning to students and teachers during uncertain times.

Future Research Recommendations

There is ample research related to practice strategies (Byo & Cassidy, 2008; Leon-Guerrero, 2008; McPherson & Renwick, 2010) and self-regulation (Duke et al., 2009; McPherson & Zimmerman, 2002; Miksza, 2015). There are also multiple studies that evaluate the use of social media in education (Abe & Jordan, 2013; Graham, 2014). However, there has not been a study that combines the two ideas. Additional studies are needed to fully understand the experiences of students who use social media to document and share their practice, as well as how this tool could serve the music classroom and help students achieve higher rates of self-regulated practice. In this section I will give recommendations to improve and replicate the current study as well as how this research could be further expanded.

Integrating this study into the High School Classroom

Based on the results from this study I do encourage high school teachers to implement social media, or a similar platform, as a tool for their students to use to post and share their practice online. However, I also recommend the following parameters to guide students towards positive and successful experiences.

Firstly, I suggest that having students post and share their practice be voluntary. Some students may be uncomfortable with sharing their practice or be uncomfortable with social media experiences in general. None of the participants in this study experienced any negative comments or interactions with other group members, however this is always be a concern. One participant in this study expressed being uncomfortable with sharing on social media but was still interested in participating in the study. Students will have different comfort levels for sharing parts of their lives online and it should not be mandatory. With such a high prevalence of social media among teenagers it is possible that a high school student has had a negative experience, like bullying, or

does not wish to engage in certain social media platforms. Having students share their practice online should be entirely voluntary.

In an extension of making the experience voluntary, I suggest that sharing practice online should not be tied to a student's grade. Instead, I recommend that this experience could be a challenge-based incentive. For example, a teacher may "challenge" students to see who can share the most practice over a certain period of time. These types of activities can provide motivation and encourage community through friendly competition and non-graded rewards.

An additional suggestion is the use of a moderator, which in the high school setting would most likely be the high school teacher. During this study I saw a decrease in participation over the three-week period. If a moderator had been in place, they could have tried to keep students more engaged with the experience. The teacher, or moderator, would be able to encourage students to try different practice techniques or ask practice specific prompts. For example, a teacher could create a post encouraging all students to share a certain section of their music or a warm-up from class. Having suggestions on what to post and someone encouraging posting may help with engagement and community building. Additionally, having a teacher moderate the environment also lessens the chance that someone would post something unkind or inappropriate.

Lastly, I suggest having a bank of practice strategies for students to use. One participant noticed through watching his peers post online that he practiced differently from his peers. A younger student may not be as aware of their own practice strategies or how their practice habits may differ from their peers. Providing a bank of strategies for students to experiment using through the online platform would not only help students with creating content but would also deepen students' understanding of a wider variety of practice strategies than they may already be utilizing. These above suggestions can and should be used in conjunction with one another. For

example, the teacher could create a bank of practice strategies with students in the classroom and create challenges for students to experiment with different strategies through the online platform. Additionally, it may be wisest to use an education based platform instead of mainstream social media due to privacy concerns.

Improvements and Modifications to Current Study

Future researchers could improve or modify this study by expanding the sample size of undergraduate and graduate music students. However, an additional with the same sample size could support the findings from the current study population. In addition to expanding the numbers of participants, it would be possible to create modifications of this study by looking at different groups of students within the same age range. For example, in this study the participants came from two separate music studios within the same university. It is likely that the members of the woodwind studio and string studio knew their individual groups more than they knew the participants from the other studio. A modification of this study could focus only on students from one group within a university or students from different universities that do not know each other at all.

In addition to improving or modifying this study with the recommendations above, it could be beneficial to recreate a similar study with a different age group. Two additional populations that would be possible to use in this study would be high school students or adult musicians outside of the university system. This study was originally intended to be done with high school age students, but it was difficult to recruit participants willing to share their practice online. If a similar study was done with high school students, better participation may be more likely using the action research model were the students' teacher was the researcher or had an established relationship with the students. Adult musicians, whether amateur or professional, would also be good candidates as participants for a similar study.

The participants in this study were not given instructions on what type of material they should post, how long the posts should be, or how much time they should contribute to interacting with other participants in the study. Participants were only asked to post "five times a week for a three-week time period." Participation in the current study also dropped drastically in the second and third week of the study. The participants were still viewing the posts that were added in the second and third week, but not as many participants were posting. The participants did not give clear indications for the decline in posting, but it is possible that lowering the frequency of expected posts to 3 times a week may have kept more participants actively posting. If I were to recreate this study with a similar population, I would be inclined to lower the frequency of posts and provide participants with some suggestions for types of posts. These suggestions could include broader ideas such as, "share an example of something you use to warmup during your practice session" or more specific ideas like, "share a video of you practicing a section in your orchestra music that you find most difficult." These types of prompts would still allow students freedom over what they post but would also give them some guidance.

One of the participants during the interviews stated that "it is really hard to get online communities started sometimes." I think an improvement in this study could include the use of a group moderator. A moderator could help facilitate discussions between participants and post reminders to participants to actively share practice. This person could be the researcher or a teacher who had an established relationship with the participants.

Further Research

The purpose of this study was to understand the experiences of the participants using social media as a platform to document and share their practice. Participants did speak of examples that led me to believe using social media to share practice could help students learn to be more self-regulated. However, this is difficult to confirm using the current study. Research expanding

this study could look more closely at students' ability to self-regulate before, during, and after the study by administering self-regulation questionnaires and assessment tools.

It would also be possible to expand upon this research to understand if the experiences of students posting to social media are like the experiences of students using educator created platforms. For example, several platforms such as Edmodo or google classrooms offer students the ability to share and comment on videos. However, they are not recognized as social media platforms. With the ever-growing use of social media, it would be logical to explore whether these educator-created social media platforms can mimic the appeal of social media among students.

Personal Reflections

When this research interest initially began during an arts-based research methods course, I could not have foreseen the way it would grow and change through the process of this dissertation. The struggles of recruitment and redesign of data collection forced me to look more critically at my research questions and narrow my thoughts and approaches. This has resulted in gaining a deeper understanding of how students used social media and how self-regulated practice is shaped when personal practice is shared.

Posting practice online was something that all the participants who interviewed expressed thinking about prior to the study. One participant even voiced constant anxiety over posting and sharing his practice, yet he was still keen on trying and despite his anxiety had a positive experience. Half of the participants interviewed had posted their practice to social media prior to this study. The half who had not tried posting their practice to social media all stated that it was something they had thought about doing and were eager to try. To varying degrees, all participants felt like sharing their practice and performances to social media was something positive that they aspired to do.

Teachers and students have many ways to monitor practice. The benefit of encouraging students to share practice with peers in an online community is shown throughout this study. Technology will only grow, and the amount of time people spend connected to the internet and on social media has been increasing every year. Finding ways to incorporate relevant technology into functional uses for students is important for music educators to remain current with the student body.

The multiple changes and long recruitment time entailed to complete this study required great resilience from myself. Many moments of failure ultimately lead to the current version of this dissertation. Initially, I was planning to collect quantitative data in addition to qualitative data. I would have used the Farnum String Scale to find a baseline of playing ability from each participant and retested the participants again at the end of the study to look for changes. While I was unable to complete this aspect of data collection in this version of the study, it leaves options for future studies on this topic.

This study was conceived long before the threat of Covid-19. All of the data collection, aside from one of the interviews were collected before the United States was impacted by the pandemic. While I cannot say with certainty how the results from this study may have differed if this study were to be conducted during the Covid-19 pandemic, I imagine that study procedures, participation, and results may have differed.

A major difference that may have impacted the results from this study is the amount of comfortably and experience with operating musically in an online environment. For example, prior to the pandemic it is conceivable that students may not have had experience with posting

anything musically online or even posting videos of themselves online. However, since the pandemic, most, if not all students have been experiencing digital learning. The experience of digital learning may impact a students' willingness to share online.

While the results may have been different if this study were conducted during the pandemic, the data collection would have remained the same. All data from this study were collected virtually, aside from two of the interviews, which could have taken place over the phone if required. I found it important to document everything as it was posted in the research group. I took a screen shot from all of the posts, comments, and feedback between the participants. I also used the screen capture feature on my iPhone to make a video of the Facebook page exactly as it appeared during research. Social media platforms can change without notice or new features can be added by the developers. In the case of my research no changes to the Facebook platform were made during the time of data collection. I would advise anyone doing digital research to document everything through video and screen shots so that the presentation of the website or app accurately represents how participants interacted within the group.

A key concern for our society has been the emotional and social well-being of students who are isolated due to digital learning and social distancing. I do believe that the online environment allows students to have social connection when in-person connection is not possible. However, I must also say that I do not believe that online-interaction replaces the importance of in-person social gatherings. Our society has been heavily impacted from the changes brought on by the Covid-19 pandemic, and I do not believe that we are fully aware of the impact and ramifications this pandemic has had on our students and education system. Providing students with an online platform to engage both musically and socially could subsequently also give them opportunities to seek social connections when in-person opportunities are not present.

I am unsure where my career will lead me as I am currently very happy directing middle school orchestra. However, I do know that this research will impact my work as an orchestra teacher and will impact my work if I find myself in a position of teacher preparation. With both undergraduate and graduate students in teacher preparation programs I imagine that this research will be used to challenge students' thinking of traditional ways to monitor and teach students how to practice. This research can also be used as an example of how tools can be adapted and change to fill the needs of societies and education systems.

REFERENCES

Abe, P., & Jordan, N. a. (2013). Integrating Social Media Into the Classroom Curriculum. *About Campus*, *18*(1), 16–20. http://doi.org/10.1002/abc.21107

Austin, J. R., & Berg, M. (2006). Exploring music practice among sixth-grade band and orchestra students. *Psychology of Music*, *34*(4), 535–558. http://doi.org/10.1177/0305735606067170

Bandura, A. (1991). Social cognitive theory of self-regulation. Organizational Behavior and Human Decision Processes, 50, 248-287.

Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Englewood Cliffs: Prentice-Hall.

Bonneville-Roussy, a., & Bouffard, T. (2014). When quantity is not enough: Disentangling the roles of practice time, self-regulation and deliberate practice in musical achievement. *Psychology of Music*, 0305735614534910-. http://doi.org/10.1177/0305735614534910

Brook, J., & Upitis, R. (2015). Can an online tool support contemporary independent music teaching and learning? *Music Education Research*, *17*(1), 34–47. http://doi.org/10.1080/14613808.2014.969217

Byo, J. L., & Cassidy, J. W. (2008). An Exploratory Study of Time Use in the Practice of Music Majors: Self-Report and Observation Analysis. *Update: Applications of Research in Music Education*, *27*(1), 33–40. http://doi.org/10.1177/8755123308322272

Chaffin, R., Imreh, G., Lemieux, A. F., & Chen, C. (2003). "Seeing the Big Picture": Piano Practice as Expert Problem Solving. *Music Perception*, *20*(4), 465–490. http://doi.org/10.1525/mp.2003.20.4.465

Charness, N., Tuffiash, M., Krampe, R., Reingold, E., & Vasyukova, E. (2005). The Role of Deliberate Practice in Chess Expertise, *165*, 151–165. http://doi.org/10.1002/acp.1106

Charon, J.M. (2004). *Symbolic Interactionism: An introduction, an interpretation, an integration.* Upper Saddle River, N.J.:Pearson Prentice Hall.

Churcher, K. M. A., Downs, E., & Tewksbury, D. (2014). "Friending" Vygotsky: A Social Constructivist Pedagogy of Knowledge Building through Classroom Social Media Use. *Journal of Effective Teaching*, *14*(1), 33–50.

Dabbagh, N., & Kitsantas, a. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *Internet and Higher Education*, *15*(1), 3–8. http://doi.org/10.1016/j.iheduc.2011.06.002

Duke, R. a., Simmons, a. L., & Cash, C. D. (2009). It's Not How Much; It's How: Characteristics of Practice Behavior and Retention of Performance Skills. *Journal of Research in Music Education*, *56*(4), 310–321. http://doi.org/10.1177/0022429408328851

Ericsson, K. A., Krampe, T. T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. Psychological Review 100: 363-406, *100*(3), 363–406.

Forbes, M. (2016). If the Shoe Doesn't Fit: A Case and a Place for Collaborative Learning for Music Practice in Higher Education. *Australian Journal of Music Education*, *50*(1), 53–62.

Goffman, E. (1978). *The presentation of self in everyday life*. Penguin Books: Harmondsworth.

Greenhow, Christine, and Galvin, Sarah. "Teaching with Social Media: Evidence-based Strategies for Making Remote Higher Education Less Remote." *Information and Learning Science.* 121.7/8 (2020): 513-24. Web.

Hallam, S. (2001). The Development of Metacognition in Musicians: Implication for Education. *British Journal of Music Education*, *18*(1), 27

http://doi.org/10.1017/S0265051701000122

Hallam, S. (2011). What predicts level of expertise attained , quality of performance , and future musical aspirations in young instrumental players ? *Psychology of Music*. http://doi.org/10.1177/0305735611425902

Hanken, I. M. (2016). Peer learning in specialist higher music education. Arts and Humanities in Higher Education, 15(3–4), 364–375. https://doi.org/10.1177/1474022216647389

Hart, J. T. (2014). Guided Metacognition in Instrumental Practice. *Music Educators Journal*, *101*(2), 57–64. http://doi.org/10.1177/0027432114552569

James, W. (1907). *Pragmatism: a new name for some old ways of thinking*. Retrieved from https://ebookcentral-proquest-com.ezproxy.gsu.edu

Johnson, J. R. (2003). Dewey and Vygotsky: A Comparison of Their Views on Social Constructivism in Education. *Dissertation Abstracts International, Section A: The Hu manities and Social Sciences*, *64*(4), 1205.

Lehmann, A. C., & Ericsson, K. A. (1997). Research on expert performance and deliberate practice: Implications for the education of amateur musicians and music students. *Psychomusicology: A Journal of Research in Music Cognition*, *16*(1–2), 40–58. http://doi.org/10.1037/h0094068

Leon-Guerrero, A. (2008). Self-regulation strategies used by student musicians during music practice. *Music Education Research*, *10*(1), 91–106. http://doi.org/10.1080/14613800701871439

Lewandowski, C. M. (2015). Teens, Social Media & Technology Overview 2015. *Www.pewresearch.org*, *1*(April). http://doi.org/10.1017/CBO9781107415324.004

McPherson, G. E. (2005). From child to musician: Skill development during the beginning stages of learning an instrument. *Psychology of Music*, *33*(1), 5–35. http://doi.org/10.1177/0305735605048012

McPherson, G. E., & Renwick, J. M. (2010). A Longitudinal Study of Self- regulation in Children ' s Musical Practice A Longitudinal Study of Self-regulation in Children ' s Musical Practice. *Music Education Research*, *3*(November 2011), 37–4194.1. http://doi.org/10.1080/1461380012008923

McPherson, G. E., & Zimmerman, B. J. (2002). Self-Regulation of Musical Learning. *The New Handbook of Research on Music Teaching and Learning*, 327–347. Retrieved from http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:SELF-REGULATION+OF+MUSICAL+LEARNING#0

Miksza, P. (2012). The Development of a Measure of Self-Regulated Practice Behavior for Beginning and Intermediate Instrumental Music Students. *Journal of Research in Music Education*, *59*(4), 321–338. http://doi.org/10.1177/0022429411414717

Miksza, P. (2015). The effect of self-regulation instruction on the performance achievement, musical self-efficacy, and practicing of advanced wind players. *Psychology of Music*, *43*(2), 219–243. http://doi.org/10.1177/0305735613500832

Nielsen, S. (2001). Self-regulating Learning Strategies in Instrumental Music Practice Self-regulating Learning Strategies in Instrumental Music Practice. *Music Education Research*, *3*(2), 155–167. http://doi.org/10.1080/1461380012008922

Partti, H., & Karlsen, S. (2010). Reconceptualising musical learning: new media, identity and community in music education. *Music Education Research*, *12*(4), 369–382.

http://doi.org/10.1080/14613808.2010.519381

Rohwer, D., & Jeremy Polk. (2006). Practice Behaviors of Eighth-Grade Instrumental Musicians. Journal of Research in Music Education, 54(4), 350-362. Retrieved August 15, 2020, from www.jstor.org/stable/4139756

Sloboda, J. A., Davidson, J. W., Howe, M. J. A., & Moore, D. G. (1996). The role of practicing in the development of performing musicians.

StGeorge, J. M., Holbrook, A. P., & Cantwell, R. H. (2012). Learning patterns in music practice: links between disposition, practice strategies and outcomes. *Music Education Research*, *14*(2), 243–263. http://doi.org/10.1080/14613808.2012.685454

Vasbø, K. B., Silseth, K., & Erstad, O. (2013). Being a Learner Using Social Media in School: The Case of Space2cre8. *Scandinavian Journal of Educational Research*, *58*(November), 1–17. http://doi.org/10.1080/00313831.2013.773555

Yin, R. K. (2014). *Case study research: Design and methods*. London: Sage Publication.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, *81*(3), 329–339. http://doi.org/10.1037/0022-0663.81.3.329

APPENDICES

Appendix A

Semi-Structured Interview

- Can you tell me about your experience video-taping parts of your practice?
- How did you choose what to post online?
- Can you describe your practice routine when you recorded a video to post online versus a practice session when you were not recording?
- How did it make you feel to see your peers practice videos and related comments?
- Can you tell me about any feedback you received online about your posts?

*** I will ask questions to clarify the participants' comments using the guidelines of responsive interviewing (Rubin & Rubin, 2005), which allow for follow-up questions to themes introduced by the interviewee and for probes to keep the conversation on topic.

Appendix B

Survey

Subject Code:_____

Age:_____

1. How much time do you spend **each day** on the following social media platforms?

(Please circle once for each platform/row)

Facebook	Never	less than 1 hour	1-2 hours	2-3 hours	3-4 hours	more than 4 hours
Instagram	Never	less than 1 hour	1-2 hours	2-3 hours	3-4 hours	more than 4 hours
Snapchat	Never	less than 1 hour	1-2 hours	2-3 hours	3-4 hours	more than 4 hours
Twitter	Never	less than 1 hour	1-2 hours	2-3 hours	3-4 hours	more than 4 hours
YouTube	Never	less than 1 hour	1-2 hours	2-3 hours	3-4 hours	more than 4 hours
Other: _____	Never	less than 1 hour	1-2 hours	2-3 hours	3-4 hours	more than 4 hours

2. What do you do on social media?

_____
_____
_____
_____
_____
_____
_____

3. Do you follow any social media accounts that feature musicians?

Yes No

If so, who?

_____
_____
_____

4. How long have you played your primary instrument? (Please circle)

Less than 3 years	4 -5 years	6-7years	8-9years	10 or more years

5. How many days a week do you typically practice your instrument independently (not in an ensemble)?

1 2 3 4 5 6 7

6. How long do you usually practice each day on average? (Please circle)

less than 1 hour	1 – 2 hours	2-3 hours ``	3-4 hours	more than 4 hours

7. Which strategies do you use in your practice?

_____
_____
_____
_____
_____
_____
_____