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BOSTON UNIVERSITY  
COLLEGE OF FINE ARTS

Dissertation

**THE PRACTICE HABITS OF UNIVERSITY MUSIC MAJORS**

by

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Submitted in partial fulfillment of the  
requirements for the degree of

Doctor of Musical Arts

2020

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## **Dedication**

I dedicate this work to my wife Sandy whose support made this work possible.

## **Acknowledgements**

I would like to thank Dr. Lori Gray, Dr. Karin Hendricks, and Dr. André de Quadros for their invaluable assistance. I also thank Dr. Becky Roesler, Mr. Christopher Vadala, Mr. Craig Arnold, Dr. Patrick Warfield, and Dr. Kenneth Elpus for their support of my efforts. I would also like to thank the faculty and students at the participating university for their willingness to participate in this project.

# **THE PRACTICE HABITS OF UNIVERSITY MUSIC MAJORS**

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Boston University College of Fine Arts, 2020

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## **ABSTRACT**

Student practice and the influences that shape self-regulated behavior (habits) remain of interest among educators. This self-regulated behavior includes factors such as what informs a student's selection of a goal during self-regulated practice, the motivation to engage in an activity, and the value attributed to an activity. Interest exists concerning the discrepancy, if any, in student-versus-teacher evaluation as informed by these factors. Through the application of Bandura's (1986) social cognitive theory, I examined the motivators, informers, values, and sustainers of the practice habits of eight university undergraduate performance and music education majors during self-regulated practice.

The instructors came from five applied lesson studios in which the students were enrolled. Using a primarily descriptive methodology, the source of the data I collected was two pre-arranged applied lessons and two pre-arranged practice sessions for each student during the fall semester of 2018. I contrasted the information taken from the practice sessions with the goal-directed and instructor-modeled activities typical of the applied lessons. To compare the self-assessment of competencies with the assessment of the instructor, I employed a survey in the form of a questionnaire and reviewed videotapes of the participants in both applied lessons and self-regulated practice. The data collected for applied lessons and self-regulated practice was then separately coded and

placed into one of two categories, musical or non-musical behavior. I then compared this data among and within the participating applied lesson studios.

My analysis revealed that the preponderance of instructional time was spent in musical activities. The same was true, but to a slightly lesser degree, for students during self-regulated practice. I observed that motivation and the value attributed to an activity were informed by modeling of goal-directed activities (habits) during applied lessons. The students carried this goal-directed activity into self-regulated practice. These practice habits maintained the behavior that supported the goals, the achievement of which informed students' self-assessment of their performance competencies. Students were less satisfied with their level of performance competency than were their instructors. This lack of satisfaction occurred despite the alignment of the observed selection of practice habits with the activities modeled by the instructor in applied lessons and was contrary to previous research (Varela et al., 2016) that found students' assessment of their competencies higher than the assessment of their instructors.

One implication of this study is the importance of instructors' training of students in task analysis regarding practice habits. Such training, combined with modeling, may enable students to choose goals wisely and to self-assess accurately to affect the self-regulation necessary to achieve musical proficiency. The differences in goals between students and instructors, practice-room behavior, and self-assessment warrant further exploration.

*Keywords:* motivation, practice habits, proficiency, self-assessment, self-regulation



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## **LIST OF ABBREVIATIONS**

IRB	Institutional Review Board
SD	Secure Digital
SRPBRs	Self-Regulated Practice Behavior Rating Scale

## **Chapter 1: Introduction**

By supplying practice rooms in the same building in which private applied music lessons take place, universities offer students an opportunity to apply the concepts taught in lessons and refine their performance skills. The implementation of those concepts in the self-regulated practice room environment and the establishment of a consistent practice routine was reported by Valera et al. (2016) as being the responsibility of the student. Hewitt (2015) stated that a practice routine, one that includes the skills of analysis and synthesis, informs the student's assessment of their own abilities and improvement in subsequent performances. The lack of the effective exercise of skills noted by Hewitt (2015) supports the dichotomy, found by Miksza (2007), between student goals and those activities to achieve those goals versus the goals of an applied instructor. This dichotomy may lead to what was noted by Geringer and Kostka (1984) as engagement in both musical and non-musical activities that are either productive or counterproductive in reaching musical proficiency.

### **Social Cognitive Theory**

Bandura et al. (1961) found compelling evidence that certain responses were elicited when students observed the modeling behavior of others. The introduction of these modeling activities in lessons shows students how to structure their self-regulated practice time in a deliberate, goal-directed manner that contributes to musical achievement (Bandura et al., 1961). Chen et al. (2014) and Miksza & Tan (2015) found the observation of desired behavior through instructor modeling to assist in the acquisition of new behavior.

People are predisposed to be active, to evolve, and to be open to challenges (Bandura et al., 1961). Alexander et al. (2015) stated that these predispositions are not automatic; they require continued social nourishment and reinforcement. This effect of social factors was further noted in the work of Leon-Guerrero (2008). Students are thus viewed as active participants in making choices that affect the acquisition of knowledge and skill (Bandura, 1986). Bandura (1977, 1986, 2012) saw students impose those choices, which became actions, upon themselves and their environment. Such actions are due to cognitive, affective, personal, and environmental factors. Bandura described motivation as including personal choices that influence behavior. The choices students made imply the value attributed to certain activities and the role their choices play in habituating a behavior (Bandura, 1977, 1986, 2012). Motivation and accurate self-assessment were positively correlated, according to Zimmerman (2008). The author noted that performance improvement was related to the self-regulatory factor of goal setting and that applying consistent learning strategies increased accurate self-assessment.

### **Self-Regulatory Factors**

The ability to effectively self-regulate was found by Zimmerman and Kitsantas (2014) to affect learning, the accuracy of self-assessment, and was predictive of performance quality in music students. The authors reported that, once students perceive their own control in the self-regulated environment, they enjoy learning. In an earlier study (1999), Zimmerman and Kitsantas reported that, as the learning processes develop, students become better able to ignore distractions and control impulses. Such a student surpasses the achievements of those students who focus only on learning processes. Duke

et al. (2009) found self-regulatory factors to determine performance quality.

Viewpoints in the research differ, however, concerning a student's self-regulation of practice habits. The use of focused, purposeful, and self-intervening practice habits results in the efficient use of practice time and had a positive effect on performance. Miksza (2007) found self-reporting of practice room behavior an unreliable source of information: student self-reports often showed a disparity between their perceptions of progress and that of their instructors. Little relationship existed between self-reported practice habits and observed practice-room behavior. The efficient use of time decreased due to a lack of accuracy in self-evaluation of improvement. Miksza concluded that observation was a more accurate means to identify elements of deliberate practice (Miksza, 2007).

### **Student Practice**

Continued interest exists among educators concerning how students practice and the influences that shape self-regulated behavior, practice habits (Bonneville-Roussy & Bouffard, 2015). The motivation and efficient engagement in learning in music requires at least as much self-regulation as any academic subject (Schmidt, 2005). The implementation of efficient practice strategies during self-regulated practice may be most effective in improving performance (Byo & Cassidy, 2008).

The applied lesson instructors who took part in my study expressed opinions like that of Byo and Cassidy (2008), McPherson and Zimmerman (2011), and Bonneville-Roussy and Bouffard (2015). These authors felt that practice time itself was not the sole predictor of student success and that a self-regulated and goal-directed formal practice

time contributed to musical achievement. The identification of this disparity between the student and instructor's assessment of the student's progress and skill level might better explain Bonneville-Roussy and Bouffard's findings concerning self-regulation, the inaccuracy of students' self-assessment, and the lack of congruence between reports by a student and those by a teacher.

The value attributed to an activity is implicit in the motivation to engage in that activity (Bandura, 1986). People are less likely to engage in a behavior they do not value. In addition, Renwick and McPherson (2002) reported that, when practicing self-selected repertoire, participants were more likely to engage in strategies typical of more advanced stages of musical development. The participants spent more time practicing the piece, continued to practice when faced with difficult passages of music, and were more likely to engage in higher-level cognitive functioning. In terms of practice activities, the element of choice increased students' motivation to engage in an activity, the value attributed to that activity, and the student's opinion of the successful attainment of practice goals (Renwick & McPherson, 2002).

The disparity between observed practice habits and the student's self-report was explored by Chaffin and Imreh (2001), who found that the perceived value placed upon practice habits influenced students' perception of their performance. This perceived value, implicit in instruction, was also reported by Miksza (2015). The author examined interventions aimed at improving musicians' practice, the relationships among specific observed behaviors, performance achievement, the understanding of the students' own thought processes (metacognition), and self-regulated learning tendencies. Explicit

instruction and with demonstrations regarding practice habits and self-regulation enabled greater student gains in performance achievement than those who had no such instruction (Miksza, 2015).

### **Instruction Versus Practice Activities**

A disparity between instructor and students concerning the instruction of practice activities was reported by Kostka (2002). This disparity in opinion between students and instructors occurred despite instructor and students' agreement on the importance of specific musical skills. Instructor expected more weekly practice time than was reported by participants, expected participants to follow a specific practice routine, and stated they had discussed practice strategies in lessons. Over half of the participants indicated that they did not comply with the practice routine provided by their instructors and that such strategies were not discussed.

The lack of compliance contributes to a discrepancy between student self-evaluation and the report of an observer (Kostka, 2002). Barry and McArthur (1994) found it common for pedagogical practices in secondary education to conflict with those reported elsewhere in the literature. The prioritizing of activities designed to improve musical performance in individual instruction at the post-secondary level was inconsistent with that of other levels of education. An inconsistency in instruction might confuse the student regarding performance standards and therefore lead to inadequate self-assessment. This confusion, based on the past experiences of students and instructor, may explain any incongruity with the instructor's assessment as evidenced by student behavior (Barry & McArthur, 1994).

Cognitive, personal, and environmental factors sustain human behavior (Bandura, 1977, 1986, 2012). The presence and influence of these factors has a direct effect on all human endeavors (Bindra, 1959). These factors, in turn, influence students' strategies for achieving performance goals. Students are agentic in the self-regulated acquisition of knowledge and skill. Students make choices and impose those choices on their world, thus contributing to their own motivation. The value attributed to these choices and how students impose these choices is manifested in their behavior (Bandura, 1986). I investigated what motivates a student to engage in activities that, on the one hand, support valued goals but, on the other, are contrary to the counsel and training that had been sought from an instructor. In my study, I was able to glean additional insight concerning students' choices of self-regulated habits in a practice session. I also gained insight into students' motivation to engage in a practice activity and its perceived value to them.

### **Rationale**

I am an active professional musician who performs in the classical and in the jazz idioms. My principle instruments are contra bass and electric 6 string bass. I maintain a regular daily practice schedule that I developed in during my university studies. In my home state, I have taught applied lessons at the University and college levels, on all string instruments. I have also taught music history, distance education, music theory classes, string pedagogy classes, secondary methods in education classes, and conducted ensembles in various musical styles. These ensembles have included a full orchestra, a chamber string ensemble, a small jazz ensemble, a large jazz ensemble, and a Latin

ensemble. In my capacity as an adjunct university instructor from January 2013 to January 2018, and an adjunct college instructor from January 2017 until the present, I have observed instrumental students' practice-room behavior including that by vocalists and those who perform on percussion, keyboard, string, woodwind, and brass instruments. One of my duties as an instructor of applied lessons and ensembles is grading student performance. In addition to my string students who play guitar, violin, viola, cello, and bass, I have graded students on all instruments, along with a panel of applied instructors at the jury performance the end of each semester. During these juries, I observed students' performance as a combination of their work in lessons and the quality and content of their work in the practice room. Implicit in self-regulation was a student's motivation and the value he or she attributed to practicing. I have seen that students who use practice time effectively are able to improve, as noted by Byo and Cassidy (2008). I am aware of the positive relationship between students' performance and the quality of self-regulated practice, a relationship reported by Miksza and Tan (2015). I have witnessed both productive and counterproductive practice habits that affected performance, such as those described by Geringer and Kostka (1984). I am also familiar with what Miksza (2007) described as the disparity between a teacher's and a student's evaluation of playing.

**Accurate self-assessment.** A dissonance often exists between students' self-evaluation of their performance and the assessment of their instructor (Kostka, 2002). The result is frustration on the part of both the student and the instructor. The origin of this frustration is the disparity between students and instructors concerning common



goals and the value of practice habits. The resolution of this dissonance might mitigate overall frustration (Duke et al., 2009).

Accurate, self-regulated, and musically oriented practice habits might improve performance ability to match the teacher's goals. Implicit in accurate self-assessment is improvement in performance ability that is based in the behavioral response, founded in a student's construal of the value of the activity. As further explored by Fujita et al. (2006), factors that affect a student's motivation to engage in an activity were informed by the value placed upon that activity. In situations in which participants attributed a high value to an activity, a greater level of self-control was exhibited and the need for immediate gratification decreased. In valued situations, endurance increased as did persistence at a task; it was also less likely that an individual would engage in behaviors that undermine self-control and task achievement (Fujita et al., 2006).

Factors such as cognitive strategies, self-regulation, and self-efficacy in a musical performance influence the development of practice habits. The interplay among these factors determines their effectiveness in producing a successful performance. A hierarchy of cognitive strategies was employed by students when performing music. Self-efficacy, motivation, and practice played a vital part in the development of a musician's performance ability. Grade level and maturity might influence the development of practice skills and self-efficacy. Self-efficacy plays a vital role concerning students' views of their performance abilities as opposed to that of an observer. One must consider the role of motivation and self-efficacy, both together and separately, in a musician's development of practice skills and performance ability (McCormick & McPherson,

2003). This is one aim of the present study.

**Social-cognitive theory.** The social-cognitive theory of behavioral psychologist Albert Bandura guided my study. This guidance centered around the individual's willingness to act (self-agency) as influenced by the value the individual placed on an activity. Bandura (1986) further defined agency to include cognitive self-guidance. The author added that individuals contribute to their own motivation and actions and function in an environmental system in which causation is a reciprocal process. This process includes cognitive, affective, personal, and environmental factors. Implicit in self-agency is motivation. Motivation affects the development of student behavior (Bandura, 1977). The definition of extrinsic motivation is "outside sources that compel the individual to act" (Bandura, 1977, p. 240). Extrinsic and intrinsic motivation might by themselves, individually or in combination, supply the reason that compels a person to act; thus, those motivations facilitate learning (Bandura, 1986). In their discussion of social cognitive theory and the influence of self-agency on achievement, Bandura et al. (2003) posited that an inaccurate self-assessment of one's capabilities is self-debilitating. Evidence from diverse methodological and analytic studies verifies that perceived self-efficacy and personal goals enhance motivation and performance. Regarding social cognitive theory, Bandura et al. stated that the individual formulates a framework of action in response to challenges. This framework acts in concert with realizing goals in self-regulated scenarios. Implicit in the formulation of a framework is its impact on motivation to engage in an activity and the value attributed to it.

Modeling of a desired behavior by an instructor, as reported by Bandura et al.

(1961), contributes to a student's selection of goals in self-regulated practice and to the student's subsequent achievement. Students were motivated to engage in an activity because of the value they attribute to it. The student manifests the behavior in the teaching studio and in the practice room.

An understanding of this process allows for a clearer picture of the student's instructional needs. The instructor may also better understand the student's motivation to engage in an activity and the value the student attributes to it. The result may be in a plan of instruction tailored to better meet the student's needs and goals. Both an understanding and fostering of the basic elements of self-regulation support compliance with instruction and play a vital role in the improvement of the student's skill level (Bandura et al., 1961).

**Self-teaching.** The introduction of self-explaining in problem-solving tasks improves the student's ability to learn additional information, increases problem-solving ability, and improves the ability self-regulate through the choice of effective behaviors. A task that presents greater cognitive demands precipitates a decrease in the student's ability to engage in self-monitoring, regulation-choice effectiveness, and problem-solving performance. Baars et al. (2018) note that adolescents often struggle with self-regulated learning, a crucial component to learning problem-solving and achieving academic success.

One aim of the present study is to offer applied instructors' insights into how they might enable students to provide self-explanations and assess the complexity of the task. Such actions might increase the accuracy of problem-solving. Training students in the skill of self-explanation of a task could help them to think about the meta-cognitive

process of task analysis. Instruction in the ability to self-explain could enable the student to solve problems more efficiently without unnecessarily increasing cognitive processing, as noted by Baars et al. (2018).

A better understanding of the development of these processes may positively affect the practice of pedagogy and learning. It may also assist in bringing into congruence the assessment of musical development between instructor and student through the alignment of the instructor's and student's perception of musical skill. This information could also lead to the development of individualized teaching techniques that foster a common system of shared values.

These evolutionary processes encompass an understanding of a student's motivation, the evaluation of lesson components, and of the goals that support practice habits (Bandura, 1986). Student self-regulation, the expectancy of success, the value attributed to an activity, the pleasure derived from engagement in that activity, and its usefulness to obtain future goals all work to determine a student's motivation to work at any activity (Lehmann et al., 2007). The authors wrote that another factor adding to a student's motivation is their social standing among peers. This factor, along with self-perceptions of ability and the reaction to challenges, contribute to motivation.

**Student motivation and instruction.** In an analogous manner, De Bezenac and Swindells (2009) found that motivation to engage in an activity can be contextual, situational, or developmentally dependent. Musicians who perform in popular, jazz, and folk genres experience more pleasure from these activities than those who perform in the classical context. The influences on classical musicians included extrinsic factors such as

parents and instructors. For students who performed in a genre other than classical, their motivation originated in self-regulated intrinsic factors (De Bezenac & Swindells, 2009). These findings, and the research of Varela et al. (2016), highlight the need for an understanding of the underlying motivation to engage in an activity. The value placed on that activity is proportional to the intrinsic value attributed to it.

Motivation linked to expectancy-value models of behavior was explored by Eccles and Wigfield (2002). Expectancies were defined as the individual's beliefs concerning intellectual pursuits that guide motivation to practice and the value placed on self-regulated practicing. The ability to self-regulate activities is a learned skill. To ensure that this skill is available to students, Rajabi (2012) suggested that the curriculum include instruction in the techniques and strategies for effective self-regulation.

Successful student performance, as reported by Chen et al. (2014), depends on how instructors teach. Modeling of activities, demonstration of skills, and discussion, in conjunction with instruction in strategies such as error identification, error correction, and concentration, had the greatest impact on improvement in students' performances. Instructors were encouraged to evaluate their presentation of practice strategies and determine how students might apply these strategies in self-regulated practice (Chen et al., 2014).

### **Statement of the Problem**

All human activity is goal-directed and adaptive (Bandura, 1986, 1959). The situation, circumstances, and chosen course of action in response to environmental stimuli connected to a goal determines the appropriateness of the behavior. An

individual's persistence in that behavior, in addition to the effort necessary to achieve a goal, also determines the behavior's appropriateness. Individuals enter environments in which they receive exposure to, and reinforcement of, a given goal in a manner that produces goal-related activities. Positive reinforcement increases the strength of the overall habit and the probability of an individual's response. The person thus works to achieve a desired result. Negative reinforcement decreases the strength of the habit or the probability of that person's response. In such a case, the individual works to avoid an undesired result. Goal-directed activity cannot develop in the absence of positive or negative reinforcement (Bindra, 1959). Positive and or negative reinforcement may be present intrinsically or extrinsically (Bandura, 1986).

Social cognitive theorists posit that students are agentic (active participants) in their choices of activities within a given environment. Such individual agency involves the setting of goals and subsequently engaging in activities that enable the achievement of those goals (Bandura 1986). These goals and their supporting activities may, at times, be contradictory to those goals for improvement presented by an instructor. Learning a musical instrument requires a great deal of self-regulation, which itself involves both motivation and the value attributed to practicing that support the goal. A necessary component of self-regulation is the student's ability to correctly assess their skills so that an accurate self-correction can take place. Self-assessment is a necessary component for skill development (McPherson & Zimmerman, 2011). To enable this ability in students, instructors need to model activities in lessons to imply the value an instructor attributes to that activity (Bandura, 1986). Modeling provides a standard by which the student can

accurately self-assess, diagnose, and make the necessary adjustments to improve their skill level. This accuracy in self-assessment creates an expectancy of success that increases the motivation to learn, as was found by Lehmann et al. (2007) and Dolan et al. (2013).

A student's motivation to engage in practice and the value attributed to practicing was reported by Bandura (1986). Valued behavior might become habituated (Bandura, 1977, 1986, 2012). Once this behavior becomes a part of an effective practice routine, it may aid in developing performance ability (Byo & Cassidy, 2008). The student's motivation to engage in practicing or playing in a group and the value attributed to those activities was reported to conflict, at times, with the applied instructor's instructions. Such contrasting value systems and goals could contribute to the disparity between a student's self-assessment and the instructor's assessment (Kostka, 2002).

### **Purpose**

Often students and instructors do not share common goals regarding the importance of the practice regimes presented in lessons (Duke et al., 2009). My intention in the present study was to reveal the degree of the disparity between the student and instructor concerning the setting and achievement of performance goals. Implicit in this disparity is the motivation on the students' part to engage in a behavior, the value placed upon that behavior, and the goals that the behavior supports (Kostka, 2002). I sought to discover the degree of student compliance in their self-regulated practice sessions with the goal-directed activities modeled by instructors, another factor that needs further exploration.

In my study, I sought to gain insight into the relationship between the motivation of the student to engage in an activity and the value attributed to practice habits. I was able to glean additional insight concerning students' choices of self-regulated activities in a practice session. I examined students' self-assessment of performance competencies and compared them with the performance assessments by their private instructors. I sought to uncover factors that improve practice and discovered information that could lead to the development of new problem-solving strategies for students and instructors, ones that could lead to a higher level of student engagement. Through a new application of social-cognitive theory to music education, I reveal how people contribute to their own motivation to engage in an activity and construe the value of that activity. I came to this insight through a better understanding of why students comply with instruction, as well as understanding whether students accurately perceive their own proficiency levels.

I investigated the practice habits of undergraduate instrumental music students who enrolled in private applied music lessons. These full-time music students were registered as either instrumental music education majors or as instrumental music performance majors. My goal was to gain a greater understanding of undergraduate music majors' motivation for self-regulated practice and to determine the value they place upon their instructors' expert advice. I hoped to reveal whether a relationship existed between the participants' practice habits and their self-assessments of their performance competencies as opposed to the practice strategies and assessments of their instructors. I focused on those practice habits employed while participants attended lessons and practices in the participating university music building's practice rooms.



Three research questions guided this study:

1. What are the perceived or reported motivators, informers, and sustainers for selection of practice habits during self-regulated practice sessions?
2. What relationship exists between the participant's practice habits and the participant's self-assessment of his or her performance competencies?
3. What relationships exist between the participant's practice habits and the instructor's assessment of the participant's performance competencies?

## **Chapter 2: Literature Review**

In my literature review, I have included the works of researchers who explored instrumental music students' motivation, instructor modeling, student self-assessment, self-regulation, and expectancy, elements that support practice habits. I sought to illuminate learning processes through the application of Bandura's (1986) social-cognitive theory to examine the practice habits of music students to obtain a better understanding of self-regulated practice and self-assessment. A better understanding of these factors might illuminate what sustains the development of student behavior during practice. Extrinsic and intrinsic motivation may singly, or in combination, provide the motivation that compels the individual to act (Bandura, 1986). I intended to glean insight into the self-regulatory process, one that includes motivation, the value attributed to practicing that may inform students' practice habits, self-assessment of their level of performance abilities compared with the estimation of their instructor, and expected outcomes as related to the effort expended.

### **Motivation**

Motivation, as defined by Smith (2011), is "the process by which goal-directed activity is initiated and sustained by the individual" (p. 1). Motivation is an internal process that contains four patterns of action: choice, intensity, persistence, and quality of results. These offer evidence of motivation. The value that an individual attribute to a task is subjective, can be situational, and contributes to the motivation to persist at a task. The student's amenability to learning is informed by past experiences that include attitudes, abilities, and environment. The student's current thoughts that impact short-

term (contextual) and long-term (life-long) goals are included (Smith, 2011).

The motivation to engage in an activity was reported by Evans and Bonneville-Roussy (2016) as the result of a fulfillment of needs. Such activities are viewed as personally important, interesting, and enjoyable and thus meet the psychological needs of competence, relatedness, autonomy, and these inform students' motivation in a self-regulated environment. This environment can be cognitively demanding, requiring consistent attention and focus, and affect the willingness to persist. Environmental conditions also impact the quality of practice, and the preference for certain tasks. To facilitate the learning process, environmental (extrinsic) factors such as instruction must be appropriate to support student motivation (Evans & Bonneville-Roussy, 2016). Motivation plays a key role in academic success and is influenced by the students' values, interests, and beliefs about their ability to learn the material (Dolan et al., 2013). Increases in cognitive complexity, manifested in the performance of tasks that challenge the student to learn new skills through the analysis and synthesis of often disparate information, was found to enhance the student's motivation to learn. Intrinsic motivation was shown to have a positive correlation with cognitive complexity, students' views of learning, the instructor's role, and self-evaluation. As the student builds competence in performing the task, intrinsic motivation and value attributed to the activity both increase. The value the student attributes to a task outlined in the lesson, however, decreases if the instructor does not emphasize its importance or if success becomes either too difficult to attain or is unattainable (Dolan et al., 2013).

An understating of the role of motivation and the value placed on an activity

during self-regulated practice and specific musical tasks, how self-regulatory behavior related to general music instruction, and interventions designed to enhance self-regulation was explored by Varela et al. (2016). A positive, but weak, relationship exists between self-regulatory processes and the value an individual attributed to an activity. A relationship also existed between one's ability and perseverance. The authors found the weakest relationship between the amount of time spent in practice and one's expertise. Students reported a low rate of satisfaction during musical studies. Lack of satisfaction centered on the inability of the student to engage in musical activities they saw as pleasurable. The authors attributed this discontent to the higher level of both performance competition and of standards at the university level. A contributing factor may be that instruction did not fully address individual's needs, which led to disappointment. Varela et al. advised letting students follow their own interests to achieve a positive effect on their engagement in a task, the value attributed to that activity, and a sense of agency during practice.

**Human behavior.** Human behaviors occur even when immediate reinforcement is not present. That is, Individuals will often perform a behavior in anticipation of regards that are not immediate. To maintain the motivation to achieve long-term goals, individuals set up short-term goals that become self-motivating (Bandura, 1986). The reinforcement of behavior can originate extrinsically, but over time become intrinsic. The intrinsic reasons for engaging in a behavior can be premeditated and might exist even in the face of extrinsic circumstances not conducive to achieving the long-term goal. Some of the most valued rewards the individual experiences are internal and may be self-

motivating; they originate in the experience of engaging in the behavior. Once having examined the pattern of their outcomes, individuals can modify their behavior to alter future outcomes. This experience then becomes an incentive that provides strength for future actions and can motivate one to maintain the behavioral changes for the long term (Bandura, 1986). In situations in which the sole source of reinforcement is extrinsic, the absence of rewards precipitates the decay of the motivation to engage in an exhibited behavior and the value attributed to that behavior. There exist certain mechanisms, such as needs, drives, and impulses that influence the way people responded to intrinsic and extrinsic motivators (Bandura, 1986).

People work to achieve valued goals through a meta-motivational approach in which individuals strive beyond basic needs to reach their full potential. This approach was defined and explored by Scholer et al. (2018), who stated that successful self-regulation involves the regulation of emotion, cognition, malleability concerning corrective techniques, and both accurate and inaccurate beliefs. Intrinsic motivation can increase engagement and persistence, even in the presence of setbacks. The effectiveness of a motivational state to achieve a desired result depended on the demands of the situation. These demands include time limitations and the complexity of the task. Such extrinsic factors can work to undermine intrinsic motivation (Scholer et al., 2018). This finding supports Bandura's (1996) assertion that the absence of rewards will decrease the motivation to engage in a behavior, and the value attributed to that behavior will decay and eventually be extinguished.

**Valence.** The valence associated with a situation was reported by Nikitin and Freund (2019) to determine an individual's responsiveness to others and motivation to engage in an activity. Motivation and responsiveness to others have their origin in the understanding, validation, and support that contributes to outcomes. In a situation in which individuals work to achieve reinforcement (approach situations), a higher level of motivation was present than the avoidance of a negative or undesired consequence. In an avoidance situation, one in which students work to achieve a negative reinforcement (consequence), the inverse was true because students worked harder to avoid a negative result than they worked to achieve a positive one. The level of approach/avoidance is also a function of age; young and middle-aged participants were more likely to be attracted to and choose to work in situations that lead to a positive result (Nikitin & Freund 2019).

A correlation exists among motivation, self-concepts, attitudes to performance ratings, practice time, and musical experience. These factors that underlie the set of motivation variables were investigated by Schmidt (2005), who found that motivation and self-regulation were crucial to learning instrumental music education at all levels. Motivation may play into the discrepancy between the student's self-assessment of a skill and that of their instructor. The author suggested that the variables associated with motivation can be accurately measured. The underlying motivation to perform music is not unlike that found for general academic achievement; both are based on choices that reflect the value ascribed to the activity (Schmidt, 2005).

The presence of student choice concerning activities was explored by Renwick and McPherson (2002) for its impact on concentration, perseverance, and the motivation

to learn that can extend into the self-regulated environment. When a choice of repertoire existed, the student was more likely to engage in practice strategies typical of more advanced stages of development and spent more time practicing the piece, continuing even when faced with difficult passages. The understanding of the factor of student choice in activities might help instructors by revealing the motivational process that makes practice enjoyable. In the presence of difficult tasks, the added burden of the use of these cognitive strategies might be a limiting factor (Renwick & McPherson, 2002).

**Cognitive strategies.** Cognitive strategies related to self-regulated actions and identity traits and as guided by motivations that emerge from experience or from a situation-specific incentive, were explored by Browman et al. (2017). Motivation can be identity-specific and can predict aspects of goal pursuit relevant to that identity. Identity traits guide a student's view of the task and determine their willingness (motivation) to conduct the task. Motivation can also emerge from a set of traits influenced by the demands of a current situation. These demands can inform motivation and the resulting behavior in a self-regulated environment, and they can override the individual's general traits. One's self-concept and the associated motivation to engage in activities can include the identity a student adopts in applied lessons versus the identity a student, as a self-educator, adopts in practice sessions. Self-concept may explain the disparity in goal setting between the applied instructor and student and account for the activities that support the sometimes-divergent practice goals (Browman et al., 2017).

**Modeling.** The modeling of desired outcomes is a necessary component of instruction and increases the probability of accurate repetition of the task through

vicarious learning, that is learning from watching others (Bandura, 1986). During the students' pursuit of desired outcomes associated with achievement, a cognitive process takes place that is perseverant, self-maintaining, and incentivized. This pursuit of desired outcomes leads the student to persist in an activity until he or she attains the desired goal. Guided by premeditated actions, the individual will work to achieve long-range goals. The results of these actions and experiences lead to the creation of beliefs concerning those actions. People often pick subjectively from a limited array of choices and seldom consider all available options in formulating their beliefs, paths of action, and responses to the consequences of those actions. These beliefs, accurate or not, inform individual's actions and can become expectancies. The overall strength and level of motivation to perform and the value placed on performance thus become based on the student's expected outcome (Bandura, 1986).

To improve the quality of student performance, Chen et al., (2014) called for the instructor's modeling of corrective strategies that include error identification, correction, and concentration. These elements of instruction had the greatest impact on students' improvement. An advocate for the inclusion of modeling in instruction was Rajabi (2012) whose research supported that of Chen et al., (2014). Modeling and instruction in practice habits might influence the student's motivation and the value attributed to practice routines (Sariti, 2004). Musical modeling is used to analyze areas such as improvisation. Spigins (2017) defined modeling as including "musical, verbal, graphical and mathematical means" (p. 47) with the goal of development of the student's creativity, intuition, and belief that they can achieve a positive result. Modeling offers students an



avenue through which the necessary adjustments can be made to improve musical performance. The modeling of theoretical and practical fundamentals of music during instruction provides academic challenges for the student and indicates the direction and methods needed to resolve them. Modeling plays a crucial role in the student's acquisition of skills and improvement of future performance (Spigins, 2017). The instructors' modeling of an activity, due to his or her status as an expert in the field, implies the value of that activity to the student. This implication is supported by the common human experience that individuals engage in behaviors that are valued and supported by intrinsic and/or extrinsic rewards (Bandura, 1986).

**Role of music instruction.** Music instruction lends itself to modeling. Halston (2007) noted that the effective use of modeling introduces and enhances performance skills and can include modeling by peers. Modeling allows for the demonstration of a performance skill. Students' performance of these actions then demonstrates their understanding of the modeled activity prior to their applying music theory and reading the notation. By modeling, the instructor ensures that the theoretical concepts of and musical concepts are emphasized. A full understanding of these concepts allows the student to transfer this ability to new musical situations. Implicit in modeling of activities is instruction on the ability to self-critique. The modeling of the skill to engage in self-critique with the goal of improving musical performance results in the more efficient use of rehearsal time (Halston, 2007).

Modeling is a core teaching practice that applies across a wide variety of teaching contexts and provides a student with a clear picture of success. Millican and Forrester

(2018) further stated that crucial to this relationship is trust and a thorough understanding of the student's academic needs. The overall quality of this relationship affects the learning process. The inclusion of self-diagnosis and correction of musical problems in this process is a characteristic of effective instruction and increases the likelihood of student success (Millican & Forrester, 2018).

Modeling of correct rhythms, phrasing, dynamics, and tempo had a positive influence on the practice techniques of students. This influence was found by Rosenthal et al. (1988) to contrast with the practice techniques of those students who did not experience modeling. Implicit to an instructor's modeling is the value attributed to the activity. This finding is supported by Cash et al. (2014), who found that a student would engage in the modeled behavior in the self-regulated practice room and that students who complied with instruction and repeated the modeled behavior would make greater gains. The separate and combined effects that modeling, listening to oneself on audiotape (self-listening), and self-evaluation have on music performance and student attitude about practice was examined by Hewitt (2001). Participation in these activities ensures successful learning, performance, and practice techniques. Within these activities were the sub-areas of tone, melodic accuracy, rhythmic accuracy, interpretation, and overall performance. In the absence of self-evaluation, the modeling groups in Hewitt's study did not differ from any performance sub-areas. In the presence of instruction of skills such as self-evaluation to facilitate independent learning, students were successful in learning the music. Errors in student perception (versus an observer's perception) might negatively affect the goals students set and their practice habits (Hewitt, 2001).

**Past instruction and evaluation.** Past instruction shaped the participants' views regarding practice habits, as did the standards for acceptable levels of performance and self-evaluation during practicing. Both the student's instructional history and consistent instruction that fosters appropriate practice strategies was noted by Barry and McArthur (1994) to contribute to future success. Instruction of practice strategies and the expectations of music educators at various levels of the education system were not always consistent with those advocated in the research literature. Most instructors discussed the importance of practice and specific practice techniques with students, but responses to this question varied among instructor. Disparities existed in student skill level at the post-secondary level. Barry and McArthur suggested that this disparity reflects inconsistent teaching at the secondary level. A possible contributing factor to this disparity might be a difference in performance standards and expectations on the instructors' part at the secondary level. Consistency across all levels of instruction may ensure that students practicing their instrument can accurately self-assess their performance, enact appropriate corrective actions, and determine what constituted success.

The ability to engage in self-evaluation is evolutionary. Hewitt (2011) speculated that, due to ongoing developmental processes and when considered alone, self-evaluation initially had a lesser impact on student self-assessment and did not align with an outside observer's evaluations. The allowance of the necessary time by the instructor for students to learn to effectively evaluate their own performances positively impacted the accuracy of student self-evaluation (Hewitt, 2011).

## **Self-Assessment**

Students mostly practice in a solitary environment in which they self-monitor their progress. The value attributed to practicing and the resulting performance abilities were discussed by Sariti (2004). In addition to instruction on an instrument, students need to receive instruction on how to effectively self-assess. Such instruction facilitates independence in learning and self-diagnostic skills that might enhance future performance. In the development of this instruction, the author suggested that instruction include modeling of desired behavior and the creation of a sense of student accountability for the development of their practice habits. This accountability leads to the development of effective mental and physical practice habits designed to improve performance and accurate self-assessment and to encourage creative problem-solving (Sariti, 2004). The implication of this author's work is that the student's acceptance of accountability for choices made during self-regulated practice shapes the outcomes and becomes the basis on which activities are selected.

The work of Sariti (2004) concerning student accountability in these areas was supported by the research of Valera et al. (2016). This circumstance and the ability to engage in effective self-assessment in such an environment was reported by Hewitt (2015) to depend on the development of the skills and abilities that facilitate this process through accurate judgment of their success. The individual's development of accurate self-evaluation skills is related to accurate musical performance and informs future success (Hewitt, 2015). This finding highlights the need for students to receive feedback and training from instructors concerning accurate self-assessment of their abilities. This

finding was supported by Labuhn et al. (2010). Students who received feedback were more accurate in their self-assessment and exhibited learning standards based in proficiency and social comparison. While feedback may show little short-term effects in skill development, the long-term effect is greater based on the student's development of study behavior, sensitivity to errors, and development of strategies to enhance performance (Labuhn et al., 2015).

**The role of feedback.** Students need feedback to accurately self-assess their level of skill and make effective changes. An effective method that aids in development of this skill is peer review, as reported by Philippakos (2017). The reciprocal nature of peer review adds to the effectiveness of student self-assessment. Depending on the circumstance, students may place a higher value on the feedback from peers than on that of instructors. Modeling of the evaluation process assists the student in developing the assessment skills to apply in peer review sessions. Internalization of these skills facilitates the student's ability to accurately self-assess, diagnose difficulties, and efficiently make changes that will enable improvement in performance (Philippakos, 2017).

Students may know effective practice strategies, but, in the absence of feedback, do not engage in these strategies. This situation was described by Byo and Cassidy (2008) as the difference between "knowing" and "intelligent doing." An inverse relationship was found to exist between a student's estimation of the amount of time spent in meaningful practice-room activities and the improvement of their performance. The quality of practice, which included planned activities, structured activities, and goal

orientation versus quantity of time spent in practice on performance, determined student progress (Byo & Cassidy, 2008). Deliberate practice has a direct effect upon the accuracy of a student's self-assessment and skill acquisition. The acquisition of skills and the practice activities that comprise deliberate practice were found by Chaffin and Imreh (2001) to develop during practice sessions and to result in students altering lesson goals. The adopted goals inform the student's perception of their abilities and might reflect the incongruence between the student's perception of their abilities and the perceptions of their instructor (Chaffin & Imreh, 2001).

A student is less likely to engage in an activity viewed as too difficult, and they might encounter insurmountable sociocultural barriers that prevent success. In a multiple-country study (McPherson & O'Neill, 2010) students reported that an academic activity in which they felt less capable became increasingly less valuable to them than those subjects in which they felt capable of succeeding. The intrinsic value a student attributes to an activity is influenced by feedback that originates in extrinsic cultural factors such as social, community, cultural, and parental expectations. These factors might also affect student motivation and the quality of the achievement of goals. Students with more stable beliefs about their capacity to become competent possessed stronger feelings of value for the subject. The achievement of goals reinforced the beliefs of this latter group (McPherson & O'Neill, 2010).

### **Self-Regulation**

The amount of practice time is not the sole predictor of student success. Formal practice time that is self-regulated and deliberate and consists of goal-directed activities

contributes to musical achievement (Bonneville-Roussy & Bouffard, 2015). The motivation to achieve a desired result may depend on the level of the demands on the student's problem-solving strategies (Scholer et al., 2018). Self-regulation is among the factors that determine the quality of performance (Eccles & Wigfield, 2002).

To create effective self-regulation, the student must possess the ability to learn to take the necessary steps to facilitate development of this skill through a metacognitive process. McPherson, and Zimmerman (2011) describe the metacognitive, or self-monitoring, process as evaluating one's own performance. Employing metacognition, students engage in self-observation, self-monitoring, and time management. Metacognition also includes the factors of motivation, attention, and concentration that influence the development of self-regulation. Self-regulation was further described as cyclic and consisting of forethought, which involves task analysis, goal setting, and personal beliefs concerning the achievement of goals and influence accurate self-evaluation (McPherson & Zimmerman, 2011).

Cognitive strategies, self-regulation, and self-efficacy are related to music performance. The interplay of these factors to determine their effectiveness in producing successful performances was confirmed by McCormick and McPherson (2003). Implicit in this process is the quality of students' self-regulated practice, an important part in the development of performance skills. The grade level of the students might also influence the student's motivation to develop practice skills and self-efficacy.

**Practice habits.** The motivation for student choices affected their practice habits, their perceived performance ability, and played a vital part in the development of a

musician's ability to perform well. The findings of McCormick et al. (2005) research supports the premises of my study: the value a student attributes to an activity influences the motivation to engage in that activity. The student may then habituate these activities during self-regulated practice. This choice of activities is also influenced by the value a student places on their instructors' advice. Bandura (1986) noted that the interplay between intrinsic and extrinsic factors is a guiding force in the students' motivation to continue to engage in an activity.

**Student engagement in self-regulation.** The ability of a student to engage in self-regulation can be increased by the instructors' assisting in the development of a student's organizational ability and practice behaviors necessary to support common goals. To support this statement, Cremaschi (2012) conducted a study that examined the effect of organizational activities on a student's letter grade and the management of resources necessary for learning. Students who engaged in this activity reported higher use of metacognitive self-regulation. These students were more likely to engage in self-regulation in which resources such as their time, effort, and practice environment were managed more efficiently and improved the students' ability to achieve their desired results (Cremaschi, 2012).

Self-regulation manifested as practice habits are musical and non-musical activities in which students engage during practice. An understanding of these activities was suggested by Bonneville-Roussy and Bouffard (2015) to offer insight into the value attributed to the activity and the motivating factors that might sustain students' behavior in the practice room. These insights might lead to the modification of pedagogic



techniques that would in turn improve instruction and student performance. The authors found that a positive but indirect relationship existed between self-perceptions of musical competence and musical achievement. The integration of self-regulation, motivation, and deliberate practice in a single framework consisting of goal-directed activities determined performance quality and contributed to musical achievement (Bonneville-Roussy & Bouffard (2015).

Duke et al. (2009) conducted an examination of self-regulation to explore the strategies students employed during practice sessions, in retention, as well as their skill level over time. Practice techniques and habits differed between the more and the less proficient musicians. The strategies that students employ during practice sessions are more determinative of performance quality and retention than the duration of a practice session (Duke et al., 2009).

An investigation of the existence of correlations between the factors associated with successful practice-room behavior and the efficient use of practice time was previously conducted by Miksza (2007). The self-evaluation of practice time and efficiency decreased over the time of the study. Eventually, only minor relationships were shown to exist between self-reported practice habits and practice-room behavior. Purposeful and focused practice habits resulted from the efficient use of practice time and were shown to have a positive effect on future performance. Only a minimal relationship existed between self-reported practice habits and observed practice-room behavior (Miksza, 2007).

**Perceived value.** A student's motivation to engage in an activity such as practicing as compared to the overall value attributed to these activities (Bandura, 1986). The accuracy of self-assessment determines future performance achievement (McCormick & McPherson, 2003). Students' prioritization of practice-room activities was found by Geringer and Kostka (1984) to be specific to their instrument. In the self-regulated environment of the practice room, students tended to overestimate the amount of time spent in meaningful practice. This overestimation was inversely related to improvement in performance. The observation of practice-room activity revealed participants spent more time in preparation and "other" activities than they had estimated and that the authors had expected. This observation did not correlate with attentiveness (to detail) and the effective use of learning principles that included the reinforcement, shaping, modeling, and aural discrimination taught in lessons. Geringer and Kostka (1984) suggested a restructuring of self-regulated practice to allow for an increased focus and purposeful practice that may positively affect performance quality.

**Persistence.** Students' efficiency, which includes self-evaluation and persistence, varies with practice tendencies. Miksza and Tan (2015) discovered that students' reports of practice techniques and activities did not correlate with observed behavior and that little relationship existed among students in their reported practice approaches, self-evaluation approaches, and practice reflection. This lack of accurate self-evaluation may imply a lack of connection between students' knowledge of how to practice, self-evaluate, what students know about practicing, and the degree of psychological engagement they bring to it.

The quality of the practice is more important than its quantity (Miksza & Tan, 2015). Those who practiced a great amount of time, however, reported becoming more efficient, being in the flow, and having the self-efficacy for self-regulation. Modeling was a means of improving learning in the self-regulated environment (Miksza & Tan, 2015). Miksza and Tan's suggestion concerning the use of modeling supports the earlier work of Bandura (1986). This support lies in the recognition of the importance in the formulation of valued goals, facilitation of learning, and expected outcomes.

**Student achievement.** Miskza (2015) examined student performance achievement, practice behavior, and self-efficacy. Students who received instruction in practice behavior and self-regulatory activities made larger gains in self-efficacy than those in the comparison group. Explicit instruction with a demonstration regarding practice habits was found to be a valuable use of lesson time and positively influenced the efficiency of practice habits, self-intervention, use of practice time, and performance competency (Miskza, 2015). Self-regulated formal practice time plays a role in musical achievement. Formal practice time, when combined with motivation and learning strategies, can determine performance quality (Bonneville-Roussy & Bouffard, 2015). The integration of self-regulation and deliberate practice into a single framework supplies a complete picture of the associations among learning strategies, practice time, and musical achievement (Bonneville-Roussy & Bouffard, 2015).

The motivation to engage in deliberate activities during practice and its role in the development of cognitive strategies impacts student engagement and achievement. Wolters (2003) reported these as important aspects of self-regulated learning. Just as in

the classroom, impediments to self-regulated learning exist outside the classroom. These impediments, such as time constraints and distractions, affect a student's motivation, choice of activities, effort, and persistence at academic tasks. Although the interdependent processes of self-regulation and motivation, meta-cognition, and volition directly affect cognitive engagement and achievement, motivation, Wolters found, was critical in determining self-regulated learning and student success. The evolutionary process of cognitive development may play a role in skill development and reflect the techniques instructors use in elementary and secondary schools. The adoption of these self-regulated strategies leads to the individual's choice of activities, effort, persistence at a task, and development of goals in practicing (Wolters, 2003).

### **Expectancy**

Reinforcement increases the likelihood of the recurrence and subsequent habituation of a behavior (Bindra, 1959). Furthermore, as students experience success in an activity, the value attached to that activity and increases in motivation are related to competency beliefs, values, and the difficulty of the task. Through the cognitive process of internalization, this extrinsic reinforcement may become intrinsic (Bandura, 1986). Intrinsic values attributed to an activity can influence the choices the student makes about those activities. Based on intrinsic motivation, the career choices university music students make about future employment during their training were examined by Parkes and Jones (2011). Students were found to more often make the economically challenging career choice of music performance versus that of music education based on the intrinsic factor of enjoyment of activities.

**Intrinsic and extrinsic factors.** Abuhamdeh and Csíkszentmihályi (2012) explored intrinsic motivation, non-intrinsic motivation, and the motivations to complete both a goal-directed and a non-goal-directed activity. In competitive activities such as music performance, intrinsic rewards partly stem from a deep involvement and participants enjoy the experience more than non-competitive activities. Increased anxiety concerning performance is likely to reduce the strength of the challenge-versus-enjoyment ratio. Mitigating factors for performance anxiety included familiarity with the activity and with the performance setting. In the absence of a challenge, both intrinsic and extrinsic motivation diminished in the practice room. Self-regulated practice-room behavior and the expectations of studio music instructor and of college music students may vary.

In the examination of this variance Kostka (2002) explored attitudes about certain musical skills and expectations about the use of practice time. Also examined were the expectations of studio music instructors and of college students' practice routines, strategies for practicing, and general attitudes about practice. Instructor and students agreed on the importance of instruction on practicing specific musical skills. Instructor expected both a consistent practice routine and more weekly practice time than the students reported. The disparity between students and instructors is found in the value placed on practice activities. Students reported that practice strategies were not a part of studio lessons. The work of Kostka (2002) called attention to the importance of a student's perception of self-regulated activities, exposed a disparity in student reporting regarding practice habits, and illuminated the need for the teaching of practice strategies.

**Practice strategies.** Cultivating practice strategies is necessary to facilitate musical development. These strategies are the result of self-instruction based on self-assessment, as acknowledged by Leon-Guerrero (2008). Leon-Guerrero sought to develop lessons that would assist students to structure self-regulated practice sessions. Expectations were that that would produce a desired result while considering other issues that affect student practice. These other issues included parental expectations and socio-economic factors. Socio-economic factors consisted of the quality and availability of instruments, access to private instructors, and involvement in other activities. The work of these authors highlighted the need for students to develop the skills necessary to facilitate effective self-instruction. Proper instructional support enables the student to dispassionately self-assess their needs and to self-correct. This instructional support affects the behavior in the practice room and future performance (Leon-Guerrero, 2008).

**Perception of needs.** The way in which individuals perceive and assess their needs and skills, as well as their self-awareness, guides behavior. This self-assessment of momentary needs, as explored by Scholer et al. (2014), motivates the student to alter their criteria for successful completion of a task. Momentary needs include the individual's view of their progress in their skill development, accurate self-assessment, and prevention of failure. Students who kept a prevention focus were both more vigilant in completing a task and more accurate in the self-assessment of their abilities. The ability to engage in these activities, along with the guidance of an instructor, affects both the accuracy of self-assessment of abilities and the quality of future performance (Scholer et al., 2014).

Accurate self-assessment of abilities, based on instruction, has an impact on student success and the sustainability of effort. Accurate self-assessment during self-regulated learning and self-beliefs were also found by Zimmerman (2008) to impact initiative-taking activities. Such activities included the setting of goals, the choice of strategies to achieve goals, self-monitoring one's effectiveness, and the remediation of errors. Students display diverse types of self-appraisals concerning the achievement goals, persistence, learning approaches, and academic performance. Research on these factors by Ferla et al. (2010) revealed that the level of self-perceived competence affects motivation. An understanding of the material encourages the adoption of goals and expectations for success and supports activities that guide the students' progress toward proficiency. The authors reported that students' beliefs that they can do well affect their approach to performance. This view of the task in a self-regulated practice environment affects persistence. Student motivation to complete a task can be both negatively and positively affected by self-perceived competence. Students who adopt strong academic self-efficacy beliefs engage in a deep learning approach that leads to performance proficiency. To maximize the benefits of self-perceived academic competence, the authors suggested that instructors offer instruction aimed at the development of correct self-assessment of competency. The benefit of such instruction is its positive effect on motivation and learning. Instructors need to exercise caution to ensure that perceptions of a student's ability are reality based and do not evolve into overconfidence. Overconfidence might result in lower levels of persistence necessary for the task and might contribute to the lack of agreement with an instructor's assessment. This disparity

can be avoided through instructional strategies that can provide students with proper feedback regarding the student's goals and expected progress (Ferla et al., 2010).

An individual's desire to pursue the study of a musical instrument develops over time. This development is guided by what Bandura (1986) describes as intrinsic and extrinsic motivators. In an attempt to understand this development, O'Neill and McPherson (2002) explored the value that the individual attributed to learning to play an instrument, the individual's persistence and intensity in working toward musical goals, the way individuals evaluate their performance, and the success and failure in achieving goals. The authors tried to clarify motivation by exploring why individuals wish to obtain certain goals and the value they attribute to some goals over others. The authors extend beyond Bandura's (1986) position to postulate that motivation is not solely based in cognitive processes, but that expectancies and values bear on the decisions to persist or engage in an activity.

### **Summary**

Aspects of expectancy theory used in general education also apply to music education. Lehmann et al. (2007) stated that multiple sources of motivation appear in the lives of musicians. These sources were both extrinsic and intrinsic. Musicians who wish to achieve proficiency at a skill exert all necessary effort; this allows them to persist in practicing. Students rely on intrinsic and extrinsic sources of motivation, often simultaneously, to maintain the level of persistence necessary to achieve a skill. The student's expectancy of success is based on these sources of motivation and the value placed upon practice (Lehmann et al., 2007). The integration of self-regulation and



expectancy-value models of motivation is determined by the expectation of success.

Eccles and Wigfield (2002) organized their exploration of expectancy theory into four major categories: beliefs concerning competence and expectancy for success, reasons for engaging in various activities, the integration of expectancy and value constructs, and the link between motivational and cognitive processes. The authors called for the integration of various theoretical stances to further explore self-perceived competency and expectancy belief constructs. This expectancy includes affective and contextual components that may guide the motivation to act, expectancy, and the value placed on certain activities. Both have an influence on self-regulation and the individual's willingness to persist that can depend on the perceived usefulness of the goal (Eccles & Wigfield, 2002).

The motivational constructs of ability, perception, intrinsic value, attainment value, social utility, and cost prediction influence the choice to teach rather than perform music. Parkes and Jones (2012) examined career choice and the decision to remain in a career. Students who had higher expectancy, ability, intrinsic interest, attainment value, social utility value, and cost beliefs were more likely to pursue a career path in music than those with lower expectancy and value-related beliefs. Motivation remains the determining factor in the willingness to work toward valued goals (Parkes & Jones, 2012). This finding supports Bandura's (1986) social-cognitive viewpoint that the person formulates the willingness to pursue an activity based on the value attributed to that activity.

Barry and McArthur's (1994) study found a variability in the way studio

instructors teach practice strategies. This inconsistency may indicate a disparity between the instructors' self-reporting and observable practice. This incongruity might limit success, affect expectations, and affect the value students attribute to practice. The expectations of instructors regarding practice often differs from student behavior displayed in the practice room. As described in Chapter 1, these expectations, instructors' and students' attitudes about music skills, and general attitudes about practice were examined by Kostka (2002). Instructors and students tended to agree on the importance of acquiring specific musical skills. Instructors expected more weekly practice time than students reported and expected students to follow a specific practice routine. Many students indicated they did not follow a specific practice routine or did not receive instruction in practice strategies. This incongruence between the reports of students and those of instructors implies the lack of value students attributed to these practice strategies. Kostka (2002) called attention to the importance of perception and highlighted this disparity. This study attempts to further explore this disparity and to understand the individual's goals that foster practice habits that may inform the development of musical ability. I also consider the perception of the student versus that of the instructor concerning the development of performance ability.

### **Chapter 3: Methodology**

Engagement in and the continuation of any activity is found in the relationship between the student's motivation and the value he or she attributes to that activity (Bandura, 1986). I examined students' self-assessment of performance competencies and compared them with their private instructors' assessments of their performance. All data collection took place at a university performing arts center in the studios of the participating faculty and in practice rooms during the self-regulated practice of participating students. The maximum time I spent with a given student participant was five hours, the minimum was four hours. This timing included two observed applied lessons and two practice sessions. The university requires that each applied lesson for performance and education majors last a minimum of 50 minutes. Due to the demand for practice rooms, the university limits the time (1.5 hours) that students may remain in a practice room for one session. Within that limit, the time a student spent in self-regulated practice was under the students' control.

I assembled a random sample of ten instrumental and music education majors from five teaching studios whose students and instructors had volunteered for the study. The student volunteers included individuals approaching the end of their formal training on a musical instrument. These students were of traditional undergraduate age. Two students did not meet the criteria for the study and were therefore withdrawn. After students volunteered for my study, I informed their instructors in person or by email of their students' desire to take part in the study. Students' participation was further determined by the studio instructors' willingness to take part. I used data sources that

included a brief survey (questions requiring a specific answer) in the form of a questionnaire (list of questions) conducted with students at the end of the study and a brief survey conducted with instructors after each observed lesson (see Appendix A). Other data sources included transcriptions of the audio-video recording of two lessons in the applied instructors' studio and of the audio-video recording of two practice sessions of each student. All recorded sessions occurred at pre-arranged times and were part of the participants' normal instruction and practice regimen.

I coded, thematically analyzed, and categorized the data according to a priori research questions. Those research questions were intended to help me examine musical and non-musical practice room habits and to provide new insights about how and why students follow instruction, as well as whether students accurately perceive their own levels of proficiency.

I based my strategy on the work of Byo and Cassidy (2008), who examined music education majors' practice room behavior and personal practice approach. Byo and Cassidy assessed practice strategies as indicated by survey data and based on instrument family and class standing. The authors explored the effect of quality versus quantity of time spent in practice on performance, although they did not formally address this issue. They examined practices, categorized as planned, structured, and purposeful, to determine their effect on performance. Practice techniques were based on six observation components: the time spent in daily practice, number of practice sessions, number of days per week practiced, attitude toward practice, efficiency of practice time, and amount of practice time. Many observed students did not consistently use practice techniques in

optimal ways. Students described optimal similar practice techniques, but only a few were observed to use these techniques. The authors described this phenomenon as the gap between “knowing” and “intelligent doing.” The authors reported that students identified better self-discipline as the one aspect that improved practice efficiency. The work of Byo and Cassidy (2008) influenced the structure and method used in my study. One similarity of my study to that of Byo and Cassidy’s is the use of a Likert scale. The authors’ work and the subsequent work of Barry and Mc Arthur impacted my choices concerning methodology and my exploration of the differences between student self-assessment of performance abilities and that of an instructor.

Barry and McArthur (1994) outlined a research method using numerical data that offered clarity for data analysis. This technique provided an interesting perspective concerning the definitions and expectations of music educators as opposed to their students regarding instruction of practice strategies, goals, and what constituted success. The authors examined the disparity of teaching strategies between secondary and post-secondary education. Barry and McArthur gathered information through the Music Practice Instruction Inventory (MPPI), similar to a Likert scale, to collect survey data. The MPPI used in the study consisted of two sections. The first section requested information about the participants’ age and the type of studio setting. The second contained 26 statements about teaching participants to practice, each with a response scale ranging from 5 (Always) to 1 (Never). The authors noted that instructors’ approaches to practice were not always consistent with the literature and practice strategies endorsed by instructors at the post-secondary level and often differed from those used by instructors at

the secondary level. The inconsistencies observed in student versus instructor evaluations of skill level at the post-secondary level might reflect inconsistent teaching strategies at the secondary level. There might also be a difference in instructors' performance standards at the secondary level that contributes to this disparity (Barry & McArthur, 1994).

Barry and McArthur (1994) offered a fascinating perspective into the definition and expectation of music educators operating at various levels of instruction. The usefulness of this information for my study is its examination of the disparity between the participant and the instructor's evaluation of the participant's performance competency and how it relates to the expectations of the student versus those of the instructor. Participants' educational experience separates their interpretation of their performance competency from that of their instructors. The authors' methodology used numerical data to offer clarity in the reporting of musical versus non-musical behavior. A survey scored using a Likert scale influenced my use of a similar methodology. The authors demonstrated that a numerical data would be an efficient tool to assess data in my exploration of musical versus non-musical behavior across and within studios. A Likert scale was also effective in assessing the disparity (if any) between student self-assessment of performance skills and that of an instructor.

### **Restatement of Purpose and Research Questions**

I investigated the practice habits of undergraduate instrumental music students. I wished to gain a greater understanding of their motivation for self-regulated practice and to determine the value they place upon their instructors' advice. I hoped to reveal whether

a relationship existed between the participants' practice habits and their self-assessments of their performance competencies as opposed to the practice strategies and assessments of their instructors. Three research questions guided this study:

1. What are the perceived or reported motivators, informers, and sustainers for selection of practice habits during self-regulated practice sessions?
2. What relationship exists between the participant's practice habits and the participant's self-assessment of his or her performance competencies?
3. What relationships exist between the participant's practice habits and the instructor's assessment of the participant's performance competencies?

### **Site Selection**

I chose the participating university as the single site for my study from among the public universities located in the Eastern United States. The school offers undergraduate degrees in instrumental music performance and music education. The school requires that the students first be admitted as performance majors prior to being accepted to the education track. It enrolls over 300 undergraduate music majors. The size of the undergraduate music department ensured that I could recruit up to ten participants from five applied music lesson studios and their instructors for my study. Two other factors that influenced my choice of this site were the employment of applied music faculty and the provision of private practice rooms on campus for student use. Another principal factor was the university's institutional support that allowed me access to students in their applied lessons (see Appendix E) and practice rooms (see Appendix D). Participation in

the study was open only to undergraduate instrumental performance music majors enrolled in applied music lessons.

### **Recruitment**

I invited students and instructors to take part in my study through an email (see Appendix C) as well as fliers posted prominently throughout the music building. My contact person, an instructor at the participating university sent prospective participants the e-mail (see Appendix C). The university re-sent the first email as a follow-up e-mail to students and to their applied instructors. At the beginning of the semester, I made a presentation about the research process and held conversations about the study with prospective participants. Students who volunteered for the study represented a homogeneous subset of the total population of instrumental performance and music education majors at the participating university. The recruitment process was subject to individual assessment in which I screened for individuals who could commit to the terms of participation. The same protocol was followed concerning the involvement of the applied faculty.

### **Participants**

Participation in the study was open only to undergraduate instrumental performance and education music majors enrolled in applied music lessons and was completely voluntary. The demographics of the participants were not studied for their impact on the findings. In a private meeting prior to participation, I verbally assured all those interested in my study of the purpose, intent, and benefit of my research. I



described the possible benefit of their participation on the improvement of their future instruction, self-assessment, and the instruction of other instrumental performance and education music students. All participants received assurances concerning the protection of their identity, their responses, and their behavior in audio-video recordings. As a condition of participation, students and their instructors gave verbal approval and signed consent agreement forms prior to the start of the study and any audio-video recording. This form specified risks and benefits of participation.

Students were required to consent to have two of their regularly scheduled instrumental applied lessons and two of their practice sessions videotaped and audio recorded. I chose a sample of ten students from the population of instrumental performance and education majors enrolled in five applied lesson studios at the participating university. I compensated all participants (student and instructor) with a \$25.00 Visa gift card at the end of the semester (see Appendix D). Once I had recruited ten participants, I closed enrollment for the study.

Five applied lessons instructors and their students agreed to allow me to audio-video record during two lessons. The number of participants from each of the five studios varied. Applied studio one had three participants, numbered one, six, and seven. The second studio instructor taught two of the study participants, those numbered two and three. Applied studios three, four, and five each had one student who participated in my study; they were numbered four, five, and eight.

## **Research Design**

This descriptive research study took place during regular class time in the fall 2018 semester on the campus of the participating university. The Boston University Institutional Review Board (IRB), members of the participating university's school of music, and approval of that institution's IRB all granted the permission necessary to conduct my study. I gathered data by observing the culture of the school of music at the participating university. I was in the building for 70 hours during the data collection phase of my study. The time spent in the building included posting recruitment flyers, discussing the study with potential participants, scheduling all observations, re-scheduling individual observations, waiting for participants to arrive, waiting for recorded observations to end, and the setup/teardown of recording equipment.

I was present in the building between the hours of 8:00 a.m. and 5:00 p.m. The time spent in the building was a minimum of four hours and maximum of ten hours per visit for 7 weeks starting September 4, 2018, [comma needed] and ending December 5, 2018. I visited the school not less than once a week and not more than three times a week for the purpose of the study. Because of my work at a neighboring college, my data collection was during off hours, including my attendance at concerts that occurred during the day. Unfortunately, none of the students in my study took part in those concerts.

I had access to and practiced in the practice rooms the students were to use while waiting for students taking part in my study. I remained in the hallways outside the applied lesson studios and practice rooms while the applied lessons and self-regulated practice sessions were recorded. I often met the students who took part in my study at

various locations in the music building with the purpose of finding a practice room together. These locations included the lobby of the building, first floor of the music library, the two cafés within the building, dining area located in the music building, main music office, and outside applied lesson studios. I was able to observe student life and conversations as I waited and walked through the building.

I arrived ahead of students to applied lessons and was able to access the applied studios to set up the recording device. I recorded my observations of participants' language and behavior in natural settings by using an audio-video recorder, pencil, and paper. I formulated brief survey questions for the instructor to answer at the end of each session after the student had left the room. The same questions were asked at the completion of the second practice-room observation. I wrote down and graded responses using a Likert scale to reveal motivation and value attributed to training as they affect practicing. I audio-video recorded the practice habits that may reveal student behavior that affects their self-assessment.

I considered the data for each applied lesson both separately and collectively. The contact time with each student lasted up to five hours, which included the time spent in the two lessons and two practice sessions. Due to scheduling needs, the duration sometimes varied, as did the day on which the lesson occurred. I examined the data from each session to discover trends on an instructor's part and behaviors on the student's part.

Participants were free to contact the researcher at any time to withdraw from the study due to illness, family emergency, personal choice, or withdrawal from lessons or from the university. I stored all information on an external hard drive and the Secure

Digital (SD) cards used in the recording device until the completion of the study. The student signed the consent agreement prior to participation in the study to allow for audio-video recording. Once the student consented to take part in the study, I obtained written confirmation concerning participation. A total of ten students from five applied lesson studios agreed to take part in the study. One participant and the instructor were withdrawn from this study because the instructor was not available during the semester that my study took place. I removed another participant because the student did not consent to the observation of their practice sessions. A total of eight participants from five applied studios took part in my study.

### **Observation and Recording Device**

I used digital technology that I controlled to record the data from the participants' two practice sessions and two applied lessons. I placed and activated the device at the beginning of each practice session to record all practice activities, left the room, and returned when invited back by the participants at the end of each session to turn off and remove the device. The device was in plain sight of all participants, and I activated it manually in the participants' view. My use of this technology resembles that described by Mondada (2007, in Davidson, 2009). The audio-video recording device was a Zoom Q8 Handy-Video Recorder, manufactured in 2015 by the Zoom Corporation. The device has no independent internal memory. It records to a full-size SD card compatible with current computers. A microphone module with a crossed microphone configuration (x/y configuration) for maximum recording ability in a small environment was employed in the collection of sound data. I set the video lens to capture the maximum area in each

environment. The camera was placed in proximity of the participants and operated well within the 100-foot range of the device.

### **Data Collection**

My study was observational in nature, utilizing descriptive methods (both quantitative and qualitative) to track and qualify those observations. The development and use of content analysis have their origin in the field of psychology. In that field, content analysis is employed to diagnose traits, disorders, or the credibility of a source, as reported by Doris (1994, in Neuendorf, 2002). To code and better understand all data, I performed a content analysis of the collected data and a thematic analysis. Through my data analysis, I attempted to reveal the participants' level of motivation and the value they attributed to practice-room activities. A thematic analysis was employed to code all data in the attempt to reveal the strength of the participants' motivation and the value they attributed to practice. I placed all data into concept categories for applied-lesson observations and self-regulated practice observations for either musical or non-musical behavior (see Appendix B). [Are there four categories then?]

A questionnaire was used with students and instructors (see Appendix A). The student questionnaire consisted of two questions that explored the students' perceptions of their compliance with their instructors' instruction in the lesson prior to the practice session. I asked students whether they accomplished their goals for the practice session and whether they perceived improvement because of their efforts in the practice session.

The questionnaire used with the instructor consisted of three questions (see Appendix A) and was asked immediately after each applied lesson. These three questions

explored the students' behavior and responses to instruction and the instructors' belief about the student's compliance with instruction. Also examined were the instructors' views of the students' accomplishments during the lesson and the instructors' perceptions of the students' improvement. I asked each applied instructor to rate each student's performance during the lesson, as follows:

1. To what extent did the student do what you wanted?
2. To what extent did the student accomplish what you had hoped?
3. Did the student show improvement in performance from the previous lesson?

The instructor responded to the question using a rating scale of 1 to 5 with 1 indicating the highest level of performance. Instructors chose from a menu of ratings that indicated the student achieved 1 = all, 2 = most, 3 = some, 4 = little, or 5 = none of what was required in the instruction. I administered the questionnaire to the students at the end of their second practice session and before they left the room. The two questions were designed to reveal perspective on the accomplishment of goals and their improvement, consistent with two of the three questions asked of the instructor (see Appendix A). I asked the students to respond to the questions and to rate their performance during the second practice session using a Likert rating scale. This rating was on a scale of 1 to 5 and concerned student accomplishments (see Appendix A). The scale was 1 to 5 in which 1 = all, 2 = most, 3 = some, 4 = little, and 5 = none. The questions for the students were:

1. To what extent did you accomplish what you hoped to accomplish?
2. To what extent did you show improvement in performance from your earlier session?

Data for practice behavior and assessment of performance skills were treated in the same manner, that is, by my using the same categorization and coding system. No data contained information that established any given participant's identity. I organized the participants' questionnaire responses, recorded observations of lessons, and ordered observations of practice sessions into conceptual categories (Neuendorf, 2002). The treatment of the data gathered from surveys and recorded observations were modeled on the categorization system in the Self-Regulated Practice Behavior Rating Scale (SRPBRS) (Miksza, 2012). I analyzed the content of the data in a selective and representational manner, as supported by Davidson (2009). I coded all information garnered from the collected data. This information included expressions, statements, perspectives, activities, and all aspects of communication. I created a master code list that functions as a reference key for the categorization of participants' responses and behavior (see Appendix B).

### **Data Storage**

All written and electronic data, such as field notes, recordings, and the devices on which they were stored, remained on my person while I collected data on campus. All written and electronic records, external drives, and SD cards that hold this information were stored in my home office in a locked desk. None of the information gathered in the field and included in this document or the document itself was stored on a personal computer or in the public mainframe known as "the cloud."

To ensure the confidentiality in the reporting of data and, when necessary, to refer to a specific a participant in my study, I used an alphanumeric coding system to label

participants. A separate document, a key, contained information that links the subjects' names to their ID numbers and to which only the researcher and the faculty advisor of the research study had access. I neither specified which instruments the participants played nor from which applied studio they took lessons.

### **Reporting of Data**

I tallied the duration of observed self-regulated practice behaviors and conducted a statistical analysis using measures of central tendency. I commented on the amount of time spent in the pursuit of the various lesson activities, practice habits, and any variance between student self-assessment and that of the teacher. Other comments concerned pedagogy, student motivation, and the value attributed to practice-room behavior that might sustain instrumental performance music students' practice habits.

### **Transcription**

Davidson (2009) stated that transcription is a central feature of descriptive research. In a manner that reflected the primarily descriptive nature of my study design and Bandura's (1977, 1986, 2012) social-cognitive theory, I transcribed, analyzed, and interpreted the spoken words and activities of recorded applied lessons and practice sessions. I did this to ensure the accurate management, organization, integrity, evidence, trustworthiness, and analysis of data, as suggested by Bloomberg and Volpe (2016).

### **Statistical Analysis**

In the analysis of the data collected from my viewings of the audio-video recordings of the students' practice sessions and applied lessons, I used measures of



central tendency. These measures were the mean, median, and mode. It is important to note that in these sessions an overlap of behavior often appeared in the categories of musical and non-musical behavior. Students and instructors displayed multi-tasking. For example, a student used an electronic device during playing time, had a conversation while playing, scheduled a lesson, or the student exhibited frustration while playing the instrument. This phenomenon and the rounding of numbers to the second decimal place account for slight discrepancies, measurable in seconds, among the statistics reported below.

### **Trustworthiness**

The aforementioned transcriptions, categorization, coding and analysis occurred from data that I personally gathered through video and audio recordings. Concerning trustworthiness, in this section I explain the efforts I undertook to ensure that my interpretations are representative of the data I collected. This discussion includes issues of credibility, triangulation, discrepancies, member check, bias, and field engagement.

**Credibility.** Credibility is defined by Banta and Palomba (2015, p. 31) as “the collection of relevant and meaningful assessment information.” This definition was further expanded upon by Bloomberg and Volpe (2016, p. 162) to include the representation of the reality of the situations and persons studied. This concept in qualitative research is parallel to the criterion of validity found in quantitative research (p. 162).

I worked to ensure congruence between my report of my videotaped observations and the participants’ perceptions of their accomplishments and the self-assessment of

their skills in self-regulated practice. To achieve this congruence, I administered a survey to the students after the second self-regulated practice session (see Appendix A). I was able to report the students' reactions concerning what they had accomplished during practice and their view of their competency (see Table 6). A questionnaire was administered to the studio instructors after each applied studio lesson (see Appendix A). Transcriptions were used to provide examples of the participants' verbalizations of viewpoints concerning their work in the self-regulated environment of the practice room (see Chapter 4). Through the assessment of the instructor's responses I was able to and portray what appeared to represent the studio instructor's thoughts concerning what the student had accomplished and their view of student competency (see Table 10). To ensure that my interpretations of the data accurately reflected the thoughts of my participants, I reported verbalizations of the participants in my study and the observable reactions (verbal, nonverbal, and kinesthetic) to frustration. I also reported their numerical assessment on the questionnaire concerning their performance and progress and compared that to the ratings of their instructor.

**Triangulation.** I attempted to clarify my observations, the reports of studio teachers, and the reports of students through multiple forms of data. To help achieve the goal of triangulation, as described by Creswell and Poth (2018), I used measures of central tendency (mean, median and mode) to provide an objective perspective in reporting the amount of time the engagement in a category of behaviors occurred. Measures of central tendency were calculated concerning musical and non-musical behaviors in applied lessons (see Table 2) and in self-regulated practice (see Table 4). I

employed this technique in the assessment and reporting of data concerning the student surveys (see Table 6) and the studio instructor surveys (see Table 9).

**Discrepancies.** To obtain the clearer understanding of what I observed. I followed the methodology as described by Bloomberg and Volpe (2016) and reported discrepancies that occurred in my study. These discrepancies included variations in the amount of time spent in applied lessons within and across studios (see Table 2) and variations in the amount of time spent in self-regulated practice within and across studios (see Table 4). I also noted discrepancies in students' self-assessment of achievement, the self-assessment of improvement (see Table 6), and the assessment of the instructor (see Table 9).

**Member Check.** I extended the invitation to all participants to engage in a member check as noted in Glesne (2016, p. 153). The participants were invited to review all recordings and data collected in this study and read the final document. All declined the opportunity.

**Bias.** I followed the criteria noted in Glesne (2016 p. 153) concerning the reporting of my biases. I conscientiously worked to minimize any subjectivity, prejudices, or biases based on my own experiences in reporting what I saw and heard on the video recording. To this end, I sought approval of a sample of my transcription submitted to my research supervisor. This external audit was intended to ensure that neither the projection of beliefs nor prior knowledge led to erroneous practices that affected data collection, analysis, and interpretation. I did this based on the information concerning bias that is contained in Glesne (2016 p. 153) as supported by Bloomberg and

Volpe (2016).

My personal biases in this study included my own preconceived opinions or expectations related to my musical training and experience teaching applied lessons. Other factors that might have contributed to bias included my own work ethic as related to my motivation and the current and past duration of my own practice times. For example, I believe that one's work continues until a task is successfully completed, that improvement is mandatory, and I place a high value on these values. My daily practice regimen consists of scales, etudes, sight reading, practicing repertoire, and applied music theory in the context of soloing. The value I place upon musical practice overrides all other activities in which I am involved. I had no knowledge of the participants' behavior prior to my study. My experience as a clinical psychologist and supervisor of staff and peers had a profound influence on me in the form of heightened expectations of the performance competency of myself and others.

**Field Engagement.** Field engagement is defined by Creswell and Poth (2018, p. 260) as "having a prolonged engagement and persistent observation in the field." Field engagement took place in five forms. These five forms of field engagement included email, telephone, text, and in-person conversations with prospective students and their instructors and repeated viewing of all recorded sessions. The purpose of this engagement was the facilitation of scheduling of recorded observations, rescheduling of recorded observations of applied lesson, self-regulated practice, and to gather information. I waited in a prearranged area to meet students to obtain access to a practice room for the video taping of the self-regulated practice. I also waited in the hall or an adjacent area for the

recorded sessions to end, in order to retrieve the video camera. Once the information was gathered through my recording device, I viewed the recordings for the purpose of transcription.

## **Chapter 4: Results**

In this chapter, I report my observations concerning student and studio instructor evaluations versus student satisfaction with their own efforts using a questionnaire (see Appendix A). I placed data from the audio-video recordings of applied lessons into two main categories: musical and non-musical activities. I categorized the data separately for self-regulated practice into ten behavioral sub-categories, five of those musical and five non-musical (see Appendix B). I examined the two behavioral categories and the ten sub-categories in the context of the applied lessons and of self-regulated practice. I calculated the amount of time in four contexts: time spent in applied lessons, time spent in self-regulated practice, in musical activities, and in non-musical activities. I timed all five participating applied studio lessons. I describe each of these observations in the sections that follow.

### **Musical Behaviors**

Musical behaviors are defined here as those actions associated with achieving the long-term goal of proficiency on the instrument. These behaviors were placed into one of five categories: the use of an electronic device solely for musical purposes, playing time, instrument assembly, mentoring, and instruction. Electronic devices included a phone, computer, or free-standing metronome used for the purpose of practice and in lessons (e.g., accompaniment or listening to performances of professional artists). Software was also used during practice time and lessons. This software included apps on cell phones for tuners and metronome, software-based music, and accompaniment (such as I-

real Book). There are numerous examples of this software and apps of equal quality at little or no cost that are available through the Apple Store and Play Store. YouTube performances of the lesson material was also used. Playing time was defined as the time the instructor or student spent in producing sound. Instrument assembly time was dedicated to packing and unpacking materials, as well as to assembling and tuning the instrument. I defined mentoring as the discussion of work at or outside of school, health, recovery from injury, recital planning, audition requirements, and the music business. Instruction was defined as the explanation of concepts, exercises assigned, and feedback from the studio instructor. Included in this category were the studio instructor's encouragement, questions asked by student or instructor, agreement concerning lesson activities, discussion of historical aspects of playing, and playing technique. I calculated the mean, median, and mode to analyze the data. I also described the range of the scores of the participants' responses during and across recorded sessions.

### **Non-Musical Behaviors**

I defined non-musical behaviors during applied lessons as actions not associated with achieving the long-range goal of instrumental proficiency. Such non-musical behaviors are potentially counterproductive to this achievement. I placed non-musical behaviors exhibited during applied lessons into one of five categories: electronic device use, interruptions, frustration reactions, scheduling of future lessons, and pauses. An example of a non-musical use of an electronic device would be a case in which the student used a device during the lesson for a purpose unrelated to the lesson. Such extraneous use included watching a non-lesson-related video, sending, or receiving text

messages, making phone calls, and using a computer.

I considered interruptions of lessons to include instances in which I was briefly present to place or retrieve the recording device, other people entering the room, or a conversation not concerning music between the student and instructor. A frustration reaction was an instance in which the student sighs, curses, or makes non-verbal or verbal utterances followed by a pause of less than 2" in length. These reactions usually occurred in response to the student not successfully performing a task assigned by the instructor. The student and instructor scheduled the time and date for the next lesson. I examined the non-musical and musical behaviors exhibited during lessons and reported on the musical behaviors. Analysis of non-musical behaviors during each lesson is documented separately (see Table 1).

### **Applied Lessons**

I examined the behavior displayed by both students and studio instructors during applied lessons and documented my calculations of the average duration of the lesson, average time spent in musical behaviors, and average time spent in non-musical behaviors. In my analysis of the data, I rounded up seconds from fractions of seconds.

The amount of time spent in musical behavior during applied lessons decreased over the two lessons. The decrease was proportionate to the overall decrease in the average amount of time spent in applied lesson one versus applied lesson two. Non-musical behavior increased in applied lesson two. This increase, although less than one minute, was noteworthy as it was slightly out of proportion to the time spent in musical behavior in lesson one versus lesson two. I have compiled the data mentioned in my



Student	Applied Lesson	Total Lesson Time	Musical Activities	Device (Musical)	Play-ing	Mentor-ing	Instru-ment Assembly	Instruc-tion	Non-Musical Activities	Device (Non-Musical)	Inter-ruptions	Frustration Reactions	Pause	Sched-uling
1	1	61'24"	66'15"	2'58"	26'54"	12'25"	1'0"	23'15"	1'9"	0'0"	0'33"	0'19"	0'0"	0'17"
	2	58'39"	56'7"	0'28"	1'18"	43'44"	1'0"	9'37"	2'32"	0'20"	0'2"	0'7"	0'16"	1'47"
2	1	47'19"	44'28"	0'8"	21'39"	7'19"	1'14"	14'18"	2'51"	0'0"	0'9"	2'42"	0'0"	0'0"
	2	40'44"	37'54"	1'22"	10'0"	9'51"	1'1"	15'40"	2'50"	0'0"	1'5"	1'45"	0'0"	0'0"
3	1	35'14"	34'8"	0'0"	16'28"	11'21"	0'4"	6'15"	1'26"	0'0"	0'56"	0'16"	0'0"	0'4"
	2	35'21"	23'25"	0'0"	14'14"	5'23"	1'47"	11'1"	1'56"	0'0"	0'25"	0'0"	0'0"	1'31"
4	1	53'45"	53'35"	0'0"	31'7"	1'56"	0'8"	20'24"	0'10"	0'5"	0'1"	0'3"	0'0"	0'1"
	2	37'2"	33'27"	1'4"	14'14"	5'22"	1'47"	11'0"	3'35"	0'0"	1'50"	1'45"	0'0"	0'0"
5	1	89'35"	84'11"	0'58"	43'55"	0'32"	4'51"	29'55"	5'24"	0'0"	5'24"	0'0"	0'0"	0'0"
	2	53'32"	52'12"	6'34"	13'23"	11'21"	0'54"	20'0"	1'20"	0'0"	1'20"	0'0"	0'0"	0'0"
6	1	57'20"	56'14"	3'3"	22'36"	6'30"	1'28"	22'37"	1'5"	0'0"	0'18"	0'2"	0'0"	0'45"
	2	45'44"	44'22"	0'4"	22'37"	3'10"	0'53"	17'38"	1'22"	0'0"	0'6"	0'0"	0'0"	1'16"
7	1	61'22"	62'8"	0'14"	16'10"	31'34"	0'31"	13'36"	0'17"	0'0"	0'3"	0'2"	0'1"	0'1"
	2	58'49"	57'40"	1'46"	16'6"	20'58"	0'56"	17'54"	1'9"	0'0"	1'5"	0'2"	0'0"	0'2"
8	1	51'34"	51'23"	0'13"	29'3"	3'26"	2'35"	16'6"	0'11"	0'0"	0'7"	0'4"	0'0"	0'0"
	2	46'6"	43'14"	0'17"	29'3"	0'0"	0'28"	13'26"	2'51"	0'0"	2'49"	0'2"	0'0"	0'0"
Total (Avg)	1	57'59"	56'25"						1'35"					
	2	46'59"	44'40"						2'19"					

Table 1. Musical and Non-Musical Activity Time Recorded in Applied Lessons.

discussion of applied lessons in Table 1.

### **Applied Lesson Analysis**

In my examination of applied lessons, I considered each student's data for each of the four recorded sessions separately. I examined each student's two applied lessons. In the same manner, I examined the two self-regulated practice sessions to discover information regarding trends in behavior. I placed the behaviors observed into categories. These categories were musical behavior that included use of an electronic device, playing time, instrument assembly, mentoring, and instruction. The category of non-musical behaviors included the use of an electronic device not intended to enhance learning, interruptions, frustration reactions, scheduling of lessons, and pauses (see Appendix B).

### **Student One**

The preponderance of time in applied lessons was spent in musical activities, but a lessening of playing time occurred in lesson two. I attribute the shift in the amount of playing time and mentoring during the second lesson to the student's physical condition. The student entered the second lesson unable to perform, having sustained an injury from overuse during several performances between the lessons. The participant reported playing longer and louder than in past weeks. This injury prevented the student from playing in the lesson for more than 1'18". The studio instructor addressed this situation by instructing the student in both avoiding and recovering from injuries. The instructor also discussed the previous lesson's assignment in view of a future performance to take place when the student had sufficiently healed. Although the focus of the second lesson differed from the first, some commonalities remained. Most of the time spent in the

lesson concerned musical activities. A slight gain in non-musical activities occurred in lesson two as compared with lesson one. This gain centered on the scheduling of a future lesson to accommodate the student's condition and the school's schedule.

The duration of non-musical behavior in electronic device use increased in the second applied lesson. This increase, too, was caused by discussion concerning scheduling future lessons. The student's frustration, a non-musical behavior, decreased in the second lesson. Although registering as a decrease, this behavior, too, relates to the decreased playing time in the second lesson. Pauses increased in lesson two. This increase relates to the decreased playing time due to the participant's injury that accounts for both the increase in frustration response and the pauses in lesson two. I also attribute the disparity in non-musical activities in the second lesson to the student's injury and instructor's shift of focus.

### **Student Two**

Although the second lesson was much shorter than the first, no alteration was found in the proportion of the time spent in musical activities. The instructional material in lesson two seemed more focused than in lesson one as evidenced by the data on non-musical activities: a decrease in non-musical behavior occurred in lesson two. This decrease indicates consistency in the studio instructor's delivery of instruction. In both lessons, the electronic device was used for purposes of instruction. During both lessons, the instructor and student spent no time scheduling future lessons, which showed the establishment of a lesson routine. No pauses occurred. Interruptions increased in lesson two due to the student leaving the room to retrieve needed music from a locker adjacent

to the studio. Frustration reactions expressed by this student decreased in lesson two. I attribute this decrease to several factors: the participant seemed better prepared for the second lesson, fatigue decreased resulting from the brevity of the lesson, and a shift occurred in the lesson's focus. The increase in instruction time was necessitated by the lesson's brevity.

### **Student Three**

The shortened length of this student's first lesson was due to scheduling conflicts discussed in the lesson. No proportional change occurred in the time spent in musical activities. The instruction in lesson two seemed as focused as in lesson one, evidenced by the data on non-musical activities. I observed a 30-second decrease in non-musical activities in applied lesson two. Such a decrease indicates consistency in the delivery of instruction. In both applied lessons, an electronic device was used only for the purpose of instruction. I attribute the increase in the time spent in scheduling future lessons to changes in the student's academic schedule. The decrease in interruptions relative to the overall time spent in the second lesson was due to the increased focus demonstrated by student three in the second lesson. Frustration reactions decreased in lesson two to zero. The decrease in this category of non-musical behaviors can be attributed to the student's better preparation for the second lesson and the decrease in frustration displayed in that lesson to the slight increase in the amount of time spent in instruction.

### **Student Four**

A comparison of the duration of the two lessons showed no meaningful change in

the time spent in musical activities. The presentation and proportion of time spent of instructional material in lesson two seemed slightly less focused at times than in applied lesson one. Interruptions, in this instance, were beyond the control of the instructor or student. Such interruptions included the lights turning off due to insufficient movement and to others entering the room. None of the other non-musical activities in lessons one and two were present at a measurable level. My observation speaks to the focused attention demonstrated during instruction by the student and the studio instructor.

### **Student Five**

Instruction time decreased in lesson two. This decrease is because the instructor had extended the first lesson. This lesson extension, agreed to by the student, was to compensate for the instructor's missed lesson time (due to the instructor's scheduling conflict). During the second lesson, the use of an electronic device for instructional purposes increased, while playing time and instrument assembly decreased. Mentoring increased, and there was found a proportional increase in the amount of time spent in musical activities compared with the length of the lesson times.

An increase in non-musical activities occurred in lesson two. No electronic device for non-musical purposes appeared in either lesson. The instructor and student spent no time scheduling future lessons. No measurable pauses occurred during either applied lesson. Interruptions decreased in the second lesson, which can be attributed to the decrease in interruptions due to a technical difficulty with my video camera in the recording of the first session. No frustration reactions occurred in either lesson.

**Student Six**

The use of an electronic device for instruction and instrument assembly decreased in the second lesson. Playing time and instruction time increased in lesson two.

Mentoring decreased in the second lesson. No shift was observable in the time spent on musical activities in the lesson time between the two lessons. The studio instructor's instruction in lesson two seemed as focused as in lesson one, evidenced by the negligible change in the data calculating non-musical activities. Non-musical activities decreased in lesson two, which again indicates consistency in the studio instructor's delivery of instruction. The use of an electronic device occurred only for the purpose of instruction, and no measurable pauses took place in either of the two lessons.

The time spent scheduling the next lesson increased in lesson two. Interruptions decreased in lesson two (one interruption was my brief presence at the beginning and end of the session to activate then retrieve the video equipment). The interruptions included other students either picking up an item from the instructor or asking a question. Interruptions of lessons were outside of the control of the applied instructor and the student but had a negligible impact on the content and delivery of instruction. The student's frustration reactions decreased in applied lesson two. I attribute this decrease to the fact that the student appeared better prepared for the second lesson. I observed that the student moved more smoothly from one instructor request to the next and that the instructor was more satisfied with the student's responses to the lesson's demands. The decrease in the number of the instructor's demands was due to the brevity of lesson two compared with lesson one. An additional factor may have been the decrease in

mentoring, which facilitated an even flow in the student performance during this lesson.

### **Student Seven**

A small overall increase in non-musical activities occurred in applied lesson two, indicating a consistency of instruction. In both lessons, the student used an electronic device solely for the purpose of learning. The instructor and student spent minimal time scheduling the following week's lesson. Pauses did not occur in the second lesson, but interruptions increased (one of the interruptions was due to my activating then retrieving the video equipment at the beginning and the end of the session). The interruptions were outside of the control of the applied instructor and the student but had a negligible impact on the timing and content lessons. Frustration reactions were few in each lesson. In my observation, this factor had no effect on the student's performance or the pacing of the lesson.

### **Student Eight**

During the second lesson, the use of an electronic device for instruction slightly increased. The student played the instrument the same amount of time as in the first lesson, which speaks to the consistency of instruction across the lessons. Mentoring did not occur during the second lesson. The time spent on instrument assembly decreased in lesson two; the participant did not need to adjust the instrument as frequently as in lesson one. Adjustments to improve the instrument's tuning and the assembly of the mouthpiece were not necessary in lesson two. The time spent in instruction decreased in lesson two. I attribute this decrease to an increase in the time spent on non-musical behaviors during

that lesson. I observed an increase in non-musical activities in lesson two due to interruptions. This non-musical behavior increased in lesson two. The increase in interruptions impacted the amount of instruction time, which showed a proportional decrease. During both lessons, the time spent either pausing or scheduling the following lesson was zero. Frustration reactions decreased in lesson two. I attribute the stability of the data to the consistency of the instructor's demands on the student.

### **Applied Lesson Studio Analysis**

I examined the amount of time that each studio instructor engaged in musical versus non-musical behaviors both within and across the two sessions. I then examined the data both by studio and collectively to reveal trends in instruction and behavioral responses. As with my examination of the data from each student, I placed the musical behaviors during applied lessons into five musical and five non-musical categories (see Appendix B). Musical behaviors were the use of an electronic device for the purposes of instruction and learning, playing time, mentoring, instrument assembly, and instruction. Non-musical behaviors included the use of an electronic device for reasons other than instruction and learning, interruptions, frustration reactions, scheduling of future lessons, and pauses (see Appendix B).

Overall, lesson one was measurably longer than lesson two across and within the five studios. I also noticed that the engagement in musical and nonmusical activities was relative to the length of the lesson (see Table 5). In all cases, instructors focused the lesson time on their determination of the students' needs, considering time constraints, willingness to accept additional material, and the ability to perform that day.



An accommodation was made by the instructor for student one in studio one. This musician had over-played at a musical engagement outside of the school. As a result, the student could not play the instrument in lessons for more than one to two minutes at a time. The instructor accommodated this student by structuring the lesson to include both demonstration of the proper playing techniques and mentoring. The mentoring portion of the lesson included information about how to avoid playing injuries and recovery from such injuries if they occur.

The instructor in studio two made an accommodation during an applied lesson for student three. The student had to play in a school-sponsored performance that afternoon that overlapped the last 15 minutes of the applied lesson. The instructor shortened the lesson time to allow the student to be on time for the performance. The content of the lesson was structured to include pieces the student was to perform that day, including refining certain measures of those pieces. The lessons were both shortened and adjusted to meet this student's needs.

The instructor in studio four extended the lesson to account for the lesson the studio instructor had had to miss due to the instructor's own schedule. The student informed me of this situation as we were entering the room just prior to the first applied lesson. As it did not negatively impact my contact hours with the student, the entire lesson was included in my data analysis. Although at a low rate when compared with musical behaviors, non-musical activities showed a wider timing range across the five studios and among students in each of those studios. I defined non-musical behavior as the use of an electronic device not for instruction or learning, interruptions, frustration

reactions by the participant, scheduling of future lessons, and pauses in instruction. I have compiled the data mentioned in my discussion of applied lesson studios in Table 2.

Based on the data analysis of the time spent in musical and non-musical activities I observed in the five studios, I calculated the median and mode for this musical and non-musical behavior. I calculated these numbers for the time each of the eight students spent at their two applied lessons. The mode for the time spent in lessons was unique to each of the five studios. This unusual situation was precipitated by the variance in lesson times between and within studios. While this statistical measure may not be present at times, its absence revealed useful information. Due to the slight differences in the amount of time that instructors spent in applied lessons, it seems reasonable in this instance that a mode was not found. The mode did, however, provide useful information concerning my research question about individual students and studios.

A cross-studio comparison of the amount of time the studio instructors spent in applied lessons shows the median to be a more accurate representation of the consistency concerning time spent in instruction across and within studios. I have compiled the data mentioned in my discussion of the mean, median, and mode for the five applied lesson studios in Table 3. My review of the median for this data revealed consistency among and within the five applied lesson studios concerning the time spent in instruction. This time exceeded the university's 50-minute expectation for the length of any given applied lesson.

Studio	Applied Lesson	Total Lesson Time	Musical Activities	Device (Musical)	Play	Mentor	Instrument Assembly	Instruction	Non-Musical Activity	Device Non-Musical	Interrupt.	Frustration Reactions	Pause	Schedule of Lessons
1	1	62'18"	61'12"	2'4"	21'53"	16'40"	0'59"	19'49"	0'15"	0'0"	0'18"	0'8"	0'40"	0'21"
	2	52'24"	52'43"	0'46"	13'20"	22'17"	0'56"	15'3"	1'36"	0'7"	0'23"	0'3"	0'5"	0'62"
2	1	53'45"	39'18"	0'4"	19'3"	9'20"	0'55"	10'17"	2'8"	0'0"	0'33"	1'23"	0'0"	0'2"
	2	38'2"	35'9"	0'41"	12'7"	7'37"	1'24"	13'2"	2'25"	0'0"	0'45"	0'53"	0'0"	0'16"
3*	1	53'45"	53'58"	0'0"	31'7"	1'56"	0'8"	20'24"	0'13"	0'5"	0'1"	0'3"	0'0"	0'1"
	2	37'2"	33'27"	0'0"	14'14"	5'23"	1'47"	11'00"	3'35"	0'0"	1'5"	1'45"	0'0"	0'0"
4*	1	89'35"	84'11"	0'58"	43'50"	0'32"	4'51"	29'55"	5'24"	0'0"	5'24"	0'0"	0'0"	0'0"
	2	53'32"	52'12"	6'34"	13'23"	11'21"	0'54"	20'0"	1'31"	0'0"	1'20"	0'0"	0'0"	0'0"
5*	1	51'34"	51'23"	0'13"	29'3"	3'26"	2'35"	16'6"	0'11"	0'0"	0'7"	0'4"	0'0"	0'0"
	2	46'6"	43'14"	0'17"	29'3"	0'0"	0'28"	13'26"	2'51"	0'0"	2'49"	0'2"	0'0"	0'0"
Total (Avg)														
1	1 & 2	58'21"	56'29"						1'13"					
2	1 & 2	39'44"	37'13"						2'15"					
3*	1 & 2	45'23"	43'31"						1'52"					
4*	1 & 2	71'44"	68'11"						3'53"					
5*	1&2	48'49"	47'36"						1'13"					

Table 2. Lesson, Musical, and Non-Musical Activity Time Recorded in Applied Studios.

\* Indicates studio had only one participant. The number reported is a total.

	Device Musical	Playing Musical	Mentor Musical	Inst. Ass. Musical	Instruct. Musical	Device Non-Musical	Interrupt Non-Musical	Frustration Non-Musical	Pauses Non-Musical	Scheduling Non-Musical	Time in Lessons
Mean											59'31"
Median	15'50"	16'19"	13'49"	1'0"	15'53"	0'0"	0'45"	0'3"	0'0"	0'3"	53'33"
Mode	0'0"	14'14"&29'03"	11'21"	1'0"	None Avail.	0'0"	None Avail.	0'0"&0'2"	0'0"	0'0"	None Avail.

Table 3. Mean, Median, and Mode Recorded in Applied Studios for Musical and Non-musical Activities and Time Spent in Lessons.

Despite the previously mentioned accommodations regarding overall instructional time, the medians I obtained for musical behavior and non-musical behavior during applied lessons support my assertion that the preponderance of lesson time was spent in musical activities. I found this consistency in the use of time both within studios and among the five studios. This was also true for the levels of non-musical behavior. My finding indicates the consistency of instruction within and among applied studios. This number considers the time by the studio instructor four to make up missed time. During the study, the studio instructor two did not make up the time the student had missed in the two lessons (the information concerning how the instructor provided the student with additional lesson time later in the semester was not available because the instructor had since died). Also indicated was the equal time spent in the instructors' pursuit of the established goals and routines within and across the five applied studios.

I calculated the data for applied lessons to obtain modes for the time spent in musical behavior during lessons. The bimodal distribution yielded in my data analysis is evidence of differing teaching techniques. These varying techniques may depend on the instrument, on the students' current level of proficiency, and/or on the student's preparation for a given lesson. The students spent no time using an electronic device for non-musical purposes. Analysis of the data from the applied lessons revealed the following modes for the time spent in non-musical behavior.

The length of time a student in musical activities during self-regulated practice was proportional with the length of the preceding applied lesson. As in lessons, most of the time spent was in musical activities. One notable exception occurred when a

participant invited a fellow student from their applied studio into the practice session to plan an upcoming performance. Students prioritized their practice activities based on the university rule concerning the length of time to be spent in a practice room during one practice session, a maximum of 1'30". I observed, while waiting in the practice room corridor to meet the students, that they complied with this rule only when another student was waiting for the practice room. During longer practice sessions, the students focused on problem areas. In those sessions, the time that participants spent on practice activities occupied at least the same amount of time as the instructor spent on these activities in the lesson. I found this observation to be true for individual participants, within a studio, and across applied lesson studios.

Studio	Practice Sessions	Total Lesson Time	Musical Activities	Device (Musical)	Playing	Instrument Assembly	Non-Musical Activities	Device (Non-Musical)	Interruptions	Frustration Reactions	Pauses
1	1 & 2			8'49"	42'9"	4'20"		4'43"	1'6"	0'28"	0'12"
2	1 & 2			0'57"	37'27"	4'23"		4'15"	0'11"	0'0"	0'13"
3	1 & 2			1'15"	42'25"	1'25"		0'0"	0'55"	0'1"	0'26"
4	1 & 2			0'49"	71'35"	3'1"		0'0"	0'2"	0'23"	1'11"
5	1 & 2			1'32"	45'25"	3'13"		2'34"	4'4"	0'0"	0'30"
Total (Avg)											
1	1 & 2	55'51"	50'34"				5'17"				
2	1 & 2	61'54"	57'27"				4'43"				
3	1 & 2	45'56"	45'18"				0'38"				
4	1 & 2	6'2"	5'26"				1'37"				
5	1 & 2	53'26"	49'45"				3'57"				

Table 4. Lesson, Musical, and Non-Musical Activity Time Recorded in Applied Studios during Self-regulated Practice.

\* Indicates studio had only one participant. The number reported is a total.

**Self-Regulated Practice**

I collected data to attempt to discover the informers and sustainers of student practice habits; to discover the relationship, if any, between practice habits and student self-assessment of performance competency; and to find the relationship between the practice habits as it affects any discrepancy between of the goals the instruction and student. I examined the amount of time each student engaged in musical versus non-musical behaviors (see Table 4).

I examined the musical behavior of the eight students during self-regulated practice. I examined the total time in practice and separated the time spent in musical behavior versus non-musical behavior. My findings of the musical behavior in each practice session are recorded below (see Table 4).

**Self-Regulated Practice****Student One**

In both practice sessions, this student complied with the applied studio instructors. This compliance is reflected by my observation of the participant's performing the materials assigned in the order these assignments were presented in the lessons. Interestingly, the prolonged practice session occurred two days after the lesson in which the student was unable to play due to an overuse injury. It appears that due to the proximity of this session to lesson two, this student did not follow the studio instructor's advice concerning the prevention and recovery from an injury.



Student	Practice Session	Total Lesson Time	Musical Activity	Device (Musical)	Playing (Musical)	Inst. Assbly. (Musical)	Non-Musical Activities	Device (Non Musical)	Interruptions (Non Musical)	Frustration (Non Musical)	Pauses (Non Musical)
1	1	41'20"	35'16"	2'13"	33'0"	0'3"	6'4"	3'57"	0'5"	2'2"	0'0"
	2	75'26"	61'49"	12'57"	40'28"	10'24"	13'39"	9'51"	1'50"	1'56"	0'0"
2	1	76'20"	71'70"	1'37"	66'11"	3'13"	5'20"	0'54"	0'6"	0'44"	3'36"
	2	90'51"	77'37"	8'57"	60'52"	7'48"	13'14"	6'27"	2'54"	0'27"	3'26"
3	1	55'21"	55'12"	1'11"	45'25"	0'9"	8'36"	0'1"	0'8"	0'0"	0'0"
	2	25'3"	24'50"	0'6"	18'39"	0'13"	6'5"	0'0"	0'8"	0'5"	0'0"
4	1	48'11"	47'35"	2'2"	45'5"	1'9"	0'28"	0'11"	0'4"	0'3"	0'51"
	2	43'9"	43'1"	0'29"	40'40"	0'8"	2'32"	0'0"	0'7"	0'1"	0'0"
5	1	92'48"	92'17"	0'5"	88'46"	3'26"	2'31"	0'0"	0'5"	0'14"	2'12"
	2	59'17"	58'34"	1'33"	54'23"	2'38"	0'43"	0'0"	0'0"	0'33"	0'10"
6	1	62'24"	61'56"	0'29"	57'36"	3'51"	0'28"	0'0"	0'5"	0'23"	0'0"
	2	53'9"	52'0"	0'6"	43'23"	8'31"	1'9"	0'0"	0'0"	0'11"	0'58"
7	1	53'20"	52'9"	1'14"	48'53"	1'11"	2'2"	0'7"	0'15"	0'33"	0'16"
	2	49'33"	40'16"	0'5"	38'57"	9'17"	1'14"	4'14"	4'33"	0'30"	0'0"
8	1	58'39"	56'31"	0'58"	52'13"	3'20"	2'8"	1'5"	0'7"	0'0"	0'56"
	2	48'48"	43'0"	2'5"	38'37"	3'6"	5'48"	3'58"	0'2"	0'0"	0'3"

Table 5. Musical and Non-Musical Activity Time Recorded in Self-regulated Practice Sessions.

**Student Two**

The use of an electronic device for non-musical purposes increased in practice session two (see Table 5). The student used a cell phone to text during this practice session. Interruptions increased due, I thought, to fatigue and occasional lack of focus. The student's frustration reaction decreased. Pauses slightly decreased during the longer second practice session. In both practice sessions, the student complied with instruction, demonstrated by practicing the lesson materials in the order the instructor had assigned. I observed, however, the same mistakes made in lessons were not addressed in the practice session, as had been suggested by the instructor. As in the applied lessons, the student needed to adjust the instrument during both sessions due to the changing weather and environmental conditions (see Table 5).

**Student Three**

The decrease in time the student used an electronic device for musical and non-musical purposes was relative to the decrease in time spent in practice session two as opposed to session one. Interruptions increased, which I attribute to fatigue and the need for rest. The student's frustration reaction time remained constant, unaffected by the shorter time of the second practice session. I attributed this frustration to the student's activities in the session that reflected the student's goals. Cessation of work on these goals indicated that student had met his/her expectation of success in the shortened practice session. The fact that time spent in pauses in both practice sessions remained at zero indicates that the student's regimen was unaffected by the time available to practice.

In both practice sessions, the participant complied with the studio instructors. Evidence of such compliance is apparent when the student practiced the materials in the order assigned in the preceding lessons. The participant's practice regimen remained identical in both sessions (see Table 5). The student was preparing for a graded performance by an assessor from outside the university. The valence of this student's practice habits can be a factor that influenced the level of musical behavior. My observations agree with the findings of Nikitin and Freund (2019).

#### **Student Four**

The time spent using an electronic device for non-musical purposes decreased in session two from session one. Interruptions increased slightly. The participant's frustration reactions decreased; a minor decrease relative to the length of time of the first practice session. Pauses remained at zero indicating that, once focused, the student remained on task. In both practice sessions, the student complied with instruction and in the order the studio instructor had presented them in the lessons. The participant engaged in a consistent practice regimen. The slightly shortened time of practice session two had no impact on the time spent in practice. Frustration reactions remained consistent at low levels across sessions, which indicated that the participant was achieving the expected result. Pauses (see Table 5) in session one, as opposed to session two, were necessary: the participant's need to drink water resulted from a head cold and was also important to producing sound on the instrument. The student was preparing for a senior recital at the end of the semester. The valence of this student's practice habits may be a factor that influenced the level of musical behavior, as mentioned in research by Nikitin and Freund

(2019).

### **Student Five**

The student used an electronic device for musical purposes only. The student took a break in practice in session one by intentionally shaking and rubbing hands. I observed that the participant needed a break from the task. This manifested in the participant's shift in focus from the music stand to other items in the practice room such as the piano and personal belongings. The student's frustration reactions slightly increased in session two, which I attribute to the student's not producing the expected outcome. Pauses decreased in session two indicating that the student focused intently on the activity during this session. In both practice sessions, the participant complied with instruction. The student directed negative comments at himself, which supported the slightly higher frustration reaction rate I observed in session two (see Table 5).

### **Student Six**

The student used an electronic device for musical purposes only. Interruptions and frustration reaction decreased. There was a notable reduction in the amount of time for interruptions and frustration reactions. This student spent less time in practice session two than in session one. Time spent pausing increased despite the shortened session two. I attribute this to the distraction of necessary instrument repair. The student was more distracted in the second practice session, indicated by frequent switching between pieces of music and etudes. In both practice sessions, participant six performed all lesson activities presented by the instructor. During the second session, the participant

concentrated on practicing the weaker areas. The participant performed most, but not all, of the materials recently assigned by the instructor.

### **Student Seven**

A marked increase in electronic device usage for non-musical purposes occurred in practice session two due to the student's texting (which appeared from my observations to negatively impact the student's practice engagement). The amount of time spent using an electronic device in this manner was related to the amount of time that interruptions occurred during the same session. These interruptions were due to cell phone use; the student was responding to incoming texts. Interruptions increased during the second session: a visitor entered the practice room at the student's invitation (both parties were aware that an audio-video recording was taking place). The participant and visitor engaged in a conversation about an upcoming performance. The reduction in practice time during that session can be attributed to this interruption.

The participant's frustration reactions decreased in session two. Pauses remained proportionally the same in each session, indicating that, once on task, the student's focus remained identical in each session. In both practice sessions, the student complied with the studio instructor's instructions. In the second session, the student shifted focus to those issues that needed attention for the next week's lesson. The participant did not complete all the lesson assignments the instructor had presented in lesson two but followed most of the assigned instructions. The student also engaged in musical activities outside of the scope of lessons. The student practiced an unassigned piece, the piece on the upcoming performance discussed with the visitor. Overall, the student complied with

lesson activities assigned by the instructor in the most recent applied lesson (see Table 5).

### **Student Eight**

In the first practice session, the student sent text messages. Interruptions decreased in the second session and were proportional to the shortened length of that session. The time spent in musical activities in practice session one was greater than in session two. The incidence of non-musical behaviors was also greater in the second session, a notable increase because practice session two was shorter than practice session one. The student displayed no visible frustration reactions in either practice session.

Pauses decreased in session two indicating that the student was more focused on practicing during this session than the previous one. I observed the student's increased comfort level with being filmed; the participant paid less attention to the camera in the second session. Thus, the second audio-video recording is more representative of student eight's practice habits. In both self-regulated practice sessions, the participant complied with instruction. In the first session, the student addressed all the material presented by the studio instructor in the previous lesson. In the second practice session, the participant did not address all the material assigned in the preceding lesson. I attribute this lack of action to the shortened length of the second practice session (see Table 5).

### **Observations and Surveys**

I observed that students engaged in musical activities during self-regulated practice reflected the musical activities modeled in applied lessons. These activities followed the order presented in applied lessons. It is important to note that students were

more critical of their accomplishment of goals and progress in practice sessions than were their instructors of these same goals in lessons. I found the evidence that supports my assertion in the numerical scores attributed by all parties to the survey questions that examined the student and instructor satisfaction with student performance. Other evidence is offered by students' audible self-talk during practice. This self-talk contained as many negative as positive comments about the performance of tasks assigned in lessons. I observed that the participants' achievement of expected results, or lack thereof, in self-regulated practice was an individualized process. The non-musical activity took on the appearance of task avoidance. My observations align with the research of Nikitin and Freund (2019). The authors made similar observations concerning a student's engagement in activities that were found incompatible with achieving the goal but were compatible with the avoidance the performance of a specific task. Frustration, use of a cell phone or computer as distracters, and pauses were more frequent in the practice room than in a lesson. Students would engage in these activities following a visible frustration response.

I observed the students' response to their studio instructor s' critique about intonation, tone production, rhythmic accuracy, and phrasing. This critique did not appear to be taken personally (I made this assessment through my training in the observation and assessment of body language and verbal responses). I observed the discourse between instructor and student regarding what the student needed to do in both the lesson and in practice session to improve. Students and studio instructors did not need to achieve a complete and immediate refinement of a given goal. Both studio instructor and student

appeared satisfied with an understanding that practice of the assigned techniques and that the method needed to achieve a successful result was in place (long-term goal). This satisfaction was evidenced through facial expressions, tone of voice, body language, and the instructor's willingness to move to the next topic of instruction. Student and studio instructor comments indicated agreement and the student imitated the studio instructor's demonstration of the desired skill (short-term goal).

**Analysis.** In my analysis of the data collected within and across the five applied lesson studios, the instructors were consistent with the presentation of materials to students. The types of materials presented included scales, etudes, and repertoire; these were common elements that applied instructors presented in all lessons. Most of the lesson time was spent on these music-related activities. Although certain activities were not music-related, such as scheduling and instrument assembly, these activities still enabled the musical activities. In my review of the data collected in the student and instructor surveys, I considered the data both separately and collectively for each participant and each studio. Hoping to discover information about behavioral trends, I examined the data from the practice sessions collectively to reveal overarching trends in practice-room habits.

### **Student Surveys**

I conducted a survey at the conclusion of the second and last recorded practice session to accurately compare student and instructor responses (see Appendix A). Through their responses to the questions in the survey, the students revealed overarching similarities. In general, the students reported that they had accomplished all or some of



what had been hoped in the second practice session. My examination of the combined scores for this survey question yielded a bimodal distribution (see Appendix A and Table 6). These scores ranged from 1 to 5. In the following tables, the values I calculated are represented in a Likert scale.

Applied Studio Instructor Number	To what extent did you accomplish what you had hoped?	To what extent did you show improvement in performance from your earlier session?
Instructor 1 Student 1	2	3
Instructor 2 Student 2	3	4
Instructor 2 Student 3	1	1
Instructor 3 Student 4	2.50	1.50
Instructor 4 Student 5	2	2
Instructor 1 Student 6	2	3
Instructor 1 Student 7	3	1
Instructor 5 Student 8	3	2

Table 6. Score of Students' Responses to Survey Questions.

To what extent did you accomplish what you had hoped?	To what extent did you show improvement in performance from your earlier session?
Bimodal distribution 2 and 3	Bimodal distribution 2 and 3

Table 7. Mode of Scored Students' Responses to Survey Questions.

This type of distribution indicates scoring differences found in a heterogeneous sample. The heterogeneity of the sample is illustrated by the instrument families (woodwinds, strings, and brass) included in my study and the instrument each participant

plays within those families. The heterogeneity of the sample population and the data reported also reflect the students' varying expectations for a successful practice session. The presence of this bimodal distribution for this survey question reflects the unique demands each student's instrument poses in construction, quality, and playability. My findings call attention to these factors rather than to instruction.

When I examined the scores by studio, I found a single mode for each studio. This data indicates a normal distribution of scores within each studio and a consistency of instruction as evidenced by the consistency in student responses to the survey questions. This finding was representative of the overall participants' expectations for their self-regulated practice sessions. This normal distribution of scores was evidenced by the average response of "most" (4) to "some" (3) to the question of whether each participant had achieved what had been hoped in the practice session (see Table 6). This score is comparable to the median for this response (see Table 8). The student participants scored an average response of "some" to the question that examined whether they perceived improvement in their own performance since the first practice session. This score is comparable to the median for this response (see Table 8). The median offers a clear representation of the attainment of the students' expectations during practice sessions (see Tables 6 and 7).

To what extent you accomplish what you had hoped?	To what extent did you show improvement in performance from your earlier session?
2.25	2.20

Table 8. Median of Scored Students' Responses to Survey Questions.

**Student One**

During the first self-regulated practice, I observed that student one engaged primarily in musical activities. The greatest amount of time was spent in working on the lesson assignments, which included refinement of rhythm and dynamics. The student engaged in self-correction of these elements by using a metronome and playing long tones at different volumes. This student also sang and whistled the parts to improve intonation. The piano in the practice room was used to check notes for accuracy. The student, however, tended to not be as persistent in the correction of errors as was the instructor in applied lessons. It appeared (and sounded) as though the student accepted a lesser level of performance than the instructor sought. The student moved away from a problem area before it was fully resolved and tended to cycle through activities more rapidly than was demonstrated in the applied lesson.

The second practice session was observed two days after the lesson in which the student was suffering from an overuse injury. Due to the student's injury and instruction on how to recover from such an injury, I was surprised that the student contacted me to observe his practice session that day. During the second practice session, this student disregarded the studio instructor's recommendation concerning a shortened length of practice after an injury. The student practiced material from the first observed lesson for over an hour and engaged in frequent non-musical activities. The student watched cartoon videos, for example. The activities I observed were contrary to the studio instructor's instructions and modeling of alternatives (such as listening to recordings of other musicians playing the assigned music).

**Student Two**

In the first self-regulated practice, this student was as persistent in practice activities as the activities in applied lessons. The student tended to engage in self-correction of intonation, notes, dynamics, and phrasing (as related to breathing) despite numerous frustration reactions around making a mistake and not correcting the problem on the first attempt. In this session, the student's frustration reactions took the form of sighs and language: "no way" and "argh." The student paused for less than two seconds.

In the second practice session, the student was not as persistent in correcting these errors as on the first. Here the student also practiced material not assigned. During this activity, the student received a phone call and engaged in a brief conversation. In the conversation, the student played the non-lesson repertoire and asked for feedback from the listener on the phone.

**Student Three**

During this student's first self-regulated practice session, I observed that the student's engagement in self-correction and persistence at a task was greater than all other activities combined. This student followed the sequence of activities outlined by the instructor in lessons: the playing of scales, arpeggios, interval exercises, half-step exercises, etudes, working on a transcription, and repertoire. The student engaged in the manner of correction outlined by the instructor. No measurable outward signs or indications of a frustration reaction occurred during this session. The student calmly moved from one task to the next after making the needed corrections.

The student told me of the need to shorten the second practice session due to

scheduling difficulties that required him to leave the university early. This information was revealed just prior to my video recording. In this shortened practice session, the student followed the same routine as in the first practice session. These activities included recital repertoire, etudes, scales, arpeggios, correction of intonation, and the correction of wrong notes. In the second session, the student exhibited some visible frustration reactions, expressed non-verbally through body language, such as shrugging shoulders followed by pauses in which the student looked away from the task.

#### **Student Four**

In my observations of the first practice session, I saw that the student performed the activities in the order assigned in applied lessons, including scales and arpeggios. The student also worked with a metronome on an etude's rhythmic figures. In addition to the lesson material, the student was preparing for a senior recital. The student engaged in self-correction, only moving forward in the practice session once the error was fully corrected. The student also made notes on the music where errors occurred, which could explain the student's methodological adherence to the concepts taught in lessons.

In the second practice session, these same activities were conducted and in the same manner. The student persisted in correcting rhythm, intonation, and phrasing as instructed in lessons. There was one verbal display of frustration in which the student said "hmm." This occurred in response to efforts on the recital repertoire and after repeated unsuccessful attempts at correction. The student methodically slowed the metronome until the desired result was achieved.

**Student Five**

During the first and second self-regulated practice sessions, the activities reflected those presented in the previous applied lesson. These activities included chord voicing, repertoire, soloing, and the use of modes and scales. In the practice sessions, the primary focus was on repertoire. The student used play-along audio recordings as accompaniment. The student gave himself verbal feedback, which, in the form of “self-talk,” contained as much positive as negative verbalization. The student made statements such as, “That’s cool . . . I liked that” and “That worked well” in response to passages which did not need a correction. At times, the student made negative expressions, such as “Ahh,” in response to frustration with their performance.

The most negative statement the student expressed was in the second practice session: “I just have to learn to play a D minor 7th chord” (a basic chord taught to beginners). This statement was made in a sarcastic, hypercritical, and self-demeaning manner. I observed in both sessions that the student sang and played difficult passages as a means of correcting wrong notes and rhythms (due to the nature of the student’s instrument, intonation did not need correcting). I observed that the student persisted at the task until satisfied with its performance.

**Student Six**

In the first self-regulated practice session, I observed that this student closely followed the routine and order demonstrated by the instructor. The time spent on each activity in the practice session was proportional to the time spent on those activities in lessons. This student focused on lesson repertoire such as etudes and the technical aspects

of sound production. These technical aspects included intonation, dynamics, breathing exercises, and playing long tones. The student engaged in self-correction of notes and intonation by singing the notes and using the piano. Corrections of rhythmic figures were accomplished by using a metronome.

The student made verbal comments that showed frustration with the result of practicing a passage: “Oh my gosh” and “Hmpf.” Some positive comments about the passages were “That’s it . . . not like the other time.” The student made corrections to rhythmic figures by using a metronome. The student said, “Oh, that’s too fast” in response to errors. The student progressively slowed the metronome until the passage was performed successfully.

During the second practice session, the student followed the same routine as outlined by the instructor in the preceding lesson concerning repertoire, etudes, and the technical aspects of sound production. These technical aspects included intonation, dynamics, breathing exercises, and playing long tones. The difference I observed during this student’s second practice session was a display of task avoidance that followed a frustration reaction. Such was not the case in the first recorded practice session and occurred in the second practice session despite the reduced rate of frustration reactions. The student adjusted his instrument, blew air through its horn without playing notes, and rearranged the music on the stand. The student exclaimed, “Argh” and “This is hard” in response to frustration when not playing passages correctly. As in the first observation of practice, the student remained persistent at the given task, evidenced by consistently self-correcting errors in rhythm, intonation, and notes.

**Student Seven**

In the first practice session, student seven followed the routine demonstrated by the instructor in lessons. This student focused on the technical aspects of sound production on the instrument such as intonation, dynamics, and tone. The student corrected notes by singing them and by using the piano. Rhythmic errors were corrected by clapping and singing the rhythms. The student used a metronome while playing these same problem areas.

In the second practice session, the student engaged in the same activities as in the first session. Corrections were made in a comparable manner. This student was more distracted by outside factors such as text messaging and a visit from a fellow student at the end of the practice session. Both individuals were aware the session was recorded, which did not stop them from conversing about an off-campus performance.

**Student Eight**

In both of this student's two self-regulated practice sessions, I observed similar activities. The student's routine was consistent. My observations included greater focus than in applied lessons and a higher level of task persistence. Absent others in the room and increased new demands, the student was less likely to engage in those non-musical activities that constitute task avoidance.

In the self-regulated environment of the practice room the student engaged in a consistent routine that included activities presented in the previous lesson. I observed this routine to be true for both practice sessions. These musical activities included scales, long-tone exercises, phrasing, articulations, and the playing of repertoire.



In both practice sessions, the student persisted at tasks that required numerous self-corrections of intonation, notes, and articulations. The student slowed down the metronome and played the passage until the error was fully corrected and gradually increased the metronome speed until reaching performance tempo. In this manner, the student avoided the display of visible frustration reaction in both observed practiced sessions.

### Studio Instructor Survey

Applied Studio Instructor Number	To what extent did the student do what you wanted?	To what extent did the student accomplish what you had hoped?	Did the student show improvement in performance from the previous lesson?
Instructor 1 Student 1	1	1	1
Instructor 2 Student 2	1	1	1
Instructor 2 Student 3	1	1	1
Instructor 3 Student 4	2	2	2
Instructor 4 Student 5	1	1.50	1
Instructor 1 Student 6	1	1	1
Instructor 1 Student 7	1	1	1
Instructor 5 Student 8	2	2	No Response Given

Table 9. Score of Applied Studio Instructors' Responses to Survey Questions after Lesson One.

Applied Studio Instructor Number	To what extent did the student do what you wanted?	To what extent did the student accomplish what you had hoped?	Did the student show improvement in performance from the previous lesson?
Instructor 1 Student 1	1	1	3
Instructor 2 Student 2	1	1	2
Instructor 2 Student 3	1	1	1
Instructor 3 Student 4	2	1	1
Instructor 4 Student 5	2	2	2
Instructor 1 Student 6	1	1	1
Instructor 1 Student 7	1	1	1
Instructor 5 Student 8	2	2	3

Table 10. Score of Applied Studio Instructors' Responses to Survey Questions after Lesson Two.

Applied Studio Instructor Number	To what extent did the student do what you wanted?	To what extent did the student accomplish what you had hoped?	Did the student show improvement in performance from the previous lesson?
Instructor 1	1	1	1
Instructor 2	1	1	1
Instructor 3	2	2	2
Instructor 4	1	1.50	1
Instructor 5	2	2	No Response Given

Table 11. Average Score of Studio of Instructors' Responses to Survey Questions After Lesson One

Applied Studio Instructor Number	To what extent did the student do what you wanted?	To what extent did the student accomplish what you had hoped?	Did the student show improvement in performance from the previous lesson?
Instructor 1	1	1	1.67
Instructor 2	1	1	1.75
Instructor 3	2	1.50	1.50
Instructor 4	1.50	1.75	1.50
Instructor 5	2	2	3

Table 12. Average Score by Studio of Instructors' Responses to Survey Questions After Lessons One and Two.

Applied Studio Instructor Number	To what extent did the student do what you wanted?	To what extent did the student accomplish what you had hoped?	Did the student show improvement in performance from the previous lesson?
Instructor 1	1	1	1
Instructor 2	1	1	1.50
Instructor 3	2	1	1
Instructor 4	2	2	2
Instructor 5	2	2	3

Table 13. Average Score by Studio of Instructors' Responses to Survey Questions After Lesson Two.

My examination of the data collected in the five applied studios revealed overarching similarities in the instructors' responses to the three survey questions. These similarities occurred even though they were five different faculty members and the presence of heterogeneous instrument families in three of the five studios (woodwind,

string, and brass). All five instructors reported that the students had complied with instruction. Applied instructors across studios provided the same overall scores when asked about student accomplishments. It is important to note that the instructor’s satisfaction with student performance in the applied lesson was higher than the student’s satisfaction in practicing. This instructor satisfaction was also true for the question that asked about the accomplishment of goals during lessons versus practice.

Instructors results were mixed concerning the students’ improvement from their previous lesson. A closer examination of this data reveals the instructors’ recognition of student progress (see Table 10). This mode is a more accurate representation of student progress than the median across studios. The mode accurately accounts for individual differences in teaching and learning style across studios, as well as for specific instrument-dependent needs. A bimodal distribution was noted when instructor responses were calculated for individual students in a lesson and across a student’s lessons (see Table 14).

Session Number	To what extent did the student do what you wanted?	To what extent did the student accomplish what you had hoped?	Did the student show improvement in performance from the previous lesson?
1	Bimodal distribution 1 and 2	Bimodal distribution 1 and 2	1
2	Bimodal distribution 1 and 2	Bimodal distribution 1 and 2	Bimodal distribution 1 and 2
Sessions 1 and 2 Combined	Bimodal distribution 1 and 2	Bimodal distribution 1 and 2	Bimodal distribution 1 and 2

Table 14. Mode of Scored Instructors’ Responses to Survey Questions.

I found a bimodal distribution when all five instructors' responses were compared both as within each studio and across studios. The only exception to the presence of a bimodal distribution was the response to the first survey question, the one that addressed student progress after lesson one. I posit that this difference indicates individual differences in teaching and learning styles across studios.

### **Summary**

Data obtained from observation of the audio-video recordings of practice sessions were also placed into one of two main categories, musical or non-musical behaviors. I further analyzed this data by placing it into five sub-categories (see Appendix B). Musical behaviors during practice sessions are defined as actions associated with achieving the long-term goal of instrument proficiency. I placed musical behaviors exhibited during self-regulated practice into one of three categories: the use of an electronic device, playing time, and instrument assembly (see Appendix B).

Behaviors in the use of an electronic device category included any mechanical or digital device with electronic components and used to enhance learning. These included a phone with a metronome and tuner apps, a computer, a free-standing tuner, or a free-standing metronome. Such use includes accompaniment and listening to performances of professional artists. Playing time was defined as the time spent in instrumental sound production by either the instructor or student. Instrument assembly was time dedicated to packing and unpacking the instrument and associated materials, as well as assembly and tuning.

I observed during self-regulated practice that students engaged primarily in activities demonstrated by their instructor in applied lessons. Persistence at a given task and self-direction was common in varying degrees to all students during self-regulated practice. Distractions, such as the intentional use of a cell phone and computer, and pauses were more frequent in the practice room than in lessons. Students engaged in musical activities during practice reflected those activities modeled in lessons.

I observed that the amount of playing time during the lessons remained in proportion to the lessons' duration. Although at a low rate when compared with musical behaviors, non-musical activities occurred at a varying rate across the five studios. I propose that the disparity in the average frequency of musical and non-musical behavior relied on two factors. The first factor concerns the nature of the instruments, some of which need more frequent adjustment than others due to the materials, overall construction, and environmental effects. The second factor affecting non-musical behaviors was interruptions, which also varied among the studios. The presence of non-musical behaviors, however, did not impact instruction.

I calculated the median and mode for musical and non-musical behavior. The presence of a mode offered evidence of consistency of instruction across the studios. The lack of a mode for the time spent in lessons revealed disparities in the amount of time the average instructor spent teaching lessons. The median is a more correct representation of the consistency of time spent in instruction across and within studios. Despite the previously mentioned accommodations regarding the overall instructional time, the medians I obtained for musical behavior and non-musical behavior during lessons

support my assertion that the preponderance of lesson time was spent in musical activities. I found this phenomenon consistently within and among studios.

I calculated the data for applied lessons to obtain modes for the time spent in musical behavior during lessons. The bimodal distribution yielded in my data analysis is evidence of differing teaching techniques that may depend on the instrument or on the student. I attribute the lack of a mode for instruction to the slight variability in the time spent in this activity among and within the five applied studios.

The length of time a student spent in an activity in a practice room session was proportionate to the length of time spent in that activity in the preceding lesson. As in lessons, most of the time was spent in the performance of musical activities. I found this use of time to be true for individual participants, within a studio, and across applied lesson studios.

**Student versus instructor responses.** The student survey questions, asked at the end of the second practice session, were designed to accurately compare student and instructor responses. The applied instructors responded to three questions at the end of each applied lesson. I asked the eight students two questions after the second practice session (see Appendix A). Students reported that they had accomplished all or some of what had been hoped. My examination of the combined scores for this survey question yielded a bimodal distribution. I found a single mode for each studio. The information I collected is indicative of a normal distribution of scores within each studio and a consistency of instruction as evidenced by the consistency in student responses to the survey questions. The median also offers a clear representation of the attainment of the

students' expectations during practice sessions.

The predominance of the time spent in lessons was concentrated on music-related activities. My examination of the data collected in the five applied studios revealed that instructors reported that students had complied with instruction. Applied lesson instructors provided the same overall assessment when asked about student accomplishments. Instructors reported mixed results regarding the students' improvement from their previous lesson. The instructor's satisfaction with student performance in the lesson was higher than that of the student in practice. A bimodal distribution was noted when instructor responses were calculated for individual students in a lesson and across a given student's two lessons. The only exception to the presence of a bimodal distribution found here was the response to the first survey question, the one that addressed student progress after lesson one. The higher rate of student versus instructor satisfaction that I found contradicted reports on the topic in the research literature. I will discuss this finding in the following chapter.



## **Chapter 5: Conclusions**

The conclusions presented in this chapter are based on the data collected from applied lessons and self-regulated practice sessions. Audio-video recordings offered a clear picture of student activities and those of each instructor. In this context, I discuss the motivators and sustainers of student behavior. I also explore student-versus-studio instructor satisfaction with the student's efforts, implications for the field of education, and potential future research based on this information.

### **Data Analysis**

I used the measures of central tendency, the mean, median, and mode, to analyze data collected from viewing the audio-video recordings of the students' practice sessions and applied lessons. I analyzed the data both by individual student and by studio. Musical and non-musical behavior often overlapped. For example, an electronic device used by the student while playing or frustration reactions, combined with the rounding up of the fractions of a second, accounts for slight discrepancies (measurable in seconds) among the statistics. Despite such statistical discrepancies, I observed that across studios the general goal of instruction was to improve student performance and obtain a long-term goal of increased proficiency.

### **Student Activity in Self-Regulated Practice**

Concerning the perceived or reported motivators, informers, and sustainers of a behavior, I observed that the students' motivation to persist in a practice habit reflected the instructors' instruction in diagnostic skills and the focus on and persistence in

correcting that habit during lessons. My observations are consistent with Sariti (2004), who found it beneficial to students for studio instructors to assist with the development of diagnostic skills. This concerns a student's motivation concerning the development of practice goals. I observed that in both settings that motivation was unaffected by the presence of the video camera in both lessons and practice rooms. In both situations, the students adhered to the routine their instructors had established. This information supports the findings of Bandura et al. (1961). I also observed that, as in instruction, students spent the most time in practicing their instrument during practice sessions. Zimmerman (2008) found that two factors, motivation to engage in an activity and an accurate self-assessment, are positively correlated. Zimmerman observed that these factors had a direct effect on a student's practice habits and goal setting. As stated earlier, students followed the same routine in practice modeled by their instructors in lessons. As shown by the research of Kostka (2002), students develop goals in self-regulated practice that are supported by those practice habits acquired in lessons and that helped achieve their long-term goals. I noted, however, that students were more likely to display frustration reactions and engage in other non-musical behaviors while practicing than in applied lessons.

Concerning self-regulated practice, I found data that students engaged in proportionally the same amount of musical and non-musical activities as modeled by their instructors in lessons. The amount of time spent on musical and non-musical activities remained proportionally consistent with the duration of the lesson times. Non-musical behavior increased slightly in lesson two. I attribute that increase to everyone's

greater comfort with the presence of the video recording device. This decay in the effect of the presence of a recording device over time is supported by Taylor's (2013) findings concerning the interaction between data collection and instruction.

In my examination of the questionnaire scores, I found that students' perceptions of their performance competency versus that of their studio instructors yielded incongruent results. Through the modeling of activities, instructors provided the motivation for students to pursue goals in practicing. I did observe, in agreement with Chaffin and Imreh (2001), both deliberate practice and the altering of some lesson goals on the students' part.

Students' engagement in some practice room habits did not support the achievement of the goals set in lessons. The scores assigned by instructors and students on the questionnaire that examined this topic, however, yielded results indicating that instructors rated students' performance higher than did students. As did Varela et al. (2016), I observed that a lower rate of satisfaction exists about performance among students as compared with the assessment of their instructors. This lower rate of satisfaction and the self-talk by some students may speak to the student's perception of the difficulty of the task. I shall comment on the comparison between student-versus-studio instructor satisfaction with student progress in the next section.

The students have a potentially limited amount of time to practice the assignments. This is a function of the narrow time limit (1'30") that the participating university allows students to remain in a practice room for one session, due to the demand for practice rooms. Students usually sit in the hallway waiting for a practice

room to become available. In this context, one must consider the effect of being recorded in practice and lessons might have on observed behavior. That is, behavior might be impacted because of uncontrolled environmental factors such as observation (Taylor, 2013). During observed activities, the possibility exists that students might have attempted to present “ideal” lesson and practice behavior relative to goal setting, practice habits, and self-assessment.

The consistency of the students’ behavior in both lessons and during two practice sessions showed that focused, on-task behavior had become routinized. This routine cancelled out behavior in the practice session that might have been affected by the presence of the camera or participation in the study.

### **Instructor Activity**

In my examination of applied lessons, I found that the overarching data across participants and among studios indicated that non-musical behaviors, although infrequent, increased proportionally to the amount of time spent in an applied lesson. The incidence of musical behavior, however, remains high during instruction. This phenomenon occurred despite the general increase in non-musical behavior in lesson two. These components of musical behavior included scales, etudes, repertoire, and sight reading. Other musical elements such as intonation, tone, phrasing, and articulation were also included in instruction. The immediate short-term needs of the student determined the studio instructors’ focus on these basic components. Mentoring was geared toward the long-term goal of improving the students’ performance abilities. The instructors’ modeling of the behavior during applied lessons appeared to influence students’ habits

and use of time during self-regulated practice. This finding is supported by that of Hamm and Frost (2000) and (Kostka, 2002) in that a student's perception of the value placed upon instructional activities contributed to the value students attribute to those activities that became practice habits and to their view of their performance competencies.

The studio instructors used instruction and mentoring to support instrumental playing. These instructor activities, directly applicable to the participants' playing, kept the frequency of non-musical behaviors low. One instructor extended an applied lesson to make up for an earlier shortened lesson (I do not know whether this practice applied to other studios). Like Kostka (2002), I did not observe that instructors formally discussed practice routines with students. The instructors modeled these, and the effect of such modeling was evidenced by the repetition of these behaviors in the practice room. I observed that the modeling of musical elements sustains a student's practice habits. This was reported in Hewitt's research (2001). All five instructors modeled the techniques to be practiced.

**Modeling in instruction.** The importance of instructor modeling as posited by Millican and Forrester (2018) is highlighted here [?]. The work of Dolan et al. (2013) supports my assertion that the instructor, by focusing on certain activities, implies value. During self-regulated practice, the participants complied with the instructors' modeling in the previous lesson. This behavior occurred despite the students' varying lengths of practice session time. During applied lessons, the instructors modeled fingerings, offered critique, and gave encouragement. As Bandura (1986) noted, the instructors' modeling and the value placed upon activities influenced the students' motivation to practice that

behavior. This influence on student behavior is evidenced by the shared values around practice room activities I observed between instructor and student.

These shared values of lesson activities may inform my observation of greater studio instructors' satisfaction with student ability. The altered means by which students work to achieve these shared values may inform student dissatisfaction with their progress. As Bindra (1959) wrote, repeated exposure to an activity is necessary for the development of goal-directed behavior. The behavior becomes goal-directed through the reinforcement of habits that increase the probability the behavior will recur.

Instructors were typically pleased with student progress between the first and second lesson. The evidence of instructor satisfaction with the progress of the student's performance lies in the rating assigned to the first item on the questionnaire. Instructors assigned a higher rating to students' performance abilities than did the students themselves. Such was also the case for the second survey question, one that addressed the achievement of instructional goals. This assessment by the instructor did not align with the students' self-assessment of performance competency and achievement of goals in the practice room.

### **Summary**

In my study I applied Bandura's (1986) social-cognitive theory to the investigation of instrumental students' practice habits. Bandura wrote that students are active participants in the acquisition of knowledge and skill. According to this theory, students make choices and contribute to their own motivation. Individuals' actions are due to cognitive, affective, personal, and environmental factors. I discovered information

that offered fresh insight into how learning occurs through a new exploration of the factors that govern self-regulation. I also began to uncover influences that sustain practice habits.

In this study, my goal was to gain a greater understanding of undergraduate instrumental music majors' motivation for self-regulated practice and to determine the value they place upon their instructors' expert advice. I hoped to reveal whether a relationship existed between the participants' practice habits and their self-assessments of their performance competency. I focused on those habits employed while participants practiced in the university music building's practice rooms.

**Self-Regulation.** Zimmerman and Kitsantas (2014) stated that self-regulation affects learning and is a predictor of student achievement. I observed, but did not measure, student achievement in applied lessons and self-regulated practice. The learning processes and self-regulation is evolutionary. Bandura et al. (1961) stated that the modeling of a desired behavior by an instructor contributes to a student's selection of goals in practice and to their musical achievement. These factors also affect the self-assessment of abilities, which directly impacts performance quality. I found this to be the case during my observations of the participants' practice sessions. In the practice room, students chose to focus on certain activities that supported, and others that did not support, their lesson activities. I observed that all students, at times, accepted a level of achievement in the practice room below the level expected from the instructor.

**Persistence.** Students tended not to persist in the pursuit of a goal in practice as much as their instructors had modeled during lessons. The instructors' focus in lessons

informed the students' motivation, value attributed to behavior, and choices concerning behavior. The students' focus on those activities was commensurate with the focus of their instructors on the same activities in lessons. What differed in the practice room were the students' persistence level and the level of performance the student accepted as improvement. On the survey administered at the end of the second practice session, students gave themselves scores that represented a lesser level of accomplishment of goals and progress than their instructors had indicated. Evidence of this finding is offered by the scores of all parties on the questionnaire that examined this factor (see Appendix A). Other evidence is shown by students' audible self-talk that contained as many negative as positive comments about performance on tasks assigned in lessons. It appeared that willingness to correct playing errors varied among the students.

Correction of errors is critical to the improvement of future performance (Miksza, 2007). I saw that the participants' frustration reactions and pauses were elevated in the practice room when compared with applied lessons. This information may be gleaned by the students' responses on the first survey question (see Appendix A) that they had not achieved all the goals or made all the progress they had intended in a practice session. I observed, as found by Zimmerman (2008), that motivated students demonstrated the most persistence at tasks outlined in lessons. Student self-assessment is evidenced for accuracy by its alignment with the assessment of their instructor.

**Student Behavior.** Concerning non-musical behavior, I attribute the increase in pauses in the practice sessions, as opposed to applied lessons, to the students' frustration reactions. I ascribed the lower level of pauses and frustration reactions in applied lessons



to the instructors' encouragement and reduction of a task into smaller, achievable components. In the practice environment, students tended to address the entire task rather than break it down into its components to address those that posed the most difficulty. Instructors modeled this activity in lessons but did not formally teach it.

Students self-teach and therefore develop practice habits that support a valued goal. Students then engage in self-assessment of their efforts. In the present study students displayed varying abilities to self-teach and self-assess. My observations lead me to agree with Baars et al. (2018) that the introduction of self-explaining in problem-solving tasks would improve the student's ability to learn additional information, increase problem-solving ability, and improve the ability self-regulate through the choice of effective behaviors.

The introduction of training in self-explaining and problem solving into the applied lesson curriculum will help with what Ramdass and Zimmerman (2011) have called the evolutionary process of self-regulation and with the estimation of one's own skill. This evolutionary process also includes the development of self-regulation concerning the ability of students to set goals effectively, engage in self-reflection, and manage their time. This information might assist in establishing a congruence between the studio instructors' and students' perception of the students' musical skill. As noted in the research of Kostka (2002), instructors in my study did not teach students how to accurately assess themselves or offer instruction in the techniques required to teach themselves when practicing. Such an action on the instructors' part would facilitate student success and would lower frustration reactions through the development of

achievable goals. This is important because of its influence on student attitudes toward and value placed on practicing, learning, the development of practice habits, and the persistence in an activity.

The possibility exists that, during self-regulated practice, non-musical activities provided a break from frustrations. In general, it did not appear to be the case that such activity was excessive or reflected a generationally based lower attention span. The students' non-musical activities were facilitated by an easy access to distracters. These distracters are available on the same devices used to enhance learning in the practice room. Through both non-musical activities and practice room goal setting, I observed, as did Renwick and McPherson (2002), that students exerted control over the environment through the choice of activities.

**Value and expectancy.** Through my observations of practice sessions, I discovered that students were motivated to spend more time on activities that carried a greater expectancy of success in short and long-term goals (Lehmann et al., 2007; Dolan et al., 2013). Evidence that supports this statement was my observation of the students' willingness, in the practice room, to persistently engage in the activities presented in lessons. Analysis of the data gathered in the practice sessions revealed that students three and four demonstrated more self-correction than the other students. Self-correction was present in the activities of all students to varying degrees. It is no coincidence that this level of musical behavior was observed in the practice sessions of those two students whose lessons included preparation for upcoming senior recitals. The elevated level of musical behavior supports the findings of Nikitin and Freund (2019) that the valence

associated with a situation determined an individual's responsiveness to others and motivation to engage in an activity. Evidenced by the much greater amount of musical versus non-musical behavior of students in both lessons and practice, I observed, as did Eccles and Wigfield (2002), that the value placed on an activity reflects the expectancy of success and influences self-regulation and the individual's willingness to persist. The motivation to pursue goals originated in the value attributed to them by their instructors in applied lessons. The students in my study were more likely to engage in pleasurable activities than in non-pleasurable ones. Attainment of future goals motivates students to engage in an activity and give it value.

The motivation to engage in an activity might also include extrinsic factors such as parents and instructors. The value placed upon the activity by the instructor contributes motivation to engage in the behavior and contributes to the value placed on the activity by the student (De Bezenac & Swindells, 2009). The data I have presented in Chapter 4 is supported by the work of Bandura (1986). Just as Bandura did, I observed that the external motivation to engage in an activity is proportional to the value attributed to that activity. Practice goals set by the student, internalized (intrinsic) or external in origin (extrinsic), are based on the value the instructor attributed to them and impacts the students' expectancy of success.

Contrary to much previous research, students in this study were less satisfied with their level of performance competency than other research subjects. This dissatisfaction occurred despite the alignment of practice habits with the activities modeled by the instructor. The alignment of goals, however, informed the instructors'

satisfaction with the students' improvement in performance. This finding was contrary to previous research that found students' assessment of their competency higher than that of their instructors (Varela et al, 2016).

### **Implications for the Field and Future Research**

In the current study, I observed, as did Eccles and Wigfield (2002), that the expectation of one's success on a task influences the values, incentives, or reasons for engaging in that activity. Individuals are more likely to engage in activities in which there is an expectation and achievement of success. Lack of success, or not achieving an amount of success proportional to the effort expended mitigates the value that an individual places on an activity and the persistence in that activity.

Based on my observations concerning the students' persistence, I was able to gain insight into the value placed on that activity. I observed that students persisted at a task in which success was achieved. Persistence at a task is a learned skill that develops over time and necessary in the setting and achievement of goals. These observations agree with those of Eccles and Wigfield (YEAR) in that the ability to self-regulate activities is a learned skill. The findings are also consistent with the position of Rajabi (2012), who stated that students need to be able to exercise the skill of self-regulation.

**Instruction.** I saw that all studio instructors accommodated the various learning styles of the participants. This accommodation was evidenced by the multi-sensory way (visual, auditory, and tactile) that the studio instructors presented the materials and instruction. I observed that each instructor addressed each student as in individual in this regard, tailoring the lesson to meet most efficiently that student's needs. Future research

might examine longitudinally individual student differences in learning styles (visual, auditory, and tactile) to determine their impact on skill attainment and the time necessary to attain proficiency. In this regard, such research may contribute to the body of knowledge regarding formulation of goals that are attainable—goals shared by student and instructor—and effective teaching techniques based on the needs of the individual student.

**Goal Setting.** Not previously explored in the literature was the difference in opinion between students and instructors concerning goals of instruction as reflected in self-regulated practice. The value students attribute to an activity leads to the development of practice habits in the self-regulated environment of the practice room. Such habits support values and goals not shared by the instructor and might impede accurate self-assessment and the achievement of common goals such as performance proficiency and lead to a discrepancy concerning assessment of performance competency. I recommend that these factors be explored in future research to obtain more information on the topic. The goal of this future research may reveal whether accurate self-assessment and the establishment of common goals is evolutionary. The revelation of the nature of this process may help to reveal information concerning what supports the level of the discrepancy between instructor and student concerning performance competency.

Another factor not considered in earlier research on my topic was the fact that added distractions are now available to the college generation. These distractions include social media, advertisements, phone calls, text messages, and readily accessible

entertainment. Such distracters are available on the same devices that enhance learning: cell phones, tablets, and computers. I observed that these distracters appeared in practice sessions that lasted over 30 minutes. The presence of distracters in practice may be a promising topic for future research especially concerning a student's use of electronic devices in self-regulated time, choice of goals, and the activities chosen to support those goals. The dual purpose of electronic devices is both an advantage and a disadvantage in the practice room.

Instructors may need to be more sensitive to student goals and explore with students the value placed on practice-room habits that nurture and support commonly valued goals. Studio instructors need to make clear statements about the value of an activity, despite that activity's difficulty. Such action might help ensure that a common set of values is established in lessons. The establishment of such a set of values increases the probability that the student will engage in similar habits in the practice room and can positively affect students' habituated activities and their ability accurately to self-assess their performance.

**Self-regulation.** The fully developed skill of self-regulation is necessary to achieve performance proficiency. To help their students acquire performance skills, it may be helpful for instructors to model the desired activities (Chen et al., 2014). The instructor also needs to determine the level of students' interest in the required activities because this assessment will determine their engagement while practicing (Parkes & Jones, 2012). There remains a need for clear demonstration of the desired skill level and a robust discussion with students as to how to reach this level. Instruction in strategies such

as error identification, error correction, and concentration have been found in other research to have the greatest effect on students' practice. These activities become the practice habits that affect short-term goal development and the long-term goal of performance proficiency.

**Student self-assessment versus that of the instructor.** Studio instructors might wish to consider including instruction about self-evaluation and task analysis. Such action on the part of the instructor may call attention to deficits and lead to a more accurate self-analysis and improvement in overall student performance. I found that students, when motivated to engage in accurate self-regulation, found practice habits that produced results more congruent with the instructors' assessment, as evidenced by the responses to the survey by students two and three. As supported by the work of Zimmerman and Kitsantas (2014), I posit that the ability to accurately self-assess can lead to the improvement desired by both the student and instructor and be based on fact rather than perception. Accurate self-assessment was reported by Kostka (2002) to facilitate student skill improvement.

A disparity in opinion between students and instructors occurred, however, concerning performance ability. The alleviation of this disparity may be accomplished by facilitating the self-regulation necessary to develop practice habits that positively affect musical proficiency (Leon-Guerrero, 2008). In my study, students were more critical of their performance than were their instructors. This is contrary to the research literature on the topic in which students typically overestimated their abilities or were satisfied with lesser achievement than their instructors. One

explanation for this observation on my part is the Hawthorne effect in which students, making greater efforts while observed, had set unachievable goals in practice to please the observer.

**Motivation.** Motivation plays a key role in all human activity (Bandura, 1986). A person attributes value to activities that inform and sustain the motivation to act. I observed that motivation also was informed by modeling of goal-directed activities (habits) during practice (Smith, 2011). Students' motivation informed the selection of practice habits and sustained self-regulated behavior. The selection of practice habits supported the goals that the student wished to achieve. This highlights the importance of the formulation of common goals between the studio instructor and student as it impacts student success. I recommend that in a preliminary lesson, studio instructors discuss with prospective students their goals of instruction prior to being accepted into a lesson studio. The studio instructor and student can then determine together the probability of the establishment of common goals.

**Final Thoughts.** The overarching goal of my study was to offer further insight into human behavior in the environment of learning to play an instrument. Replication of my study is not intended. My intention was to add to the base of knowledge concerning motivation and value of activities. The university's set time limits on practice rooms and the Hawthorne effect, which causes students to work harder under observation, may be factors that influenced participant behavior in my observations and could be a consideration for a topic of future research. What I observed may also be the result of long-standing trends and tendencies in self-regulated behavior specific to the participant



and styles of instruction they had experienced over their academic careers. This may speak to the adequacies or inadequacies of previous instructors.

To assist students' learning, instructors may further develop how they train students to practice. Instructors may include instruction in accurate self-assessment and the ability to deconstruct large or difficult goals into smaller attainable goals. One cannot dismiss the value of the establishment of common goals among instructors and students. The value of common goals was most poignantly demonstrated in the data reported for student number three and student number four (see table 1). These students were preparing for recitals. The alignment of these students' self-assessments was closest to that of their applied studio instructors.

Instructors can assist students in the learning process through greater transparency concerning expectations concerning practice habits. Another way an instructor may facilitate learning is through a greater awareness of student goals concerning applied lessons. This information may be accessed by the instructor asking the student questions concerning why they are taking lessons and what they hope to achieve. The instructor and student can then construct common goals and determine the actions necessary to achieve those goals. These actions that support the commonly valued goals can then be performed by the student in the self-regulated environment of the practice room. When necessary, students may be advised to engage in specific activities and log the involvement of those activities.

I was able to discover that students rated their improvement in their performance lower than the assessment of their instructor. My discovery is contrary to the findings of

previous authors such as Barry and McArthur (1994), Kostka (2002), Duke et al. (2009), and Hewitt (2011). Future research could focus on fewer students in a longitudinal manner, observed in more frequent practice sessions utilizing more in-depth protocols to access cognitive and emotional processes concerning self-regulated practices. One may wish to consider restricting variables having to do with gender, age, educational level, and musical instrument family. In doing so, one enters the medical-psychological realm of neurology. This may require the use of psychometric assessments, thereby [?] losing sight of the self-agency of social cognitive theory. The behavioral approach of social cognitive theory appears better suited to educational research.

The chances of replicability of an observational study are also extremely low. This is due to the evolutionary nature of the valence in which the sample population operates such as transience of instructors, social factors, and environmental factors. While observational, in my study I have gathered information that led to further insight concerning core concepts of human behavior as related to the setting and achievement of goals. These concepts of the motivation and value that students and studio instructors attribute to educational activities can be explored further to build upon the information in the literature that I and others have presented. My hope is that my contribution to the identification of the motivation and the value students attribute to an activity will benefit the achievement of students' educational goals. It is also my hope that my work may contribute to and lead to a more thoughtful process concerning the development and application of teaching techniques based on the understanding of the needs and desires of the individual and lead to future research on the topic.

**Appendix A**

## Questions

I conducted brief surveys with the participating instructor after each of the recorded lessons and with the participating student after the last recorded practice session.

## Questions for instructors:

On a scale of 1 to 5 in which 1 = all, 2 = most, 3 = some, 4 = little, 5 = none.

1. To what extent did the student do what you wanted?
2. To what extent did the student accomplish what you had hoped?
3. Did the student show improvement in performance from the previous lesson?

## Questions for students:

On a scale of 1 to 5 in which 1 = all, 2 = most, 3 = some, 4 = little, 5 = none.

1. To what extent did you accomplish what you hoped to accomplish?
2. To what extent did you show improvement in performance from your earlier session?

## Appendix B

### Definitions

Musical Behavior	
Devices	The use of a phone, computer, free-standing metronome for the purpose of instruction. This use of a device includes musical accompaniment, examples of professional artists playing, and scheduling.
Playing time	Overall time in sound production related to assignments and repertoire; either warming up, playing, tapping rhythms, singing, or whistling, technique, articulation, dynamics, the correction of wrong notes, rhythms, articulation use of piano to check intonation, rhythm, map out solo with harmonic structure.
Instrument assembly	Observed time dedicated to the packing and unpacking of materials including the assembly and tuning of the instrument.
Mentoring	Discussion of workload at school, workload outside school, health, recovery from injury, recital planning, audition requirements, music business.
Instruction	Explanation of concepts, exercises, feedback from teacher, encouragement of student by teacher, questions asked by student and instructor, agreement between student and instructor, Discussion of historical aspects of playing, technique.

Non- Musical Behavior	
Devices (non-musical/ lesson purpose)	Video, text, phone, computer for non-musical purposes.
Interruptions	Experimenter presence, other people entering the room, non-musical conversation.
Frustration reactions	Sighs, cursing, non-verbal or verbal utterance often followed by student pause in practicing.
Scheduling of lessons	Arrangement of times and days for lesson for next lesson.
Pauses	Pause in playing not related to practiced or instruction. Unfocused playing of outside material (noodling).

**Appendix C**

## E-mail to Prospective Participants

Greetings,

You are invited to participate in a study that examines practice habits of instrumental music students. The goal of this study is to improve instruction and practice activities. This study will take place during the fall semester of 2018 on campus and will require no extra time commitment. Participants will be compensated with a total stipend of \$25.00, paid in a Visa gift card at the end of the semester. Participation is voluntary. To participate, one must sign an agreement to answer three brief questions and the video and audio taping of all two lessons and two practice sessions. All identities and records are confidential. I look forward to talking with you and answering any questions you may have about this exciting study.

Best Regards,

Philip M. Ravita, MA, MM

Doctoral Candidate

Boston University

## Appendix D

Recruitment Poster

***Attention Instrumental music majors******Free \$25.00 Visa Gift Card!***

You are invited to participate in a study that examines practice habits of instrumental music students.

This study will take place during the fall semester of 2018 on campus and ***will require no extra time commitment beyond two of your regular lessons and two of your regular practice sessions.***

Participants will be compensated ***with a total stipend of \$25.00, paid in a Visa gift card at the end of the semester.***

I will provide additional information at convocation.

For more information call or text Phil Ravita at  
410.215.XXXX

## Appendix E

Consent Form Provided by Boston University's IRB

Protocol Title: Observations of the Practice Habits of University Instrumental Music Majors
Principal Investigator: Philip M. Ravita, MA, MM
Description of Subject Population: Undergraduate instrumental music students enrolled in applied lessons
Version Date: 6/28/2018

### Introduction

Please read this form carefully. The purpose of this form is to provide you with important information about taking part in a research study. If any of the statements or words in this form are unclear, please let us know. We would be happy to answer any questions.

If you have any questions about the research or any portion of this form, please ask us. Taking part in this research study is up to you. If you decide to take part in this research study, we will ask you to sign this form. We will give you a copy of the signed form.

The person in charge of this study (principle investigator) is **Philip M. Ravita, MA, MM**. Mr. Ravita is a student researcher at Boston University and can be reached at PXXXXRXX@XXXXXXX. We will refer to this person as the “researcher” throughout this form. The faculty advisor at Boston University for the study is Dr. B. Roesler. Dr. Roesler may be reached at roeslerr@byui.edu

### Why is this study being done?

The purpose of this study is to reveal undergraduate instrumental music major's motivation for practice room activities and the value placed upon the instructors' expert pedagogical advice. I also seek to reveal if any relationship exists between the selection of practice habits and the participants' self-assessment of their performance versus the instructors' assessment of performance competencies.

We are asking you to take part in this study because you are an instructor of or are an undergraduate instrumental music major in applied lesson. Up to 10 students and their

instructors will take part in this research study at Boston University.

### **How long will I take part in this research study?**

We expect that you will be in this research study for a total of up to five hours as a student participant. The instructor's commitment will vary, depending on the number of their students taking part in the study, but will not exceed 6 hours. During this time, we will ask you to allow us to record (video and audio) two of your regularly scheduled lessons and two practice sessions. We also ask that you to complete a brief questionnaire with the researcher at the end of the study. All information gathered during the course of the study will be kept confidential.

### **What will happen if I take part in this research study?**

The length and duration of visits will be one hour and be during two of your regularly scheduled lessons and practice times. You will be asked to follow your normal routine in these activities and *answer two to three brief questions*. No special procedures will be requested of this study for which you have been randomly selected from a pool of volunteers. Participation in the study is and will remain voluntary. If need to withdraw from the study due to illness, family emergency, withdrawal from lessons/university contact the researchers. All data will be kept until the study is completed and destroyed at the completion of the study. If you agree to take part in this study, we will ask you to sign the consent form before we do any study procedures.

### **Study Visits**

Each study visit will take approximately one hour to complete. These visits will occur during your regularly scheduled lessons and practice times. At this visit, we will ask you to follow your normal procedures for those activities

### **Audio/Videotaping**

We would like to audio/videotape lessons and practice sessions during this study. If you are audio/videotaped it will be possible to identify you in the video. We will store these tapes in a locked cabinet and only approved study staff will be able to see the tapes. We will label these tapes with a code instead of your name. The key to the code connects your name to your videotape. The researcher will keep the key to the code in a password-protected computer/locked file. All audio and video will be kept until the end of the study and will be destroyed at the end of the study

Do you agree to let us audio/videotape you during this study?

\_\_\_\_\_YES

\_\_\_\_\_NO

\_\_\_\_\_INITIALS



### **How Will You Keep My Study Records Confidential?**

We will keep the records of this study confidential by removing all identifiable information. The researcher will be the only one who will have access to any video, audio or questionnaire data collected. Any analysis of this information will be encrypted and stored on a password only accessible computer stored in the researcher's home. The researcher will be the only one with access to the video equipment and SD card. The SD card will be wiped clean after the data has been downloaded to said computer. We will make every effort to keep your records confidential. However, there are times when federal or state law requires the disclosure of your records. The study data will be encrypted stored on my personal laptop which is password protected. The results of this research study may be published or used for teaching. We will not put identifiable information on data that are used for these purposes.

### **Study Participation and Early Withdrawal**

Taking part in this study is your choice. You are free not to take part or to withdraw at any time for any reason without penalty. No matter what you decide, there will be no penalty or loss of benefit to which you are entitled. If you decide to withdraw from this study, the information that you have already provided will be kept confidential.

### **The researcher may withdraw a participant:**

The researcher may take you out of this study without your permission. This may happen because:

- The researcher thinks it is in your best interest
- You can't make the required study visits
- Other administrative reasons

### **Loss of Confidentiality**

The main risk of allowing us to use and store your information for research is a potential loss of privacy. We will protect your privacy by labeling your information with a code and keeping the key to the code in a password-protected computer.

### **Are there any benefits from being in this research study?**

You may or may not benefit from taking part in this study. The possible benefits may include improved practice techniques leading to further skill development and improved methods of instruction. Others may benefit in the future from the information that is learned in this study. I wish to gain a greater understanding of what sustains student's self-regulated behaviors. I may discover what motivates students to engage in practice activities and the value placed by students upon instruction. These activities and the value placed upon instruction may inform student self-assessment. The information I gather

may lead to the development of instruction to improve learning through a greater understanding of students' motivation concerning choice of activities in self-regulated practice, the development of new problem-solving strategies, and an improvement in student engagement in learning.

**What alternatives are available?**

You may choose not to take part in this research study.

**Will I get paid for taking part in this research study?**

I will give all participants a \$20.00 visa gift card for taking part in this study, payable at the end of the study.

**What will it cost me to take part in this research study?**

There are no costs to you for taking part in this research study.

**If I have any questions or concerns about this research study, who can I talk to?**

You can call, text or email us with any concerns or questions. My telephone number and email address are listed below:

Mr. Philip Ravita, 410 -214- XXXX, PXXXXrXXX@XX.XX

We can be reached from 9:00 am until 5:00 pm Eastern Standard Time. If you have questions about your rights as a research subject or want to speak with someone independent of the research team, you may contact the Boston University IRB directly at 617-358-6115.

**Statement of Consent**

I have read the information in this consent form including risks and possible benefits. I have been given the chance to ask questions. My questions have been answered to my satisfaction, and I agree to participate in the study.

**SIGNATURE**

\_\_\_\_\_  
Name of Subject

\_\_\_\_\_  
Signature of Subject

\_\_\_\_\_  
Date

I have explained the research to the subject and answered all his/her questions. I will give a copy of the signed consent form to the subject.

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Name of Person Obtaining Consent

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Signature of Person Obtaining Consent

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Date

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