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PERFECTING PRACTICE: APPLYING SELF-REGULATION STRATEGIES TO  
PRACTICE IN AN URBAN MIDDLE SCHOOL ORCHESTRA

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ABSTRACT

This teacher action research study examined the experiences of urban middle school orchestra students and their teacher as together we applied self-regulation strategies to music practice. Thirty-three string orchestra students in grades six, seven and eight participated in the study conducted in an urban middle school containing approximately 631 students in eastern Pennsylvania. Methods of gathering data included teacher observation, student work, informal and formal student interviews, and student surveys. Methods of analysis included review of student work, student surveys, student interviews and coding and theme analysis. The students were asked to analyze tasks through goal setting and strategic planning, monitor their performance for signs of progress, manage their use of time, self-evaluate and adapt their rehearsal activities using the process of self-regulation. Findings suggest that students moved through the three phases of self-regulation: forethought, performance, and self-reflection with practice and performance initiating a loop back to forethought. Forethought was not totally independent on the part of the student, but rather it required teacher motivation, student self-motivation, and collaboration. Through goal setting at the appropriate time, students were able to focus and, in turn, individually scaffold their learning. Specific practice strategies including audiation; problem isolation, extraction and reinsertion (P.I.E.R.); and the step-by-step graphic organizer enabled students to make effective diagnosis for improvement. Performance
motivated practice. Freedom promoted self-regulation in practice, yet freedom was also a distraction from self-regulation in practice at times. Reflection was a critical link in the process of self-regulation.
ACKNOWLEDGEMENTS

“In everyone’s life, at sometime, our inner fire goes out. It is then burst into flame by an encounter with another human being. We should all be thankful for those people who rekindle the inner spirit.” – Albert Schweitzer (Nelson, 2010, p. 105)

Thank you to my parents for fostering a love of learning. When I was a youngster, my parents would always encourage us to grapple about various topics around our kitchen table. What was taught in school was reinforced though life lessons at home. I remember many sessions of character and moral education with my parents. Dubbed “Nellie Bly” by my parents, I was the reporter of daily events in our everyday life. Being surrounded by family and friends, I benefited from the diverse vistas I was able to grasp through play and discussion.

Thank you to my grandmothers for their traditions, which included the gift of storytelling. As a second generation Italian, my paternal grandparents immigrated to the United States in the early 1900’s. My grandmother, although not formally educated, was one of the wisest women that I have ever known. Learning to think on her feet was a process necessary for self-preservation. Many of the stories she told allowed me the opportunity to envision her survival during a lifetime of hardship in the early twentieth century. My mother’s mother, of Irish descent, was raised on the family farm. School ended at eighth grade for Grandmom. She also shared many stories with me and as a faithful practitioner of
religion often philosophically moved me to the core. So much has changed in the fast paced world of the twenty first century that this time for thinking, reflecting and conversing with our elder generation is a rare commodity, and storytelling is a vanishing art form. The coupling of this type of engagement with education was always an important part of the culture of my family.

Thank you to all of my students for their candid participation in this study. All my students deserve credit for what they are capable of doing. Although they need to be pushed at times, with the support and coaching necessary to grow they always bloom. My grandmother used to tell me that in order for a tree to grow upright and strong it must be planted in good soil, watered to make for a strong foundation, staked to grow straight and tall and pruned hard so that it bears a great deal of fruit. My students may not come forward and ask, but their thirst for success stimulates a hunger for understanding. By providing the soil, water, stakes, and pruning, I hope to help my students grow.

Thank you to all of my Moravian College mentors for their role during my journey: Dr. Greenfield for cultivating inquiry…Dr. Zales for challenging me during the journey…Dr. Lewis for promoting professional confidence…Dr. Gilson for bestowing personal serenity.

“A friend is someone who knows the song in your heart and can sing it back to you when you have forgotten the words” (2011, Unknown, Heartquotes).
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To my husband, Bob,
Your love throughout this five-year educational pilgrimage has been boundless.

St. Paul said it best in Corinthians 1:13 (The New American Bible for Catholics),

Love is patient, love is kind. It is not jealous, (love) is not pompous, it is not inflated, it is not rude, it does not seek its own interests, it is not quick-tempered, it does not brood over injury, it does not rejoice over wrongdoing but rejoices with the truth. It bears all things, believes all things, endures all things. Love never fails.

For believing in me when I had doubts, for encouragement when I stumbled, guiding me when I was lost, I thank you. For your patience, understanding and unconditional acceptance, even after you have had a taxing day at school, I am grateful. You are my inspiration! To my editor-in-chief, my chef extraordinaire, my soul mate words cannot express what my heart wants to sing…I love you!
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RESEARCHER STANCE

“If I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning.” Mahatma Gandhi

There was a much simpler time, a time laden with fun, games and music. I still vividly recall sitting with my father in the recreation room identifying instruments as the hi-fi set resounded a beautiful waltz played by “101 Strings,” dancing after Sunday dinner as my grandfather played an Italian folk-song on the accordion, and singing folk tunes with my parents in the car on the way to the seashore for summer vacation. My dream was to play an instrument in the Lawrence Welk Orchestra “just like that lady cello player,” I confided one day to my mother. Having grown up in an environment overflowing with music, it is not a surprise that music became my passion.

Kindergarten was the start of something else quite extraordinary. I found that I loved to learn! The entire process was fascinating, so much so that I would replicate my school day at home by “playing school.” I was reading, writing, arithmetic-ing, science-ing, and history-ing… art-ing, gym-ing and music-ing as I actively taught all of my subjects to my dolls and my little sisters. I was immersed in a whole new world of inquiry, an inquiry that would go on to become the core of my existence.

In seventh grade, I can remember my locker neighbor, Tracy, asking me why I took so many books out of the library at one time and her surprise when I
explained that my goal was to read all of the books in the library. Simplicity faded and complexity materialized as I realized that there was so much to learn and so little time. Everything was so captivating; anything was possible, and it was all enriched by the music that surrounded me.

If music was involved, I was there! Music and Maryann were synonymous. Apart from the general music class, I participated in as many of the extra-curricular activities that were available to me as I could: chorus, musical, concert band, and marching band. Everyone assumed I would go on to college to study music, but, no, I chose science. Why? INQUIRY! The science laboratory was the place to be to ask the questions and do the research. I loved the research, the systems put into place, and the solving of the unknown, but the love I felt for music called me to the School of Music, where I became consumed by my passion; I had found my utopia. “Teach me more,” I asked after each new course. “Please don’t stop!”

I could not wait to get out into the world to share music with children, to allow them the same opportunities that I had had when I was their age. The fun was just part of it; there was so much more that music would offer them. Thirty years ago, I stepped into my first classroom as a music educator. Having had the opportunity to successfully teach elementary general vocal music and instrumental music, middle school general/vocal music and instrumental music, and high school instrumental music, in five school districts, in a variety of
demographic settings, it was not until after staying home for eight years to raise my two children that I found that middle school instrumental music was my calling.

As I re-entered the classroom as a middle school and elementary school instrumental music teacher in an upper middle-class community, I felt as if I had experienced a metamorphosis. My vision changed, and new lenses allowed me to see an entirely different picture of education. The whole child became visible. The power of music emerged. I was renewed and wanted once again to bring music into the lives of the children, their families and the community. Music was for a lifetime and I was going to make it so for every student.

After eight years of establishing a successful middle school instrumental music program and partnership, a promotion for my husband relocated our family. Traveling half way across the state, I was heartbroken to leave the many students, parents and colleagues I had immersed in music. My mother told me that there were students somewhere else who would need my help.

As I entered my new venture, the urban middle school instrumental music classroom, 24 years after beginning my educational voyage, I knew that my mother had been correct. Music was like a secret weapon in education that worked differently for each child. Theory, math, science and history all integrated with music as well as authentic life skills, organization, responsibility, risk-taking, self-discipline, self-efficacy, and self-regulation. Why wasn’t
everyone a musician? It would allow education to amalgamate into something beautiful and fun.

**PRACTICE!**

Eight students enter the music room, get their instruments out of their locker, find a seat and music stand and sit down awaiting their 30-minute lesson. After they put their instrument together, they open their folder, take out their music and begin to play. I move amongst them, stopping to coach each individual student, and render an assignment. Each is told to practice assigned music for the next time. At the end of thirty minutes, the bell rings and they are off to their next class.

My students and I refer to this process as the “P” word, practice. What is a student to do when practicing? As I reflected on the process of practice, I noticed how consumed musician-educators are with the amount of time devoted to practice. The more practice time put in, the better the musician. This is a logical conclusion to draw when you think about a professional musician. A professional musician’s job is to practice in preparation for a flawless performance; so, practicing a lot must yield a great musician.

Is this true? Time in equals greatness out? If a student spends a lot of time on a passage but it is practiced incorrectly, what is the result? How can I help my students to become better at practicing, so that they can become better musicians?
LITERATURE REVIEW

“Experiencing great things can motivate us to want to be great ourselves. Whatever the achievement that inspires us may be, we have to realize that it takes many long hours of practice to become good, let alone great.”

(Marsalis, 1995, p.121)

“Practice, practice, practice!” In my lifetime as a teacher-musician, I’ve had this phrase recited thousands of times to me, and, in turn, I’ve recited it thousands of times to my own student musicians. The English proverb “practice makes perfect” is the mantra; musicians spend countless hours in isolation drilling scales, etudes and music passages, but do these types of drill make perfect performers? What is perfect practice?

John Dewey (1910/1977) asserts:

In some educational dogmas and practices, the very idea of training mind seems to be hopelessly confused with that of a drill which hardly touches mind at all – or touches it for the worse – since it is wholly taken up with training skill in external execution. This method reduces the ‘training’ of human beings to the level of animal training. Practical skill, modes of effective technique, can be intelligently, non-mechanically used, only when intelligence has played a part in their acquisition. (p. 52)
There is no question that practice is an expectation (Byo, 2004a; Leon-Guererro, 2008; McPherson & Renwick, 2001; Miksza, 2007; Nielsen, 2001; Rowher & Polk, 2006). Research has shown that practice is essential for successful learning on a musical instrument (Leon-Guererro, 2008; McPherson & Renwick, 2001). Study continues on achievement gains based on practice procedures (Mitska; Rohwer & Polk) and which strategies are used during practice (Leon-Guererro; McPherson & Renwick). There is a need to know more about what strategies are applied during music practice, and how to better teach students how to practice (Byo, et. al.).

**Nature versus Nurture**

Differential psychologist, Sir Francis Galton (1869/1979) studied the effect of heredity on intellectual abilities (as cited in Ericsson, Krampe & Tesch-Romer, p. 363). He believed that children inherited eminence, or exceptional performance, from their parents. Every expert performer was believed to have a natural ability supported by the innate capacity, zeal, and power to do very laborious work.

Ericsson et. al., 1993, argued “if genetic factors rigidly determine maximal performance it is reasonable to assume that genetic factors cannot be influenced by practice and training and hence remain stable over time” (p. 365). In the analysis of genetic predisposition to exceptional performance, Ericsson et. al., examined practice, experience, preparation time, and the exceptional
performance. Ericson et. al., provided evidence to show “performance is acquired slowly over a very long time as a result of practice and that the highest level of performance and achievement appear[s] to require at least around 10 years of intense prior practice” (p. 366).

**What is Practice?**

Practice is defined in layman’s terms as “doing something repeatedly in order to improve performance in a sport, art, or hobby or doing something as an established custom or habit” (Encarta World English Dictionary, 2009). “The most pertinent definition in relation to music is that practice is ‘a repeated exercise in an activity requiring the development of skill’” (Hallam, 1997, p. 180). However, researchers have found that music practice involves more than simple repetition (Byo & Cassidy, 2008; Hallam; Leon-Guererro, 2008). “Musical practice is multi-faceted…requiring technical, cognitive and performance skills which cannot be acquired, improved and maintained by repetition alone” (Hallam, p. 180).

In 1993, Ericsson, Krampe and Tesch-Romer introduced a theoretical description of practice termed *deliberate practice* (Hallam, p. 180). Deliberate practice emphasizes the need for repeated performance of the same or similar tasks (Ericsson et. al., 1993, p. 367). Even though this type of practice is monotonous repetition, it concurrently must be goal-oriented, highly structured and effortful. Tasks must be specific and established to overcome weaknesses in
performance. Further practice of said tasks must be monitored for improvement. Motivation, resources, and attention determine the amount and quality of practice. The overall premise for motivation is that deliberate practice improves performance (Ericsson et. al., p. 367).

Sloboda, Davidson, Howe and Moore (1996) suggest that there are two types of practice: formal and informal (p. 289). Formal practice is similar to deliberate practice in that its greatest gain is realized in the enhancing of the students’ technique. Informal practice encourages investigable playing with music, such as playing previously learned material or improvising.

Hallam (1997) suggests we define practice in relation to the practice of the expert musician (p. 181). The expert musician needs to “continually adjust the processes of planning, gathering information, forming hypotheses, making choices and reconsidering decisions…. one might therefore derive a definition of effective musical practice as ‘that which achieves the desired end-product, in as short a time as possible, without interfering negatively with longer-term goals’” (Hallam, p. 181). Effective musical practice may vary depending on the context of the skills being learned. Musicians need to use metacognitive skills to facilitate completion of task requirements or, in case of novice musicians, appropriate support.

Equating practice with studying, Leon-Guererro (2008) suggests “it is the musicians’ way of self-learning outside of the classroom or rehearsal” (p. 91).
Researchers have found playing through material and repetitious drill to be the self-instructive practice method of choice for a majority of student musicians (e.g., Byo & Cassidy, 2008; Hallam, 2001; Leon-Guererro; McPherson & Renwick, 2001; Rowher & Polk, 2006). Yet, this type of practice “is not in itself a sufficient or necessary condition for continuing development, requiring a direction and purpose if it is to address the specific problems that face instrumental learners” (Pitts, Davidson & McPherson, 2000, p. 46).

It is “important for students to be able to know what they know, be able to question and self assess” (Leon-Guererro, 2008, p. 93). Even though “music practice is self-instructive learning” (Leon-Guererro, p. 103), music educators seldom teach students to practice independently so that they are able to realize a comprehensive musical aptitude.

Studies record how music students practice, but do not answer the question of how music students are to successfully practice (Hallam, 2001; Leon-Guererro, 2008; McPherson & Renwick, 2001; Miksza, 2007; Rowher & Polk, 2006). Suggestion that the students be taught how to practice (Leon-Guererro; Rowher & Polk) leads to the search for a process or method to do so. Delving further into the connotation of individual music practice reveals the process of self-regulation as a representation of what should occur during individual music practice (e.g., Hallam, 1997; Leon-Guerrero, 2008; Rohwer & Polk, 2006).
What is self-regulation?

Zimmerman (2002) defines self-regulation as “the self-directive process by which learners transform their mental abilities into academic skills” (p.65). This goal-driven learning cycle entails more than detailed knowledge of a skill (Zimmerman, p. 66). Learners are required to self-generate thoughts, feelings, and behaviors that are oriented to attaining goals; they monitor behavior in terms of their goals and self-reflect on their increasing effectiveness, which enhances self-satisfaction and motivation to continue to improve their methods of learning (Zimmerman, p. 66). The ultimate outcome of this type of practice is the development of life-long learning skills.

The skills for self-regulated learning include:

(a) setting specific proximal goals for oneself, (b) adopting powerful strategies for attaining goals, (c) monitoring one’s performance selectively for signs of progress, (d) restructuring one’s physical and social context to make it compatible with one’s goals, (e) managing one’s time use efficiently, (f) self-evaluating one’s methods, (g) attributing causation to results, and (h) adapting future methods. (Zimmerman, p. 66)

According to Mithaug “models of self-regulation include ‘discrepancies, choices, actions, and feedback’. These steps make up a loop in the problem-
solving structure. Each *loop* diminishes the amount of discrepancy between the expected and observed condition” (Leon-Guerrero, 2008, p. 93).

There are three phases to Zimmerman’s (2002) self-regulation cycle: forethought, performance, and self-reflection (p. 68). Task analysis and self-motivation are the two major categories of forethought. Goal-setting and strategic planning take place during task analysis. During the performance phase, self-control and self-observation occur. The self-reflection phase includes self-judgment and self-reaction. “This entire process becomes cyclical when self-reflections from prior efforts to learn affect subsequent forethought processes” (Zimmerman, p. 68).

Leon-Guerrero (2008) reports “metacognition and reflection are parts of the educational process that will help identify what student are thinking as they engage in learning activities” (p. 93). Although young players take years to assimilate the types of strategies that lead to effective self-regulation of their own progress, “students who are more cognitively engaged while practicing not only tend to do more [practice], but enjoy learning more and are also more efficient in their work” (McPherson & Renwick, 2001, p. 170).

**Analyzing Practice**

Researchers have identified practice as a necessary part of the developing musician (Byo, 2004a; Leon-Guererro, 2008; McPherson & Renwick, 2001; Miksza, 2007; Nielsen, 2001; Rohwer & Polk, 2006). However, most research
has found that instrumental music students “don’t practice effectively, if they practice at all” (Byo, p. 22).

In the conventional classroom rehearsal, the teacher models practice strategies and the students become responsible for replicating those methods while independently managing their music practice (Leon-Guererro, 2008 p. 103). While students have “the will to learn their instrument, [they do] not necessarily possess the level of skill required to ensure effective practice” (McPherson and Renwick, 2001, p. 184), yet “teachers rely on students’ individual practice as a scheme for “acquiring a mastery level of performance” (Leon-Guererro, p. 103).

“Deliberate practice” is one of the most discussed aspects of the practice debate for a number of music researchers (Ericsson et. al., 1993; Hallam, 1997; Leon-Guererro, 2008; McPherson & Renwick, 2001; Sloboda et. al., 1996). The professional musician “develops approaches to practicing and performance that satisfy their individual needs and reflect the necessity to maintain high standards of performance” (Hallam, 2001, p. 8). Deliberate practice is similar to the practice of expert musicians, requiring goal-oriented, structured, and effortful facets of practice in which motivation, resources, and attention determine the amount and quality of practice undertaken (Ericsson et. al.).

Wynton Marsalis (1995) describes twelve strategies to “tackle the practice monster as Wynton’s Ways to Practice” (p. 15). These guidelines for practicing outline the professional musicians’ process to expert performance. These
strategies include: “Seek out private instruction, write out a schedule, set goals, concentrate, relax and practice slowly, practice hard parts longer, play with expression, learn from your mistakes, don’t show off, think for yourself, be optimistic, and look for connections” (Marsalis, p. 15).


Byo (2004b) posed the question, “What do I want my students to look like as accomplished practicers?” (p. 36). To develop an accomplished “practicer”, Byo suggests problem solving in instrumental music practice using a “work place protocol” (p. 36). This is an approach that echoes the methods used by professional musicians as seen in Wynton’s Ways to Practice (Marsalis, 1995).

This systematic approach enables students to choose a “work place,” a section of music that needs improvement, to isolate the section of music, and to slow down to a mistake-free speed to experience perfect practice (Byo, 2004b). After playing the “work place” two times in a row, mistake-free at the slower pace, the “practicer” is to increase the difficulty by adding expression or increasing the tempo. The work place is then inserted back into the music, and the final tempo is documented for the start of the next practice session.
Rowher and Polk (2006) examined the practice behaviors of 65 eighth grade students from five middle schools in their study. After each student had an individual practice session with the primary researcher, the students were asked to verbally describe practice techniques that they used when practicing the music exercises they performed. The participants were then prompted by the example of practicing with a metronome to improve rhythm and asked to sight-read a 24-measure music exercise. Following this sight-reading, the participants were asked to improve performance by practicing the exercise for five minutes. At the end of five minutes, the participants performed the exercise again. The performances were audio-recorded and rated on a scale for melodic and rhythmic accuracy, tempo interpretation and articulation.

A positive correlation between the number of practice techniques participants verbalized and improvements from the first performance to the second performance was found. Only a few participants could fully explain their practice techniques, with repetition the only strategy that some participants could describe. Many participants could describe various practice strategies but did not apply these strategies to their own practice.

Practice behavior examination across all participants yielded two types of “practicers”: holistic and analytic. Rowher and Polk (2006) found that holistic practicers played the exercise straight through repeatedly, after their initial baseline performance of the exercise. Analytic
practitioners systematically broke the exercise down, either by stopping at a difficult section and applying remedial techniques or specifically pinpointing a difficult section for practice after their initial baseline performance of the exercise. (p. 355)

Thirty-three participants were holistic practicers and 32 participants were analytic practicers. Holistic and analytic practicers were sub-classified by behaviors observed during the 5-minute practice session. Holistic practicers who stopped to correct errors in their playing were classified as holistic corrective; the holistic practicers who did not stop to correct errors were holistic, non-corrective. Analytic practicers who stopped to remediate a difficult passage were classified as analytic, reactive; the analytic practicers who searched out difficult sections and jumped around the music to fix errors were classified as analytic, proactive practicers. Analytic practicers were found to make significantly more gains than holistic practicers in sight-reading and practiced performance.

Byo and Cassidy (2008) found similar results in their study of collegiate music education majors’ musical practice. A dichotomy occurred regarding the use of repetition. After identifying an error in their playing, all nine participants used repetition in practice. A portion of the group repeated the phrase a few times, regardless of correction of error and then moved on to other literature. The other group developed a strategy to isolate the error, correctly repeated the phrase a number of times, and then inserted the phrase back into the larger work to
continue practice (Byo & Cassidy, p. 38). The two uses of repetition were determined to be indicative of “knowing and intelligent doing,” showing a lack of self-discipline and focus in practice (Byo and Cassidy, p. 38).

Gruson (as cited in Sloboda et. al., 1996) found when “independent practice is left to the inexperienced musician, they will tend to play through whole pieces or sections without stopping (p. 289). Effective practice requires the ‘breaking down’ and repetitive practice of individual passages that are causing difficulty (Gruson 1988 as cited in Sloboda et. al.).

The congruency of the studies (Byo & Cassidy, 2008; Gruson; Rowher & Polk, 2006) shows that students will use repetition in practice but not necessarily apply a variety of strategies needed to help them “approach practice more systematically” (Rowher & Polk, p. 365). Researchers suggest self-regulation may be the strategy to enhance the musical development of students and aid students’ progress in reaching his/her music potential (Leon-Guererro, 2008; McPherson & Renwick, 2001; Nielsen, 2001).

**Analyzing Self-regulation: Self-regulation in Action**

Individual music practice is expected of every student musician so that he or she may acquire the skills and proficiency necessary to be successful in performance. Leon-Guererro (2008) notes that students are not often asked to “explain their experience or musical understanding of the music, not to mention how they come to perform the example at the level of expertise demonstrated” (p.
Few teachers currently prepare students to learn on their own (Zimmerman, 2002, p. 64). Self-directed practice is qualified as “boring, repetitive, and mind numbing; it is essentially ‘Drill and kill’” (Zimmerman, p. 66).

Self-regulation is a teachable process “leading to increased student motivation and achievement” (Schunk & Zimmerman, 1998). In order to apply a self-regulation system to students’ practice, it is important that music educators become more knowledgeable about how students practice.

Music educators frequently place greater emphasis on the product of practice rather than the process of learning. Incorporating self-regulated thinking into music education will require the inclusion of individualized decisions made by students, emphasizing the process of practice. Problem recognition, strategy selection and self-evaluation will have to take place during independent practice.

According to Dewey:

reflection involves not simply a sequence of ideas, but consequence – a consecutive ordering in such a way that each determines the next as its proper outcome, while each outcome in turn leans back on, or refers to, its predecessors. (cited in Leon-Guererro, 2008, p. 92)

Personal motivation drives the desire to learn. Music students engage in the types of self-regulatory behavior that enhance their achievement (McPherson & Renwick, 2001).
From the available evidence, it seems clear that every time a young musician self-initiates practice, consciously plans what to practice, chooses to correct their performance, structures their learning environment or actively seeks information from knowledgeable others, they come one step closer to refining the self-regulatory process that will eventually become automatised. (McPherson & Renwick, 2007, p. 184)

**Perfecting Practice: Self-regulation applied to practice**

Leon-Guererro (2008) points out students will need guidance on how to approach self-instructive learning (p. 104). She recommends students engage in the self-regulation method to “recognize the problem, plan a strategy, evaluate their progress, and continue to revise and reevaluate until they have accomplished their goal” (p. 104).

Zimmerman (2002) asserts when using self-regulation strategies, learning becomes proactive, an activity that students can do for themselves. In addition he suggests that (a) strengths and limitations are realized because they are guided by personally set goals and task-related strategies, (b) behavior is self-monitored in terms of goals and students self-reflect on their increasing effectiveness, and (c) increased self-satisfaction drives motivation for students to continue to improve their methods of learning (p. 66). I believe that self-regulation occurs in
deliberate practice and is observed in the method of practice used by professional musicians (Hallam; McPherson & Renwick; Ericsson et. al., 1993).

**Best Practices to Perfect Practice**

Considering the best practices used in self-regulation (e.g. Bandura, 1977; Hallam, 2001; McPherson & Renwick, 2001; Zimmerman, 2002) and those practice strategies of professional musicians (Marsalis, 1995), best practices for this study became apparent. Modeling, goal-setting, strategic planning, self-evaluation, and reflective thinking emerged from best practices of researchers (Bandura, et. al.) and professional musicians (Marsalis) to engender engagement and achievement in the instrumental music students participating in this study.

**Modeling**

A model is “a real or symbolic individual or character whose behaviors, verbalizations, and nonverbal expressions are attended to by observers and serve as cues for subsequent modeling” (Schunk, 1987). It is advised that students “practice with someone who knows what [they] should be doing;” a private teacher or student mentor should facilitate student understanding (Marsalis, 1995, p. 123). This procedure concurs with the research of practice, self-regulation, and critical thinking (Halpern, 2003; Johnston, 2007; Leon-Guerrero, 2008; McPherson & Renwick, 2001; Zimmerman, 2002). “Seeking help or information” is a part of the cycle of self-regulation (Zimmerman).

Noddings (2008) suggests that teachers demonstrate critical thinking in
practice by modeling open-ended thinking for students (p. 12). Modeling thinking is “messy, uneven, time-consuming, and thrilling. That’s the way real thinking is” (Noddings, p. 12). “Modeling or scripting [of] what a student might ask or reflect on during a practice session is another way to encourage students to make more efficient use of their individual practice “(Leon-Guererro, 2008, p. 105). Researchers have identified modeling as an effective technique to incorporate into regular practice to encourage authentic thinking (Hewitt, 2001; Leon Guerrero, 2008; Noddings, 2008).

**Goal-setting**

Defined as “specifying intended outcomes of learning or performance” (Locke & Latham as cited in Cleary & Zimmerman, 2004, p. 538) goal-setting is dependent on the student’s level of development, skill level, the required mastery of a skill, and the purpose of the goal-itself (Schunk & Gaa, 1981, p. 42). When students commit to “specific, proximal, and challenging learning outcomes,” goal-setting will occur (Zimmerman, Bonner & Kovach, 1996, p. 139).

In the cyclical three-stage model of self-regulation described by Zimmerman (2001, p. 21), and Nielsen’s (2001, p. 165) cyclic self-regulation of learning strategies used during practice, goal-setting is included as an initial step. Researchers have found that goal-setting deepens student self-awareness (Desautel, 2009; Marsalis, 1995; Nielsen; Zimmerman, 2002). “A clearly articulated goal will provide direction to the thinking process and will allow better
decision[s] about the skills required” (Halpern, 2003, p. 35). Marsalis encourages students to chart their goals (p. 124) and recommends that the goals be realistic and challenging to the student musician (p. 125). Schunk (2001) concurs with this recommendation, noting that goals be neither too hard nor too easy; challenging goals motivate students (p. 132).

**Strategic Planning**

The performance stage of the three-stage model of self-regulation (Zimmerman, 2001, p. 21) and the strategic planning stage of the cyclic self-regulation of learning strategies during practice (Nielsen, 2001, p. 165) occur with the selection, organization and use of learning strategies. A strategy is a design or a plan to approach a high-level goal (Winne, 2001, p. 153). When selecting appropriate strategies, researchers suggest students be taught to take into account contextual factors, tasks, and settings (McPherson, 2006; Nielsen).

Marsalis (1995) offers specific learning strategies for students to implement in practice such as: “look for connections” (p. 138); “concentrate/focus when practicing” (p. 126); “relax and practice slowly” (p. 126); “practice hard parts longer” (p. 128); play with expression (p. 130). These strategies are echoed in the National Standards for Music (Consortium of National Arts Education Associations, 1994), which outline “the cumulative skill and knowledge expected of all music students” (p. 37).
Teachers are cautioned not to assume that students are using strategies during independent practice (Hallam, 2001, p. 20). It is suggested that teachers model and use effective strategies during lessons to remedy this, so that an unconscious routine of effective strategies is then put into independent practice (Hallam, p. 20). McPherson (2005) found that children who do apply musically appropriate mental strategies very early in their learning were more likely to succeed when compared their peers (p. 33).

McPherson (2005) suggests examples of teaching strategies to “encourage students to monitor, control, and reflect on their own progress as ways to improve strategy development” (p. 31). He suggests that teachers (a) have students explain how they are doing a task, what are they feeling, and if they feel competent enough to do it independently, (b) provide feedback about the child’s performance, encouraging them to reflect as to whether they are using the most appropriate or best method for the task and, (c) rather than tell a student what to do, provide content-specific information on how to do a task (McPherson, p. 31).

Another key process noted by researchers in the area of strategic planning is time management (Marsalis, 1995; McPherson & Renwick, 2001; Zimmerman, 2002). Planned and managed time is important for efficient practice and “subtle differences in student’s practice habits can impact their progress and ability to self-regulate” (McPherson & Renwick, p. 175). A student must strategically plan to manage their time (Zimmerman, p. 66). To receive maximal benefit from
feedback, individuals have to monitor their training with full concentration, which is effortful and limits the duration of daily training (Ericsson & Lehmann, 1996, p. 279).

Researchers believe that motivational factors that predispose children and adults to engage in deliberate practice are more likely to predict individual differences in levels of attained expert performance (Ericsson & Lehmann, 1996, p. 281).

**Reflective Thinking**

The reflective thinking stage of the cyclical three-stage model of self-regulation described by Zimmerman (2001, p. 21), and Nielsen’s (2001, p. 165) cyclic self-regulation of learning strategies used during practice, begins with self-reflection (p. 21). In this phase students “assess their learning progress and the effectiveness of strategies, alter their approach as needed, and make adjustments to environmental and social factors to establish a setting highly conducive to learning” (Schunk & Zimmerman, 1998, p. 230).

Dewey (1910/1977) describes three attitudes important for the adoption and use of reflection: open-mindedness, whole-heartedness, and responsibility. Open-mindedness refers to the consideration of problems in new ways. Being an active listener, being open to new ideas, listening to all sides, and being able to hear thinking contrary to one’s own thinking are all traits exhibited by this attitude. Whole-heartedness is exhibited by total involvement in a subject or
cause, immersion in thinking, with a flood of ideas and thoughts. Considering the consequences of one’s actions demonstrates responsibility. The need to know why, seeking meaning, and why something is worth believing, are supported by intellectual resource.

Reflection occurs in phases (Loughran, 1996, p. 5). First, a problem or big picture is developed, and a suggestion is reconsidered in terms of what can be done or how it can be used (p. 5). Next, information and ideas are linked to previous experiences extending thinking on the knowledge of the subject (p. 5). Finally, the hypothesis and results are tested with either failure or new problem emergence to help to define or clarify the problem (p. 5).

Donald Schön has been credited with leading the reflective movement in education (Loughran, 1996). He describes two types of reflection: reflection-on-action and reflection-in-action (Schön, 1987, p. 26). Reflection-on-action is looking back to a familiar routine that may have produced an unexpected outcome; it has no direct connection to present action, whereas reflection-in-action thinking reshapes what is being done as it is being done (Schön, 1987, p. 26). Reflection-in-action requires critical thinking about the thinking that has occurred, and during the process, thinking strategies may be restructured (Schön, 1987, p. 26). This stimulates “on-the-spot hypothesis generation and experimentation which may yield intended result or a surprise calling for further reflection and experimentation” (Schön, 1987, p. 27). Both researchers, Dewey
and Schön are similar in their theories of reflection, and the type of reflective thinking they espouse is found in self-regulated thinking.

Reflective thinking is at the foundation of self-regulated thinking (Leon-Guererro, 2008, p. 92). The task of those entrusted with the management of learning is to ensure that students not only acquire and integrate the required amount of discipline-specific knowledge, but also develop critical thinking skills that increase their ability to learn in any situation and transfer their knowledge to a variety of meaningful context (Brown, 2009, p. 374).

McPherson (2005) found student reflection improves music instruction (p. 29). “Understanding how students think about and react to various musical challenges is just as important as seeing and hearing them demonstrate their ability to perform” (McPherson, 2005, p. 30). Reflection allows a student to consider issues and problems relevant to his own practice and then ways to study or resolve those issues, thereby guiding his own development.

Journals may be used as a tool to document self-reflection (Dunlap, 2006, p. 20). Journals are described as “subjective narratives dealing with feelings, opinions or personal feelings…they are often used to…describe events, reflect on personal experiences and feelings, and connect with another class or with life outside the classroom” (Burke, 2005, p. 120). During this study, this paper describes the process of journaling will provide students the opportunity to share their feelings, and opinions, and to reflect on the application of self-regulation
strategies. Journals will also allow the researcher to capture qualitative data.

Beattie (1997) cautions that the conditions for journaling not “overwhelm or bore students” (p. 21).

**Self-evaluation**

Self-evaluation is the means by which students are able to judge whether goals have been met through the application of strategies they have put into place. In the cyclical three-stage model of self-regulation described by Zimmerman (2001, p. 21), and Nielsen’s (2001, p. 165) cyclic self-regulation of learning strategies used during practice, part of the final step of self-reflection is self-evaluation (p. 21). When students self-evaluate they attempt to judge their performance using criteria, such as their previous performance, the performance of another or a performance benchmark.

Self-assessment should be a regular component of the learning experience (Desautel, 2009). Leon-Guererro (2008) suggests “it is important for children to learn to be aware of their cognitive state; know what they know, be able to questions and self-assess” (p. 93). Further, students need to evaluate whether their strategy was effective, and whether they will have to repeat the strategy or use another strategy (Leon-Guererro, 2008, p. 104). Marsalis (1995) encourages students to realize that errors sow seeds for the development of intrinsic motivation.
Bandura’s (1977) social learning theory suggests that self-reactions can be either positive or negative. This behavior generates judgments leading to self-applied consequences. When consequences are intrinsically reinforced, any activity can become invested with self-evaluative significance. Behavioral functioning improvement produces cognitive changes (p. 106).

Nielsen (2001) suggests that students be taught “how to monitor their performances selectively at a detailed level, and to keep track of key indicators of personal effectiveness as they perform” (p. 166). Exercising self-control is valuable and leads to the development of skills for self-regulation (Zimmerman, 1994). Combined with goal-setting, self-evaluation raises self-efficacy, skill, and motivation (Schunk, 2001, p. 142).

Self-efficacy, “feeling capable of success,” is important to the overall process of practice (Schunk, 2001, p. 142). “Optimism gives you endurance because you always feel that something great is about to happen. It makes you want to keep playing instead of stopping” (Marsalis, 1995, p. 137). Self-efficacy should be fostered for overall success (Bandura, 1997; Zimmerman & Schunk, 2001).

“To an aspiring tuba instrumentalist, an accomplished performance is a source of considerable self-satisfaction that can sustain much tuba blowing” (Bandura, 1977, p. 106). The sense of self-accomplishment derived from the process of goal-regulated performance leads to personal accomplishment and self-
satisfaction (Bandura, 1977, p. 190), which, in turn, leads to further efforts to improve performance (Zimmerman, 2001, p. 69).

Summary

Historically, the means to becoming an expert performer has been scrutinized by psychologists, philosophers and teacher-researchers (e.g., Byo, 2004; Byo & Cassidy, 2008; Ericsson et. al., 1993; Ericsson & Lehmann, 1996; Galton, 1869/1979; Hallam, 1997, 2002; Hewitt, M., 2001; Johnston, P., 2007; Leon-Guererro, 2008; Marsalis, 1995; McPherson, 2005; McPherson & Renwick, 2001; Miksza, 2007; Nielsen, 2001; Sloboda et al., 1996).

The search for how to practice continues to be a source of controversy (Byo, et. al.). Middle school programs in the United States continue to emphasize large ensemble settings with teacher-led practice in which “little or no structured guidelines are provided by the teacher” (Leon-Guererro, 2008, p. 92). Students are left on their own to practice. Investigators have obtained mixed results in terms of the effect of the amount of practice, the instrument played, and treatment conditions (Rohwer & Polk, 2006, p. 350). “Strategy use and efficiency have been two major research agendas” (Rohwer & Polk, 2006, p. 351).

A review of the research on strategies of practice and self-regulation reveals these overarching questions: how do children practice and how does this practice impact the students’ performance achievement? Is it possible that students using self-regulation in music practice will help generate self-directed
instruction to make independent practice more meaningful? These questions will be the foci of the study.
RESEARCH DESIGN AND METHODOLOGY

“Children have to be educated, but they have also to be left to educate themselves.” Abbé Dimnet

Research Goal

“Go home and practice your instrument for half an hour every day,” my elementary instrumental music teacher told me after circling a page of etudes in my method book. Faithfully, I would take my instrument and music home, and practice playing through the etudes until I could play my music successfully, in my own assessment. I would then abandon practice until my next lesson or band practice. Sometimes, I hardly spent any time practicing my instrument. Should I have practiced every day for thirty minutes? There wasn’t enough time; I had Girl Scout meetings, Catechism class, Taekwondo class, homework, family commitments and playtime with my friends. If I were able to play the etudes and my music successfully, why would I have to continue repeating them?

In my experience as a music educator, the same scenario is evident when working with my middle school instrumental students. The typical music student is involved in a myriad of activities, leaving little time for personal instrumental practice. Throughout my career, many of my students often question the necessity of repetitive practice. How many of my students are not practicing at home? How do my students play successfully without practice? Have they
discovered a more efficient way to practice to improve their playing? Do my students know how to practice?

Driven to inquiry I had to know how students were practicing and how to assist student to practice more efficiently so that they would be able to experience improvement in their playing. In our mutual frustration, my students and I have searched for the best practice method to perfect playing. Our quest has uncovered the process of self-regulation as an effective strategy to perfect practice.

To learn more about this process, I have asked students to analyze tasks through goal setting and strategic planning, monitor their performance for signs of progress, manage their use of time, self-evaluate and adapt their rehearsal activities. **It is my intention to share the observed and reported experiences of urban middle school orchestra students and their teacher as together we apply self-regulation strategies to practice.**

**Setting**

A fixture in our urban eastern Pennsylvania neighborhood for more than 100 years, our historic building was recently demolished to make way for a new state-of-the-art facility. The diverse student population of 631 students in grades six through eight is 69% Latino, 15% African American, 14% Caucasian, and 2% Asian. A majority of the students have been identified as Title I students, and
additionally approximately 1% of the students have been identified as Title III students.

The study took place in a modern instrumental music suite encompassing a large group playing area, as well as three practice rooms. Each student has an instrument locker within the large group space. Students sit on stackable molded plastic chairs and use a sturdy adjustable music stand. In the large group room, the seats are usually set in a semi-circular, multi-row traditional orchestral seating arrangement. Seating arrangement flexibility is possible as the furniture is portable. Practice rooms may be used for isolated instruction in tandem with the large group room as the practice rooms are housed within the suite. There are five tabletop Macintosh computers and fifteen iPods available for student use.

Acoustically, the conditions are outstanding.

**Figure 1.** The Music Suite.
Participants

Study participants include 33 orchestra students (10 male and 23 female), of mixed playing proficiency, grouped by grade level into eight instrumental classifications: sixth grade violin, sixth grade viola, sixth grade cello, seventh grade violin, seventh grade cello, seventh grade bass, eighth grade violin/viola, and eighth grade cello/bass. Students attend two morning rehearsals, 7:15 am to 8:15 am, every Tuesday and Thursday. Participants also receive one 30-minute lesson each week. The lessons are conducted on a pullout-rotating schedule. The students leave their regularly scheduled related arts classes (physical education, music, art, foreign language, science of foods, technology or science elective) to attend this lesson.

Data Collection Method

In preparation for this inquiry, I gained permission to conduct the study from the Moravian College Human Subjects Internal Review Board, my building principal (Appendix A), and the students and their parents or legal guardians (Appendix B). Prior to the beginning of the school year, during a 10-day summer rehearsal, I assessed basic skills to ascertain the students’ level of music development. Students were each assigned to a curriculum specified method book commensurate to their current ability level. The student officers, with my guidance, selected the music literature for the semester ensuring that the
selections would build and reinforce playing skills while also developing a program of music suitable for holiday time performance.

Field log

The field log served as my research journal. As Hendricks (2009) explains, “Journals kept by teachers are a good source of data” (p. 78). This written account is the evidence of the study. Two large three-ring binders contain the material including observations, reflective memos, student work, interviews and surveys, and data analysis chronologically arranged to organize, examine and review my data collection.

Observation

Hendricks states, “Observational data are the most important source of information in an action research study (2009, p. 90). Observation of student learning is inherent in music education. The product that students create when playing their instrument is an immediate comprehension indicator. Observation provides me the ability to react to each student’s learning as an individual performer and as an ensemble performer.

Observation, in this study, was not confined to the researcher. My pre-student teacher, and a parent volunteer also recorded observations. I watched and wrote notes recording events as the students practiced their instruments, once a week during a scheduled 30-minute lesson during the school day. Although the students worked independently, the sessions were a group experience.
As soon as I could I reviewed my raw notes creating field log entries consisting of reflective memos and narratives. In order to distinguish between participant observation and observer comments, I bracketed all observer comments within the field log entries (Ely, Vinz, Downing, and Anzul, 1997, p. 351).

Reflective memos

Reflection-on-action (Schön, 1987) is thinking about thoughts and actions after they have taken place and reflecting-for action (Killion and Todnem, 1991) is thinking about thoughts and actions to plan for future action (as cited in Hendricks, 2009, p. 24). Capturing and documenting the reflection-in-action was challenging. Reflection-in action (Schön, 1987) takes place as the action occurs (as cited in Hendricks, 2009, p. 24). Reflection–in-action was a reflex; it seemed to happen automatically, in response to my teaching and to student feedback. I documented student responses by writing notes on a clipboard as the events unfolded during music lessons. As soon as I could, I reviewed my notes, writing reflective memos that were then entered into my field log.

Through my reflection I was able to step outside the traditional lessons to examine more closely authentic learning, social interaction, and scaffolding, and the application of my own constructivist stance. Using reflection-on-action allowed for an in-depth reflection-on-action stimulating new reflection-for-action,
allowing me to re-shape activities within the students’ zone of proximal development through reflection.

After completing my notes on the events that unfolded, I collaborated with my pre-student teacher to discuss the events she recorded. Another educator, not invested in the outcome of the study, discussed the data and the implications of emerging findings with me. The ability to share with and ascertain the opinions of others proved assistive to me. Collaboration and corroboration strengthened the gathered data. Ely, Vinz, Downing & Anzul reference “the camaraderie and intellectual stimulation of dialogue” shared by Bakhtin and Dewey as they collaborated and suggest that “we consider creating something similar for ourselves” (p. 276). “Resources of negotiation, collaboration, and response can conspire to deepen and complexify our writing “(p. 368).

**Student work**

As Hendricks suggests (2009, p.90), I collected artifacts to help me determine whether and how this intervention had an impact on each of my students. Musicians work both physically and mentally as they play their instrument, and it is in the playing of music that the performance is evident. To witness performance is to capture the process of critical thinking. Observational notes of student performances were written in my field log.

The students’ written reflections were recorded in their journals. The student journals included their reflection as they practiced at home and school. At
times I gave students prompts to be used as catalysts, sometimes taking the form of questions or charts. This journal was similar to a “pass” book. The students would record information in their notebook and then pass it to me and I wrote back to them asking questions or providing commentary to foster continued discussion regarding their practice. I frequently encouraged them to delve further into their process of practice. Student reflective journals delved further into the thought processes of the students as they practiced. By free writing their journals, students reflected on their practice during class and at home. They also recorded the steps they followed when practicing.

Students also used checklists, goal-setting webs, step-detail diagrams, and step-by-step charts. Checklists aided student in tracking progress. Graphic organizers helped the students to uncover the process of self-regulation. Step-by-step charts were used to examine the steps that students took when practicing and the steps taken by a professional musician.

**Student interviews and surveys**

I encouraged student dialogue was encouraged throughout this study using on-going, informal interviews to gather information to see how the intervention was progressing from the students’ point of view. I also used formal interviews to get a sense of what the students were thinking. An exit interview examined the process used by each student. Interview responses were written down and included in my field log.
I administered two surveys. A base-line survey assessed the amount of time students were practicing their instruments in school and at home (Appendix C). A music lesson survey (Appendix D) was used to gain insight to the students’ likes and dislikes about music and practicing in general. Both sets of survey results were tallied and recorded and analyzed.

Immediately following the completion of the survey, students and I informally discussed their independent written responses and the survey results. I added additional student response to my field notes at this time.

**Trustworthiness Statement**

“Do not believe in anything simply because you have heard it. Do not believe in anything simply because it is spoken and rumored by many. Do not believe in anything simply because it is found written in your religious books. Do not believe in anything merely on the authority of your teachers and elders. Do not believe in traditions because they have been handed down for many generations. But after observation and analysis, when you find that anything agrees with reason and is conducive to the good and benefit of one and all, then accept it and live up to it” Buddha (as cited in Shapiro & Carlson, 2009).

Engaging in critical and reflective examination, I studied my own practice as a means of understanding my instruction and increase understanding of self-regulation and its application to students’ practice of a musical instrument. I strove to remain unbiased by rendering the viewpoints of both the teacher
researcher and the students. In doing so, I have followed ethical guidelines to deliver trustworthy results.

In the play *W;t* by Margaret Edison, the researchers became so engrossed in the research process that the human subject, Vivian, was lost to the quantitative study. Ethical practice disappeared. “The young doctor, like the senior scholar, prefers research to humanity. At the same time the senior scholar, in her pathetic state as a simpering victim, wishes the young doctor would take more interest in personal contact” (Edison, 1999, p.58). The trusting relationships fostered with my students were not sacrificed studying the name of research. Like Vivian Gussin Paley in *You Can’t Say You Can’t Play*, (1992) I was determined not to jeopardize the psyche of the students, but rather create a safe classroom environment encouraging socialization. During the study I maintained a sense of humor for my students, saving the seriousness for scholars who privilege other research paradigms over the one I have chosen here.

To ensure trustworthiness and validity in this study, I strategically aligned various forms of validity devised specifically for this study. As Anderson, Herr & Nihlen (1994) suggest, stakeholders in the research area will collaborate in the research process. In this study, student to teacher collaboration was realized through reflective journals, interviews, and class discussion. Student to teacher collaboration allowed member checks and respondent validation (Lincoln & Guba, 1985).
I remained flexible throughout the study, continually reflecting on the data collected and revising interventions as needed. The degree to which there has been successful resolution of the research problem is recorded (Anderson, Herr & Nihlen, 1994). The research has been ongoing as the process unfolded and all applicable studies have been reported as the use of appropriate processes for studying the research question must be credible (Anderson, Herr & Nihlen, 1994). Data was accurately recorded as the events unfolded (Maxwell, 1992; Wolcott, 1994).

During the study, findings were shared with other practitioners and peers (Anderson, Herr & Nihlen, 1994 (from Lather, 1991). The study was also discussed with a colleague who has no investment in the study (Lincoln & Guba, 1985). After completion of the study, observations will continue with this process to examine a longitudinal collection of data to determine the true effects of the intervention (Lincoln & Guba, 1985).

Multiple sources have been used to corroborate findings (Anderson, Herr & Nihlen, 1994; Eisner, 1991; Lincoln & Guba, 1985). Triangulation, “a process in which multiple forms of data are collected and analyzed” (Hendricks, 2009, p.80) was used in the evidence gathered from student work, researchers’ journal entries and student reflection. I have recorded and analyzed all of the gathered data, including work from all research participants.
I am aware that preconceived ideas about the participants, setting, intervention, or the research process itself are to be made clear. Upon detection of researcher bias, it is to be made clear (Merriam, 1998) in my journal as well as my study (Halpern, 1983; Lincoln & Guba, 1985). I entered into this study eager to report what I learned about my students and their approach to instrumental practice.

I obtained written permission to conduct my study from the Human Subjects Internal Review Board of Moravian College and from my building administrator (See Appendix A). All students were invited to participate in the study with no penalty if they chose not to do so. Students were also able to withdraw at any time without penalty. I informed students that they could also discuss the research process with their guidance counselor (See Appendix B).

As a researcher I was self-reflective exhibiting honesty, respect, and fairness. Within this document I reported what I saw and shared my interpretation of what I perceived (Holly, Arhar & Kasten, 2005).
THE LESSON PLAN

Self-regulation requires learners to self-generate thoughts, feelings and behaviors that are oriented to attaining goals; students monitor behavior in terms of their goals and self-reflect on increasing effectiveness which enhances self-satisfaction and motivation to continue to improve their methods of learning. Zimmerman’s (2002) model of self regulation will be used by students to analyze tasks through goal setting, strategic planning, monitoring performance for signs of progress, managing the use of time, self-evaluating and adapting activities. Students will be able to diagram goals to remedy problems becoming focused to set a plan for their music practice.

Lesson 1
Baseline data collection survey 1 on School Practice Habits and Home Practice Habits administered; review survey with students; discuss what students have learned from taking the survey.

Lesson 2
Students asked to begin reflection of their practice habits at home and write me a note about their practice in their journals
Journal Entry #1 assigned – While practicing reflect on your practice use the prompts to help you begin

Lesson 3
Students identify “problem” while practicing. Plan to solve problem
Journal entry #2 assigned - How do I practice?

Lesson 4
Teacher model to encourage critical thinking – students encouraged to think aloud as they practice

Lesson 5
Music lesson survey 2

Lesson 6
Goal setting to deepen student awareness complete Goal Web Diagram
Collect journals and respond to student entries
Journal entry # 3 assigned – Choose a challenging song from their orchestra music and create a goal web and step-by-step plan for practicing that music

Lesson 7
Complete Step-Detail Diagram for practicing to reach goals indicated on Web Diagram
Return journals to students

Lesson 8
Watch Wynton Marsalis On Music. Complete a Step-Detail Diagram for Wynton’s Ways to Practice

Lesson 9
After completing Wynton’s Ways to Practice Step-Detail Diagram students edit their own Step-Detail Diagram completed in Lesson 8
Lesson 10

Interviews

Journal entry #4 assigned – Reflect on the personal meaning to you of following quote “The most important thing with music is to start from the inside.” Yo-Yo Ma

Lesson 11

Interviews

Journal entry #5 – Reflect on the personal meaning to you of following quote:

“Experiencing great things can motivate us to want to be great ourselves. Whatever the achievement that inspires us may be, we have to realize that it takes many long hours of practice to become good, let alone great.” – Wynton Marsalis
OUR STORY

Prelude

A flurry of activity and anticipation surrounded the start of the new school year. Teachers took their assigned stations as the students swarmed in front of the school. I took my place in the lobby, adjacent to Room 152. Equipped with my list of all students and their homeroom numbers, I was ready to assist any student who has not received a homeroom assignment. The opening bell tone sounded and the front doors opened. Excitement ensued; cacophonous sounds resonated as the students poured into the lobby of the building.

I greeted the students with a hearty “good-morning!” as they began their ascent up the staircase to their homerooms. As my band and orchestra students passed by I was greeted with waves, warm smiles, handshakes and an occasional hug. I was excited to see the students. Memories of the experiences we had together during music camp, just a few weeks before, came to mind. I could not wait to share what I had learned about music practice with them during lessons.

After the dust had settled and the lobby had cleared, I turned to walk back to my room. Thoughts of the imminent study looming, I took a deep breath and pondered. Will the students be willing to join me in my research? What will we all learn about music practice habits?
The Downbeat

Full orchestra rehearsal took place this morning, just as it had weekly, Tuesday and Thursday mornings, from 7:15 to 8:15 since the fourth day of school. My students had not had lessons for the first 10 days of school so that they could rotate through the first cycle of their class schedule and the related arts teachers could present procedures and the code of conduct. Simultaneously I was barricaded in my office by mountains of paperwork including the schedule for the ensuing rotating instrumental music lessons, required field trip forms, and various parade invitations. I was only freed from my office to attend meetings with the administration and parents. This morning was going to be different. This was the first day of group instrumental music lessons for the school year.

I was ready to begin! The consent forms and the data collection tools were copied and laid out on stands at the front of the room. I even had purchased pencils for each of the students: fluorescent colored pencils imprinted with “I Love Music” and pencils sparkled with blue and gold glitter, our school colors.

My first lesson of the day commenced as a group of seventh grade violin students swung open the door and entered the room with cheery smiles; we exchanged an enthusiastic greeting. They chattered excitedly as they threw down their backpacks and moved to their instrument lockers. I watched as each student took their case out of their locker. I asked them to sit in the first row of chairs,
leaving an empty chair beside them. Students immediately began firing questions. Sylvie whined, “Why do we need a chair next to us?”

“Can I practice with my friend?” Monet questioned.

“Why can’t we sit right next to each other?” Chloe pouted.

As they sat down the discussion continued and they collectively came to the conclusion that the unoccupied seat was for me to sit next to each of them as I worked with them during the lesson. I concurred.

I introduced the study to the group. I told my students, “This semester we will have the opportunity to examine our practice and the results of what we find will be shared with other music teachers so that they will be able to assist their students with their practice.” Their heads nodded in agreement, as if they recalled the mentioning of my study from our summer music camp. They became excited. The students associated the study to their experience with science labs.

“Great, we can have an explosion!” Sylvie exclaimed.

I supported this analogy explaining that I had hoped that they would be able to make a positive impact on themselves and others by sharing what they will learn and experience during this process.

“We are special!” Chloe blurted out.

“I couldn’t agree more Chloe!”
“Yes you are,” I agreed. “Not only will you have the chance to share how you practice but also I am going to let you know how to make your practice more efficient, and it will be simple to do.”

“Simple? Practice…simple?” Chloe asked.

“Together we will discuss how important it is to share what works and doesn’t work when practicing an instrument,” I explained. This group had verve, and it was contagious.

**We have to write?**

Students received their composition books and a hand out with self-regulation prompts.

“We have to write in music too?” Sylvie complained. “We write all the time in class for PSSA prep! UGH!”

I equated the journal to a diary or passbook, surveying to see if any of them had ever had either. A few students had had a diary and several students had used passbooks with friends. “We will pass the notebook back and forth to each other” I explained. “This will allow your voice to be heard. You will be able to share your feelings with me and I will write back to you. Inevitably other students and teachers who read our story will be made aware of your thoughts and experiences with music practice.”

Consent forms were distributed and the students listened as I explained that these permission slips would allow me to use their contributions in my thesis.
I explained that they would remain anonymous. We discussed the meaning of the word *anonymous* as I explained that I would use pseudonyms when I wrote about them. Students then selected a pencil for their writing tool. A heartfelt “Thank you Miss!” echoed as they all wrote their names on their journals.

**Practice?**

I conducted an initial base-line survey (Appendix C) with the students to determine their existing practice timetable. Students completed their survey independently as I read the questions aloud and prompted them to write their responses. This seemed to help the students stop and think about their responses. After completing the survey, I asked students to share what they had learned from it.

The results revealed that all of the students practiced at school. The number of minutes that students practiced at school indicated that the majority of students practiced 90 to 120 minutes at school each week (See Table 1). The Table 1.

*Practice Home v. School*

<table>
<thead>
<tr>
<th></th>
<th>0 min.</th>
<th>15-30 mins.</th>
<th>30-60 mins.</th>
<th>60-90 mins.</th>
<th>90-120 mins.</th>
<th>&gt;210 mins.</th>
<th>Did not complete survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School Practice minutes</strong></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>24</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Home Practice minutes</strong></td>
<td>6</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

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students and I were shocked that they practiced so much at school. I had never totaled the number of minutes that were spent in lessons and rehearsals each week.

The home practice survey revealed that 68% of the students practiced at home (See Table 2). The number of minutes practiced was evenly distributed between 15 minutes and 210 minutes weekly, with most students practicing 15 to 30 minutes a week (See Table 1).

Table 2.

*Home practice log.*

<table>
<thead>
<tr>
<th>Number of days Practiced Per Week</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 day</td>
<td>7</td>
</tr>
<tr>
<td>1 day</td>
<td>4</td>
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<tr>
<td>2 days</td>
<td>7</td>
</tr>
<tr>
<td>3 days</td>
<td>7</td>
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<tr>
<td>4 days</td>
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<td>5 days</td>
<td>4</td>
</tr>
<tr>
<td>6 days</td>
<td>1</td>
</tr>
<tr>
<td>7 days</td>
<td>2</td>
</tr>
</tbody>
</table>

Jack explained, “I don’t practice at home because my instrument is too large to take home.”

Did all students share Jack’s dilemma? A majority of the students that attend our school walk to and from school. They would have to then carry their backpack filled with their books as well as an instrument home. Did the students feel that they acquired enough practice during school to allow for comfortable
participation and expected growth? Were the students already using self-regulation strategies in their practice, which would account for less time spent practicing and the exhibited musical growth?

**Home Practice Reflections**

After the first lesson, I was discouraged that only a few students chose to take their instrument home to practice. I always encourage students to take their instruments home to practice, but often they are few who actually do it. As those who demonstrated an interest in practicing at home did so, they reflected on their practice using the Student Journal Entry prompts for Self-regulation (Appendix D). The students’ responses to the self-regulation prompts show various levels of practice with budding self-regulation. I had collected journals at lesson two and after reading the journal entries, I responded and returned journals to the students the next day. My responses are indicated in italics.

Noelle is a sixth grade violin student. As a second year player, she is challenged by the music played in orchestra. Her goals are general and not specific. She feels her mistakes are due to her late start in learning the violin. Most students started playing in fourth grade and she started in fifth grade. In her reply, she explained that she had started to experience the strength and benefits of practice noting improvement in her performance.
Figure 2. Noelle’s Initial Journal Entry

Noelle

My goals are actually to learn the songs. I am having a bit of trouble because it is faster. Also I am having trouble with the notes only because I started [playing the violin] last year in the middle of the year.

How are you doing now? Are you able to remember your notes and play faster? Why?

Now I am doing good. I am able to play faster and better because I practice more.

Valerie, a seventh grade cello student, seemed to be on the right track. She had recognized problems in her technique. Self-instructing the basics of bowing and notes, she was getting good results. Her growing self-esteem promoted purpose and influenced engagement in practice.

Figure 3. Valerie’s Initial Journal Entry

Valerie

Today I had practiced my goals were to get my notes right, move my bow at the right speed and all. My problem was getting the notes and going on the right speed. I can solve my problem by learning my notes and moving my bow right. When I play I will try to play the right notes and then move my bow at the right speed. Right now I am doing good. Practiced for: 30 mins.
Danyella is a sixth grade viola student. Of all of the students who completed the home practice reflection, she wrote the most. She used her prompts as a guide and stepped through the process of self-regulation by goal setting, problem identification, problem solving, identifying what had happened and how she performed.

Figure 4. Danyella’s Initial Journal Entry

<table>
<thead>
<tr>
<th>Danyella</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>My goal for this practice - My goals are to bow nice and steady. Don’t stop if there is no rest, and be on the correct rhythm.</td>
<td></td>
</tr>
<tr>
<td>My problem – I keep on bowing on a string and all of a sudden my bow is on a different string.</td>
<td></td>
</tr>
<tr>
<td>My solution - I solved it by making sure i’m [I’m] on the right string and going steady and slow.</td>
<td></td>
</tr>
<tr>
<td>What I do...Then What happens - When I go at a slow pace [pace] then go a little faster or a little slower. How i’m [I’m] doing I’m doing good on my viola.</td>
<td></td>
</tr>
</tbody>
</table>

Nice work😊

What’s the problem?

Students entered the large group room for early morning orchestra rehearsal on the third week of the study. As the students tuned their instruments and chatted with their friends, Tamara, the orchestra president, wrote the titles of the music we would be playing in rehearsal today.

“What are we doing today?”

“Harry Potter!”
“I hate Harry Potter!” said Sylvie.

“I mean I like Harry Potter, the character, but I do not like Harry Potter, the music!”

I am not allowed to read the story or see the movies,” Demetria shared.

“I love this music!” Tamara added.

“Please take out your journals and while Piff is taking attendance, look at your part for Harry Potter. Write down something you see in the music that you think may be a problem for you as we sightread this morning.” Here I was intending to help students enter into the first phase of self-regulation: forethought, performance and self-reflection. Following their sightreading performance of “Harry Potter,” I asked the students to look at the problem they had identified and write about what had happened or reflect upon their playing. Figure 5 shares the problems that the students identified when we sightread “Harry Potter.”

At the start of the next orchestra rehearsal I wrote Potter’s Problems on the chalkboard. I explained that as we continued rehearsing “Harry Potter” we were going to use the list of problems that they had identified to develop strategies to hone our skills and improve our performance. The students were now invested in the improvement of the music and together we would step into the second phase of self-regulation, adopting strategies to obtain our goal of performing “Harry Potter” successfully.
On our own

“Hello, Gross!” Chloe greeted me as she bounced into the room with Monet, Sylvie, Rosalinda and Cedric close behind. They all quickly added their greetings to Ms. Leigh, my pre-student teacher, got their instruments from their lockers and went to the front row of seats. Monet, Sylvie and Chloe sat together, Cedric sat a few seats away and Rosalinda took a seat a few rows behind the others. After violins were released from the confines of the cases, folders slapped open on the music stands; all settled down and started fiddling with “Queen of Sheba,” a new piece of literature introduced and sight-read in orchestra that
morning. I explained that today Ms. Leigh and I were going to observe their practice.

Cedric spoke up immediately, “May I use a practice room? Playing together in the same room is frustrating to me!”

“Sure Cedric, go ahead, but would you please write about your feelings in your journal?”

“Sure thing Mrs. Gross” and off he went, toting violin and music into the solace of a practice room. Later in the day I read his reflection: “I like to practice by myself because I have brothers and don’t get lots of time to practice. That is why time is so precious.”

Chloe, Monet and Sylvie moved to the back of the room arranging three chairs and stands in an arc. Ms. Leigh went with them and observed their practice. She watched as the students worked together as they started playing “Queen of Sheba.” Chloe saw that the other students were playing on their fingerboards, so she stopped the group and modeled the correct way to hold their instrument. Each student, in turn, as she played through the song, assisted the other.

In the front of the room, Rosalinda sat quietly staring at her music. Looking defeated, she glanced up at me as I approached her. She abruptly picked up her pencil and began to scribble the letter names above each note in her music. I sat down next to her and asked if she needed help.
“Mrs. Gross, these notes are too fast, I can’t play them.”

“Rosalinda, you have already taken the first step. You identified a problem you are having, that the notes are too fast. Now, how are you going to fix that problem?” I prompted.

“Hmmm, I am writing in my notes because I have to read them so fast.”

“Good, then what are you going to do?”

She looked up and smiled, “I am gonna try to play them!”

“Great, give it a try and I will be back to check in on you after I see how Cedric is doing.”

As I left Rosalinda and rounded the corner to the practice rooms, I could hear Cedric playing his music. I tapped on the glass and opened the door. “How is it going, Cedric?”

“Great!”

“Can I help you with anything?”

“Nope, I got it!”

“Okay, if you need me, come out into the large group room to get me, and watch your time!”

“All right, Mrs. Gross!”

As I closed the door, he started playing again and I rounded the corner to the large group room to check back in with Rosalinda. “How are you doing?”

“Okay, I guess.”
“Let’s hear a few measures, nice and slow.”

She played each note as a long tone at a slow tempo. After accomplishing four measures she looked at me and smiled.

“Good work Rosalinda. See you can do it! Now look at the next four measures. What do you see?”

“Those are the same notes. It’s like a pattern!”

“Right, so, if you can play the first four measures, then you can play the same pattern wherever it appears in the music. Finding patterns and notes alike makes playing easier!”

“I need to practice slowly growing faster.”

“Also look for repetition and patterns.”

“I really need to practice this way!”

After Rosalinda’s breakthrough, I noticed that Ms. Leigh and Monet were working apart from Sylvie and Chloe. Monet had had a problem keeping up with Sylvie and Chloe, so Ms. Leigh had asked Monet if she’d like help. Monet had discovered a problem while attempting to perform eighth notes at the same speed as the other girls. Monet could not play as quickly or as precisely as Chloe and Sylvie. Ms. Leigh helped Monet take each measure, note by note, at a slower pace and then speed it up, before placing it back into the larger work. Monet had identified a problem and now had a solution to test. With that the bell rang and the students all gloomily moaned, “AWWWW, we have to go NOW?” After
they sulked and slinked back to their lockers to put away their instruments, I wrote hall passes for each of them and they were off to their academic classes. I was beginning to see how the students conducted independent practice and where the process was most likely to break down for them.

**How is it going?**

A month into the new school year, I was curious to know what the students thought of the progress they were making as they practiced. At early morning orchestra rehearsal I asked each student to respond to the question, “How is practice going?”

Cedric: Great – better with music. It really helps to practice.

Marie: Practice helps me with my sharps and my flats and my naturals and helps me to understand the piece in general.

Adele: When we practice together I can hear where my part fits in with everyone else to know when to come in.

Rebecca: I practice up and down scale five times, and then play the song.

Monet: Play difficult measure then go back one or two measures. Start from the beginning then go up to that [difficult] measure.

Chloe: Before I start playing I play random notes to warm up.

Cedric: At school take advantage of practice; you don’t often get time to play in your house without any other noise.
Marie: Before practice, I look over music to see what I remember. I also play it in my head to remember how it sounds.

Phoenix: I can’t practice at home because my instrument is too big to bring home.

Monet: I can only practice half the time because Mom had a baby and I have to go up and down the steps…wastes my time…so I get mad.

Adele: I can practice sometimes, but not all the time. It’s hard to listen to myself with my brother and sister playing their instruments too! My ears are going to bleed someday! Having to be in three groups, I have to spread my time, especially jazz band…I spend the most time on.

Rebecca: It’s hard to practice. My little sister tends to pretend like she is playing the cello. She can’t pick it up because the cello is too big. Mom thinks she knows everything and tells me it’s [the music] not like that…I hate her because she is annoying!

Marie: I had more time to practice last year…had all music [band, orchestra, jazz band]. With sports, wish I had more time to practice.

Monet: I changed because the music was easy last year…more different this year. Doubled [practice] to one hour from half hour. I like playing my violin so the time goes fast!

After rehearsal, when all the students had finished eating their breakfast and returned to their academic classes, I closed up shop and left school to attend a
meeting with the three other middle schools instrumental music directors in our
district. It was time to plan for the All City Orchestra Concert to be held in
January. Students representing each of the school’s orchestra programs would be
selected to attend two three-hour rehearsals culminating in a concert. In this
meeting we would need to select students, choose our music, and divvy the
concert chores.

As I traveled across the city, I reflected on the comments that the students
had shared that morning during rehearsal. The students had seemed to be
experiencing both frustration and success with practice. It was stirring to hear
about the environmental interferences from Rebecca, Monet and Adele. Their
story was similar to what Cedric had shared during his lesson when he retreated to
a practice room. Could the environment at home be the home practice obstacle?

I greeted the directors as I entered the band room. As we all shared a
donut and coffee, we also took a moment to share things that were happening at
each of our schools. As my colleagues told of their accomplishments and
challenges, I patiently awaited my turn. After they finished and all eyes turned to
me, I excitedly shared with them what I had just learned that morning. Interest in
my study was palpable as they expressed a desire to grasp the students’ definition
of practice. As we discussed practice, I noted that my baseline survey results
concurred with the directors’ conjecture that students define practice primarily as
something done at school, not at home. One colleague added that even some
parents had recently shared this opinion with him. Now I wondered how parents’
opinion of practice might serve as an obstruction to home practice for some
students.

Rebecca’s Story

Having collected and reviewed the stories within the student journals, I
composed a first person narrative (Figure 6) to share one student’s journey
through the music practice experience.

Figure 6. Rebecca’s I-Story

My name is Rebecca, I am an eighth grade student and I play
cello in the orchestra and am also a majorette in the marching band.
Music is important to me. In life it is something I want to do for a
long time. I enjoy playing an instrument and hearing music. I can
express myself with it. It makes me feel good. If I am sad it makes
me happy. I have always felt this way about music: I LOVE MUSIC!

But things interfered with me being a part of music in school.
I thought that I was all that when I came to middle school in sixth
grade. My grades were bad, and I didn’t like many people, and not
many people liked me. I wound up hanging out with the wrong crowd,
and worse yet, allowing myself to be influenced by those people.

Even so, I joined the band and the orchestra in sixth grade.
Well, after just two months of middle school, I got myself in trouble
during a public performance! I was kicked out of band, and I quit
orchestra. Mrs. Gross told me that I was not committed to playing an instrument as reflected by my disrespectful attitude to others. I would have to change my behaviors to come to practice and to be part of the musical group. I was so upset and mad at her; why wouldn’t she let me be part of music?

For the first two years of middle school I wasn’t a very good student because my disrespectful attitude always got me in trouble. I know I am an intelligent person, but not many people know it because of my behavior. I was suspended 6 times last year and almost expelled from school, not something to be very proud of, I know. By the end of seventh grade, I realized that it took hard work to be in orchestra, and I almost lost it because of the stupid things that I did. I didn’t like myself too much then.

Things changed this year. I knew if I kept making the same choices that I would not be able to be in music ensembles. I had already been kicked out in sixth grade and suspended in seventh grade. Was sacrificing the thing that I loved just to stay in a group of “cool friends” worth it? I wanted to be in band and in orchestra and be able to play my instrument. I love my cello very much. I just love it. I am good at it, it makes me feel good, it is very interesting, and I learn a lot. I want to be able to play and show off my skittles like some of the people who are role models in orchestra.
My general goal is to get better at playing the cello. I have to learn to practice. I am not a focused person, and I get distracted easily. I am not a multi-tasker. I mostly practice at school; it is hard to practice at home. My sister is always around. I have to watch her when my mom is not home which is a lot because my mom works a lot. I am afraid to take home my instrument because I fight with my brother. He is mental and breaks stuff and steals stuff. I would try to hide my cello, but because it is so big, it is hard to do that.

I am not fully satisfied with my personal performance because I know I could do better if I practiced more. There are things that I have the potential to do if I try hard. Music is important to me in my life. If I practice really, really hard I can get better at playing. I must do my best so that the orchestra can sound good because if you make a mistake it can be heard and affects the performance.

Now I auditioned for high school, and I made it! The music was challenging because it was a harder high school piece by Mozart. It was the real music, not an easier arrangement. I practiced my music really hard for the audition. Mr. Michael, the high school director, heard me play and complimented me on things that I didn’t even realize that I did well. I feel that I am better at playing the cello than I thought that I was. I am proud that I will be able to be a part of orchestra in high school. My confidence is built up and it makes me feel absolutely amazing! I have improved my behaviors
At school, I am getting good grades, and I know that even though I still hang out with some friends that maybe I shouldn’t, I don’t do what they do any more. It gets me in trouble and then I cannot do the thing that I love: playing my music.

Rebecca had told me many times that she was unable to take her instrument home to practice, and I always wondered why. Her story opened a door as she guided me into her world. I now understand how important music is to her and how difficult it was for her to be able to practice in her home. Rebecca taught me more about the power of music.

How do I practice?

As the students entered the large group practice room for orchestra rehearsal the next morning, there was a lot of chatter. Autopilot engaged, students dropped their backpacks in a pile against the wall, and went directly to release their instruments from the confines of their lockers and started to tune. The section leaders traveled down their rows like busy bees, tweaking each string to resonate the perfect pitch. The larger instrument players migrated to the piano to tune. The dissonance heightened as some students began to practice the music for today’s lesson.

The secretary had begun to take attendance when I stepped to the podium and asked all to take out their journals. “For warm up today we are going to
reflect on our own practice. How do you practice? Do you have a routine? What do you do every time you sit down to practice? Please write an entry in your journal outlining what you do during a typical practice session.”

Several students immediately asked questions about the format for writing the journal entry, and I responded that there was no required format. They could simply make a list of what they do first, then next, and so on until they had written down everything they do when they practice. The room hushed as the students set to writing in their journals about their practice routines.

Cheneyney: First thing that I do when practicing is play my scale, then I practice then main songs for a half hour.

JoLee: I do scales, then music from band, then private lessons work.

Danyella: I play music and when I do something wrong I go back and play it again. I also play a note and name it. Sometimes before I start to play I go through every note in the A, D, G, C scales.

Rosalinda: I practice by playing scales first. I finger all my strings, and when I play a song I play the notes, then the song all together.

Pablo: First I look at anything that can help me from my book. If there is something I practice it. If not then oh well. After looking through my book I then try my music.
Piff: I practice by getting my instrument out, getting a stand, taking out my music then looking at the notes to understand what they sound like, then I go over the fingerings.

Victoria: The way I practice is when I take my violin home and I practice good songs. I do random notes first, and then play the song.

Jack: First I play my scale. Then I play the piece that I was working on earlier until I perfect it.

Sylvie: I warm up with an easy song or scale. I play songs I need help with, going by measures. I finish when I get better, and play the whole song I work on.

Adele: I usually sit with my instrument and music. I play through a whole song to see where I have errors. My difficult things, I practice over and over.

Monet: I practice by all kinds of ways. I look through the music, I find parts that look difficult and play the measures 3 times if I get it and then, if I get it I can play the whole piece. First, what I do is I look through the music how difficult it would be. Then I try to play it. When I get stuck on a measure, I repeat it until I get it right. Second, I repeat the measure. When I get that measure right I go back a couple measures and repeat it. Lastly, once I do step 1 and step 2, I bring it all together and play the whole piece.

Noelle: When I practice, I am in my room by myself and start with the parts I am having trouble with next I play through the parts I am having trouble with. I play
the parts that I am having trouble with first and then go back and through the song. I practice them over and over again.

Emma: I play all of the music then if I came to a trouble spot I stop and keep going and playing it over and over again.

Demitria:  1! I get out my violin
  2! I get my music
  3! I rosin my bow
  4! I start to play
  5! Then I’ll probably get stuck
  6! But slowly I figure it out
  7! And lastly I’ll play some more!

Rebecca: I practice by playing through the song and looking for my trouble spots and practice through where I have trouble till I get it.

Valerie: I go through my scale like 5 times. Then play my song measure by measure. Then after I get my notes I go through the whole song. Then I ask the teacher about the troubles that I have and then try to play the whole thing. I play the measure or spot that I have trouble a couple of times or I will play the scale the same way the notes are and try to see how it goes.

Cedric: First I get out my violin and tighten the bow and rosin it. Then I play the key of the music’s scale & chromatic scale. I play the songs I have most trouble.
Most students practiced by playing through the music, and when they made a mistake would go back to the beginning and repeat the entire passage. Some students played what they knew and skipped the other parts in the music. Some students just played the music, and when they got to a hard part they stopped and played the challenging material until they got it correct…they slowed down, then sped up, then placed the passage back into the larger work.

**What are you thinking?**

As the last note of music sounded of *Finale* from *Beethoven’s Fifth Symphony*, and students dropped their instruments to resting position, I had to know what each student was thinking after reading this piece for the first time. Were they identifying problems? What problems were they hearing and seeing? Were they reflecting on the music they had just read? To answer my questions, I conducted an informal survey asking them simply what they were thinking at this point in the process.

Adrienne: I don’t like this song because I keep getting lost.

Marie: My thumb hurts [because] my bow has to move so fast!

Phoenix: I got lost going to the CODA.

Tamara: Violas have to play soft, violins have to be louder, can’t hear the melody.

Emma: The last three beats of measure 34 to the end of measure 39 have a lot of eighth notes; it’s repetitive.
Adele: It is easier to play a song when you know the melody.

Piff: I learned if I keep playing the E string over and over, it fits!

Rebecca: When other people don’t play or stop playing, it messes me up!

Chloe: I learned that I have no idea what the song is and I don’t know how to play it.

Cedric: Song is pretty fast! Beethoven writes fast stuff!

Marie: (yawning) Repetition messes me up, so I get lost and jump in at the wrong part.

Adele: I get what Marie is saying, When I get back in, the repetition is confusing.

Bill: The B flats are confusing.

I was quite pleased to see that students were identifying problems after sightreading the music. Now what would they do? After problem recognition, what would initiate self-regulation? Do the students inherently improve or simply want to experiment and explore the music? As students set goals to practice for improvement, the first step in the process of self-regulation is realized.

**Goals**

“Hello, Mrs. Gross! What are we doing in lessons today?” Adele asked as she walked into the music suite for her cello lesson. Valerie’s smile lit up the room as she entered the room a few steps behind Adele. I explained to the students as they placed their book bags on the floor behind their chairs and went
to the closet to get their cellos that we were going to identify a goal for improving
the performance of the music “Shalom Chavarine” which we had sightread in
orchestra that morning.

With their music on the stand in front of them, the students hugged their
cellos as I gave each a copy of the Goal-Reason Web (Appendix E).

“Have you ever seen this type of web before?” I asked.

“Yes, we used this, in Language Arts, for identifying the setting of a
story,” Adele stated as Valerie nodded in agreement. “It has even shown up in
math class for factors. We are going to use this in music, too?”

“Sure!”

I asked the students to identify a goal they would like to accomplish when
playing this music and each student identified a personal goal. As the students
filled in the smaller parts (Figure 7) that would lead them to their goal, questions
began to surface.

“What scale do we need to know?” asked Valerie.

Together we uncovered the relative minor key of d minor for the key
signature they had identified as F major. After the students understood the key of
the music, they concluded that the scale was important to practice when learning a
new song, adding this to their web.

The students went to work independently dissecting the music using the
concepts they had identified in the smaller circles of their web. After a few
minutes Adele said that she thought that practicing alone could be boring, and the others agreed.

“I like to play alone to isolate mistakes, but I do like to play for other people because then there is a purpose for practicing!”

**Figure 7.** Adele’s Goal-reason Web
The bell sounded as lesson six ended and Valerie responded, “This went so fast, didn’t we just walk in the door?”

Everyone nodded in agreement as they gathered their cello, bow, and music and proceeded to the closet.

“Have a good lunch, everyone,” I called to the students as they slung their backpacks into place and headed for the door.

“See you later Miss!”

“Bye Miss!”

It had been only six weeks since we began this journey together, and the students had made a significant discovery today: performance provided a purpose for practice! My observations and student work had revealed that students had begun to connect the process of practice with a goal, performance. Diagramming to extinguish the problems and to set goals kept the students focused and provided a plan for practice. Reflection helped to foster connections and motivated critical thinking. The entire process had given students a glimpse of the inevitable outcome of practice, successful performance.

Recapitulation

Based on my observations and their reflections, the students were beginning to understand the importance of identifying problems and setting goals in relation to practice. Connections were being made between practice and
improvement. I had even heard a few students using the phrase “don’t give up” as advice to struggling peers.

Focusing and developing a plan for practice was an important new activity for most students who practiced by simply playing through their music. When a mistake was made, these students usually stopped and returned to the beginning of the song, playing the music again, from the beginning, this time skipping the difficult parts.

Now students had begun to stop and identify problems, extract mistakes, decrease tempo and practice the extracted passage until the problem was corrected. Then the passage was put back in context, tempo gradually increased until performed correctly. This was a significant change in strategy. Practice, which had once been treated as simple repetition, was undergoing transformation using the process of self-regulation.

**Music Lesson Survey**

Intrinsic interest is a part of the forethought step of the self-regulation process. What attracted the students to music? What was the students’ reason for becoming an instrumental musician? Would I be able to drive student reflection beyond the technical aspect of practice to activate thinking to the core of what drove them to want to become an instrument player?

Why had these students started playing an instrument and what was their interest in music? What music did they prefer to play and listen to? How do they
identify themselves when playing music? How much time did they want to spend playing music?

In order to find out more about their interest in music and goals for music, I conducted a Music Lesson Survey (Appendix F). The results revealed that a majority of the students liked Hip-Hop and Rap music; Pop music was a close second, followed by Jazz. A majority of the students liked music they could sing along with or dance to and most students listened to music all the time; they turned on music whenever they could.

When questioned about their reason for wanting to play an instrument, the majority responded that they loved music and that they had always wanted to play an instrument. The majority of students imagined themselves participating in an orchestra or band when they pictured themselves playing an instrument.

Half of students thought they would practice a lot, at least half hour a day. Only eight students said that they would be really busy and would not be able to practice much.

What I was able to see through this reflective survey would help me to reignite the students’ passion for music as we continued through the self-regulation process. By reminding the students’ of their inherent desires for music, this survey moved students toward an understanding of their purpose for becoming student-musicians. Knowing the significance of music in their lives, my students and I approached the next phase in self-regulation, performance.
**Discovery step by step**

Students had identified problems, set goals and the survey had started the process of reflection, stimulating metacognitive awareness in music. Students were ready to work independently and self monitor their performance using the Step-Detail diagram (Appendix G). In the layered story that follows in Figure 8, I share Phoenix’s experience using this step by step diagramming as an example of self-observation and self-control, the major components of the second phase of self-regulation, performance. Narrative data presented from the figure are culled from my observational notes, an informal interview and Phoenix’s journal.

**Figure 8. Phoenix’s Layered Story**

**Phoenix’s discovery**

*Mrs. Gross*

As Phoenix entered the room for her lesson I explained that today she would be able to practice whatever she chose to practice for the 30- minute lesson period. She smiled, and got her instrument out immediately. As she practiced I asked her to record the steps that she took to practice and the details for each step.

*Phoenix*

This type of practice is kinda helpful to me. I don’t usually write down the steps that I take to practice, I just start to play and that is it! I think that I will try this. I need to practice *Finale* and *Can-Can*. I usually make mistakes when I play these songs.

*Mrs. Gross*

Phoenix is a seventh grade bass player; she also plays percussion in band. Although unable to take her instrument home to practice due to its size, she is extremely conscientious about attending her lessons in school. I wonder where the other scheduled bass player is. Phoenix doesn’t seem to mind though, because she prefers to take her lesson alone rather than with the rest of her group. Let’s see how she does with this step-detail charting.
Phoenix

Okay, I have my music out now; what part do I have difficulty with? Let me play a little bit and see how it goes. Uh oh, there it is, that measure I keep screwing up. I am going to have to study that measure...slow down the tempo and pizz [icato] rather than bow it. Okay, now, I got the fingering down. Now I can start to bow.

Mrs. Gross

Phoenix usually practices informally with no defined goals. She just plays. She identified songs that she thought that she had difficulty with, stopped at her problem spot, slowed down, put her bow down and used pizzicato focusing on the notes, them the rhythm. Now she is writing the steps and she is following them, too! It is great to see that she filling in the step-detail diagram.

This is her practice, observe, and do not jump in. Yes, she has begun adapting using analytic practice through goal setting, identifying problems and is focused. It is working!

Phoenix

I like to select my own music to practice for my lesson. Usually we practice the same song that we are studying in orchestra rehearsal at lessons. That is not always what I need! When I get to choose the song, it is something I need to practice more. Just getting a chance to pick a song is more helpful because I can work with the things I have difficulty with.

Mrs. Gross

As Phoenix is playing she is stopping and by evaluating her practice, Phoenix is beginning to see the benefits of self-regulation. She is making improvements in her performance.

Phoenix

It was difficult writing the steps when you usually just get a song out and play. Writing things down in music? Who would think that this would be something that would be helpful? When I had to write stuff down I recognized that we do this...I just do it. As I played and wrote my steps I realized I do this!

Mrs. Gross

Phoenix has discovered that she has developed a strategy for practicing in her self-evaluation.
Professional practice

As students filed in for their next rehearsal, I knew that this was going to be anything but a typical rehearsal day. The students would see a video of Wynton Marsalis and Yo-Yo Ma speaking to them from Tanglewood about practice. As my pre-student teacher Ms. Leigh told students that they would not need their instruments, a shocked look came to many faces. An undertone of “I want to play music, not watch a movie!” could be felt as Ms. Leigh introduced the video. Once the monitor lit up, the students hushed and watched as Wynton Marsalis and Yo-Yo Ma spoke to them about practice. Due to time constraints, Ms. Leigh condensed the video by fast forwarding through some of the musical performances despite, the disapproval of the students.

“Miss, can we see the whole video another time, please?” asked Adele. Others added their sentiments. It seems that the movie that they initially did not want to see had become something of interest. The students especially liked the many performances that were interjected throughout the documentary. Marsalis had addressed eight of his twelve strategies for practice (Figure 9) when we told the students we would finish the video next time.

Wynton’s ways

As Monet entered the music suite for her lesson Ms. Leigh told her that she would not need her instrument. The normal lesson routine broken, Monet seemed confused. After placing a copy of the Step-by-Step Chart (Appendix G)
on the music stand in front of Monet, Miss Leigh began, “This morning you watched the video with Wynton Marsalis and Yo-Yo Ma. What did you learn from the video?”

“I learned about how a professional practices.”

“Did you learn or hear anything that you thought was interesting?”

“I was surprised that Yo-Yo Ma did not like to practice!”

“I agree! Wasn’t that surprising?”

Wynton’s Ways to Practice

Number 1. Seek our private instruction.
Number 2. Write out a schedule to organize your practice time.
Number 3. Set goals to chart your development.
Number 4. Concentrate when practicing.
Number 5. Relax and practice slowly.
Number 6. Practice hard parts longer.
Number 7. Play with expression.
Number 8. Learn from your mistakes — don’t be too hard on yourself.
Number 9. Don’t show off.
Number 10. Think for yourself.
Number 11. Be optimistic.
Number 12. Look for connections.

(Marsalis, 1995, pp. 123 – 138)

Figure 9. Wynton’s Ways to Practice

“Yeah, I couldn’t believe that a professional said he was not a fan of practicing.”

“Do you remember what Wynton Marsalis titled his practice ideas?”
“Wynton’s ways to practice.”

“Do you remember how many ways there were?”

“Yes, 12!”

As Ms. Leigh and Monet reviewed the practice points, Monet recorded Wynton’s Ways in the step column of the chart and then thought of her own method to carry out Wynton’s ways which she recorded in the Detail column (Figure 10).

After the day had ended, Ms. Leigh and I discussed the events as they had unfolded during lessons. Students had remained focused during lessons and fully responded to the exercise. Focusing on practice rather than playing during this lesson helped students to see the importance of learning about organized practice techniques.

Every student remembered that even a professional as renowned as Yo-Yo Ma did not like to practice. They also found that they already follow some of the approaches demonstrated in the video without even realizing they do so. Many steps caused students to think deeper about music, like step 7, expression and step 12, connections. Theses two steps inspired creative thinking and I looked forward to see my students apply these steps to their practice.
**Figure 10.** Monet’s step-by-step chart (Wynton’s Ways to Practice)

<table>
<thead>
<tr>
<th>Steps</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Seek private instruction.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Writing out a schedule</td>
</tr>
<tr>
<td>Step 3</td>
<td>About setting goals</td>
</tr>
<tr>
<td>Step 4</td>
<td>Concentrate on practice</td>
</tr>
<tr>
<td>Step 5</td>
<td>Relax &amp; take things slowly</td>
</tr>
<tr>
<td>Step 6</td>
<td>Practice longer on things you noticed?</td>
</tr>
<tr>
<td>Step 7</td>
<td>When playing, make every time etc.</td>
</tr>
<tr>
<td>Step 8</td>
<td>Don’t be too hard on yourself</td>
</tr>
<tr>
<td>Step 9</td>
<td>Don’t show off</td>
</tr>
<tr>
<td>Step 10</td>
<td>Think for yourself</td>
</tr>
<tr>
<td>Step 11</td>
<td>Be optimistic</td>
</tr>
<tr>
<td>Step 12</td>
<td>Make corrections</td>
</tr>
</tbody>
</table>

Ask a Friend for help.  
Things we can accomplish are due in multiple areas.  
Quick movements of fingering.  
Finding time to practice alone.  
Slow then speeding up when comfortable.  
Working towards the middle of songs.  
Take what I am feeling onto my vision.  
Keep working hard, don’t give up.  
Play for the music.  
Don’t play for applause.  
Not every method works for you.  
Never say never.  
Relate center things.
We also noted that this lesson held different applications for each grade level. Most sixth grade students were not yet self-motivated to regulate their practice and Ms. Leigh and I hoped that the step-by-step chart would help them physically understand what is expected of practice. The chart provided a model for students to use to begin self-regulated practice and to see what steps they can take to make practice more inviting to them.

The seventh and eighth grade students used this list as a checkpoint to further expand on what they are already doing. I anticipated that the chart will serve as a rubric to remind students of the elements of professional practice.

**I can do this!**

As the eighth grade cellos sauntered into the music suite, I greeted them and said, “It is time to create your way to practice. We have had the opportunity to explore professional practice with Wynton’s Ways. Now it is time to create your way to practice. Using the step-by-step chart, list the steps you take when practicing and add details as needed to further explain what you did during that step.”

“Oh, I get this!” Marie said with much enthusiasm. “I am going to use Wynton’s Ways and just tweek it!”

She took the step-by-step chart and started to fill in the steps, then added details (Figure 11).
Figure 11. Marie’s step-by-step chart (Post evaluation)

Rebecca stared at her music, then at the step-by-step chart, finally putting her bow down and confessing, “I’m stuck, since I hardly ever practice, I really do not know what to write.”

“What would you do first?” I asked.

“Hmmmm, not sure.”

“Let’s work this out together,” Marie offered.
“K, let’s do it!”

Rebecca began to fill in steps and details on her step-by-step chart (Figure 12) with Marie’s help. I observed as together the students talked about how to practice.

**Figure 12. Rebecca’s step-by-step chart (Post evaluation)**

![Rebecca’s step-by-step chart](image)

Valerie’s Realization

After students had created their way to practice, I collected and reviewed journals. I was especially impressed with one student’s insight on practice. I composed the first person narrative below from Valerie’s journal and my observational notes.
Figure 13. Valerie’s I-story

Practice is awesome! I accomplish a lot of stuff and it is really fun learning how to solve problems. I learned that you are not perfect, and that you will always make some mistakes.

I will try to spend more time practicing the challenging music. I must practice more, and learn my notes, so I will be able to play a song without messing up. I will try my best to get my notes and my bow speed. I really am getting better. I know I am improving because I have been going through my music without messing up. I have found that the exercises in my book help me too.

I realized that you could use different steps to get a song; it is not always the same exact steps. It depends how hard the song is or how easy it might be to you, but you still have to do steps to get it.

I got seat number two out of the six cellos in orchestra. I made it to book three already, and I am only in seventh grade. Practice really helps me! That is really good!
D.C. al Fine

As we approached the end of our twelve weeks, I was thankful that this would not be the end of our story. Our holiday performance just a few weeks away, the students were prepared to perform. The students and I would continue to make music together for the remainder of the school year. I interviewed the students (Appendix J) regarding their self-regulation experiences, and each student had a story to share.

Chloe: I am just like Yo-Yo Ma I don’t like to practice, but once I start to play, it is fun.

Rebecca: I do feel good inside when I have succeeded on a goal I have set.

Monet: There is no perfect, so I try to be the first better, the highest better, but not exactly perfect.

Jasalyna Marie: It is fun because it is new when other people watch you, and they tell you how you do and stuff.

Cedric: I like the satisfaction after you play a while. With practice you get the music right over and over again, and it feels good!

Phoenix: I’m not really focused on what I have to work on all the time. Just playing music in my motivation. Music itself motivates me.

Tamara: I want to get better, so I want to practice.
Jack: Practicing music is tedious. I mess up five notes, and it takes me 20 tries to get it right, and that’s frustrating! I just have to get it.

Marie: I am more aware that I can do this on my own; I think about the stuff I need to focus on more.

The students had a growing awareness that becoming successful took practice, and practice was more than just repeated playing. Setting goals and identifying problems led to developing strategies to use for self-regulation, which led to self-instruction and increased proficiency in music practice. Students were even able to evaluate performance. Using the process of self-regulation we had begun to build a practice pyramid for performance success.

**Figure 14.** Practice Pyramid

```
G
 E   U
R   L
 A
F   T
L   I
E   O
S   N
SUCCESS SUCCESS SUCCESS
evaluation EVAL EVALUATION
self-instruction self-instruction
strategy strategy strategy strategy
problem problem problem problem
goals goals goals goals goals goals goals
practice practice practice practice practice practice practice
```
MEMO METHODS OF ANALYSIS

“Data analysis starts with the first collection of data”

*(MacLean and Mohr, 1999, p.59).*

**Memo analysis**

Throughout this study, as data were collected, analysis was an on-going process (Hendricks, 2009). In an effort to move in and out of my data, from discrete parts to whole views and, as suggested by MacLean and Mohr (1999), I constantly reviewed and expanded my field notes thinking about my students and my research question.

Reflective memos provided examples of students at work and the students’ development of self-regulation in practice. After reading and reflecting on works from educational philosophers, I considered the multiple perspectives of Dewey (1997), Freire (2003), Kohl in Delpit and Dowdy (2002) and Vygotsky (1978). Garnering educative insight from Dewey, I examined my data through a progressive lens. Freire’s dialogical lens provided insight to my students’ new freedom and an awakening of their critical consciousness. The sociolinguistic lens of Kohl in Delpit and Dowdy sharpened my vision of teacher talk and the cultural diversity of my orchestra. The social constructivist lens of Vygotsky gave me the sight to interpret and analyze my data taking into consideration the role of play in development. In reflective dialogue, I examined my data identifying key quotations.
At the mid-point of my study, I prepared a methodological memo itemizing my data, to summarize my insights, and determine the direction of my data collection. I determined how the methods I had used had helped me answer my research question and identified what data were missing so that I could proceed in procuring these data. After reviewing my research question, I recorded emerging sub-questions and a chronological list of what I had gleaned from my observational data, student work, and interview and survey data.

“Metaphors structure our perception, thought, and action” (Saban, 2006, p.299). As I reread my field log I located and analyzed the figurative language that appeared in my data. Used as a reflection tool, metaphor analysis helped provided “a good mirror for understanding” the relationship between teaching and learning (Perry & Cooper as cited in Saban, 2006, p. 306). Students’ reflections about their practice, whether verbal or written, provided images of “knowledge in action (Black and Halliwell, 2000, as cited in Saban, p. 306). Using metaphor analysis as a lens, I was able to better understand my own teaching practices as reflected by my students.

**Interview/Survey Data**

Following the initial survey I tallied and analyzed the responses, and analyzed the data. Based upon the record I was able to identify important information that helped me understand the students’ practice habits prior to beginning the intervention. I created a graphic representation of the initial
baseline survey (Figure 16) to visually depict these data. “Displayed data…are easier than recorded data to understand and describe (Hendricks, 2009, p. 138). The responses from the music lesson survey to examine students’ attitudes toward music and practice were tabulated and recorded in my field log.

To give my students a “voice to their own interpretations and thoughts rather than rely solely on our adult interpretation of their lives” (Eder and Fingerson, 2002, p.181) interview data were integral to my study. As students were interviewed, I recorded responses in the form of field notes. As students responded, I requested clarification if responses were vague. As suggested by Hendricks (2009), after the interview was transcribed I, as the researcher, reviewed and coded the interview. When I reviewed my written interview notes, I also wrote marginal notes, which were then “grouped into categories as the words and behaviors of the children fell into place as ‘patterns of response’” (Ely, Vinz, Downing & Anzul, 1997, p.166).

**Student Work/Journal Entries**

I collected student work as a means to determine individual understanding. All work was examined side-by-side for similarities and differences and the results were recorded and coded before being placed in my field log.

In addition, students completed a reflective journal. The information shared in their journals was compiled, analyzed side-by-side, and coded. Some
student responses from journals were transcribed to first person narrative (Ely, Vinz, Downing & Anzul, 1997).

**Coding, Bins and Theme Statements**

“Analysis involves working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them, and searching for patterns” (Bogdan & Biklen, 2002, p. 147). As I collected data in my field log, patterns of topics began to emerge. I then assigned labels to the data and jotted them down on the right side of the page on which they appeared. Using this process of coding (Ely, Vinz, Downing & Azul, 1997), I then created an index (Figure 15) with every code with its field log line number and page number. After coding by topic, I “sorted things by their likenesses and differences” (Ely, Vinz, Downing & Azul, 1997, p. 164). I grouped my codes into categories placing them in bins to help bring order to my data. I prepared a graphic organizer illustrating my codes and bins (Figure 16) I looked for relationships, patterns, and themes that ran through the categories and “lifted them” as statements (Figure 17) to interpret my data. (Ely, Vinz, Downing & Azul, 1997).
Figure 15. Graphic representation of emerging themes
FINDINGS

Urban middle school orchestra students applied self-regulation strategies to their practice for a twelve-week period. Students moved through the three phases of Zimmerman’s cycle of self-regulation (2002, p. 68) with practice and performance initiating a loop back to forethought. The action research yielded the following findings.

**Figure 16. Theme Statements**

**Theme Statements**

Forethought is not totally independent on the part of the student, but rather it requires the teacher motivation, student self-motivation, and collaboration that are the hallmarks of an effective student-teacher, teacher-student partnership.

Through goal setting at the appropriate time, students are able to focus and in turn, individually scaffold their learning.

Specific practice strategies including audiation; problem isolation, extraction and reinsertion (P.I.E.R.); and the step-by-step graphic organizer enable students to make effective diagnosis for improvement.

Performance motivates practice; environment affects practice.

Freedom promotes self-regulation in practice, yet freedom may also be a distraction from self-regulation in practice.

Reflection is a critical link in the process of self-regulation.
Partnership

*Forethought is not totally independent on the part of the student, but rather it requires the teacher motivation, student self-motivation, and collaboration that are the hallmarks of an effective student-teacher, teacher-student partnership.*

Forethought, first phase in the three phases to Zimmerman’s (2002) self-regulation cycle, entails task analysis and self-motivation. In the case of a novice musician, appropriate support is needed to elicit metacognitive engagement to facilitate the completion of task requirements. Teachers and students must bond in a familial way, linked by trust. Collaboration and teacher motivation provide exemplars to promote independent forethought.

Together, teachers and students develop an authentic reciprocal connection. Paulo Freire (2010) states that collaboration stimulates creativity and ultimately trust, explaining the role of the dialogic educator;

From the outset, her efforts must coincide with those of the students to engage in critical thinking and the quest for mutual humanization. His efforts must be imbued with a profound trust in people and their creative power. To achieve this, they must be partners of the students in their relationship with them. (p. 75)

I am a musician-educator, and my pupils are student-musicians. I not only teach students to play their instruments, I play with my students. *We are musicians*: this is a creative bond. To share in creating music is special. Music
holds an emotional attachment in its creating. For the moment that we are performing music together, we are equally human. We are instrumental to each, we trust in each other, and we create together a performance that is a unique, once in a lifetime experience.

Music performance embodies a partnership founded in trust and creativity. The creative interpretation of a work is entrusted to the teacher and her student-musicians. Together a partnership is forged that focuses the creative power of all so that music positively affects the audience. In order for this to take place, the students must trust in me and I, in turn, in them. Mutually we feed each other to achieve a successful music performance. This rehearsal/performance partnership is paramount to inspire forethought of self-regulation. In believing in my students, the students reciprocate and trust in me. It is then in the sharing of a common purpose, in our music, students may move into forethought.

**Scaffolding**

*Through goal setting at the appropriate time, students are able to focus and, in turn, individually scaffold their learning.*

Middle school presents an environment of high energy and excitement, where students have a tendency toward impulsive reactions. Research has shown that a majority of students practice by playing through their music without stopping (Rowher and Polk, 2006; Gruson, 1996; Byo and Cassidy, 2008). Impulsivity may lead to this process of repetition with no correction. Therefore,
parts of the music that are easily prepared can be virtually flawlessly performed with the more intricate passages error laden. When student-musicians are not cognitively engaged when practicing, focus is lost. Dewey (1938) offers some insight here:

The old phrase ‘stop and think’ is sound psychology. For thinking is stoppage of the immediate manifestation of impulse until that impulse has been brought into connection with other possible tendencies to action so that more comprehensive and coherent plan of activity is formed. (p. 64)

Engaging in goal-oriented, structured, and effortful practice will help to subdue impulsive reaction. Giving students guidelines to think about while they practice may ultimately lead to success in performance. Goal setting and strategic planning take place during task analysis, the second phase of self-regulation (Zimmerman, 2002). The goal reason web (Appendix E) led students to discover that using diagramming helped them to focus and plan for practice. The step-by-step chart (Appendix G) restrained impulsivity and initiated decision-making.

“Students who are more cognitively engaged while [practicing] not only tend to do more [practice], but also enjoy learning more and are also more efficient in their work” (McPherson & Renwick, 2001, p. 170).

Becoming self-aware is the goal in self-regulation. As students become aware of the steps necessary for improving their performance, they find that simple repetition is not the key. Students responded to their performance, and
become self-correcting. Knowing a process for uncovering their weaknesses and process for strengthening their skills was a liberating experience. The students expressed this newly found freedom in the independent utilization of self-regulation in their music practice.

**Metacognitive Awareness**

*Specific practice strategies including audiation; problem isolation, extraction and reinsertion (P.I.E.R.); and the step-by-step graphic organizer enable students to make effective diagnosis for improvement.*

Research has show that although many students can describe various practice strategies, they are often not able to apply them to their own practice (Rowher and Polk, 2006). Applying specific practice strategies enables students to make effective diagnosis for improvement.

Audiation is the process of mentally hearing and comprehending music without the physical sound being present. Similar to thinking language, Gordon Institute of Music Learning states, “audiation is the foundation of musicianship (2010). My student Adele explained, “Before I practice I look over the music to see what I remember, playing it in my head to remember how it sounds.”

P.I.E.R. emerges as students play through their music. The student stops when an error is discovered. Isolating the error, she then extracts the passage with the error and plays it over and over again until it is correct, reinserting it back into the larger work. Some students modify the process during extraction by slowing
the tempo and dissecting the passage to master it before it is placed back into the larger work.

Unless a given experience leads out into a field previously unfamiliar no problem arises, while problems are the stimulus to thinking. That the conditions found in present experience should be used as sources of problems is a characteristic which differentiates education based upon experience from traditional education. (Dewey, 1997, p.79)

Mr. Dewey speaks of the unfamiliarity of generating problems which stimulate thinking. Providing experiential learning and authentic problem solving to promote thinking rather than memorization and recitation generates metacognitive stimulation. The familiar, experienced out of context, exposed errors to the student. Critical thinking occurred as the students examined what was causing the error, attempting to solve it, rendering a judgment about their playing, and acting on this judgment.

Students felt that they were practicing their music a new way. The familiar way of practicing music with an instrument was made unfamiliar using P.I.E.R. Students were able to develop a plan created and customized by and for them. Strategic planning moved students into self-observation procedural practice, which is the performance phase of Zimmerman’s self-regulation (2002).
Performance and Practice

*Performance motivates practice; environment affects practice.*

The students who participated in this study indicated that they were not always self-motivated to practice independently. During a formal interview, they spoke candidly,

Cedric: “There were times I would love not to practice my violin, but Mom makes sure I have practice time every day.

Chloe: “I am like Yo-Yo Ma, I don’t like to practice, but once I start to play it is fun. My Mom makes me practice 45 minutes every day.”

Music practice is inherently paradoxical. It is disagreeable in that the redundant act of practicing highly technical and mechanically difficult drills, passages, and etudes often manifests feelings of displeasure, boredom and disconnectedness (to large pieces of repertoire). My own experience has at times, led to disconnect from the context of the pleasurable larger work. However, the paradox of realizing the necessity of the redundant technical work called practice is required in order to obtain the agreeableness and enjoyment for later experience of successfully making beautiful music.

John Dewey speaks of an experiential continuum saying, “Everything depends upon the quality of the experience which is had. The quality of any experience has two aspects. There is an immediate aspect of agreeableness or disagreeableness, and there is its influence upon later experiences” (1938, p. 27).
Musical practice is on an experiential continuum with the later experience being performance.

Adele speaks to this when she says that practicing alone can be boring, but there are times when it is important to do so. She practiced alone to isolate her mistakes. “I like to play for other people because there is a purpose for practice,” she explained. Utilizing purposeful practice demonstrates an understanding of the process of deliberate practice, which is similar to the practice of expert musicians (Ericsson, Krampe and Tesch-Romer, 1993; Hallam, 1997; Leon-Guererro, 2008; McPherson & Renwick, 2001; Sloboda, Davidson, Howe and Moore, 1996). The students learned that after practice there would be the reward in a successful performance.

Students became aware of their practice habits and the obstacles for practice. The initial survey revealed that the students practiced 110 minutes or more each week at school, which was surprising to the students. The students also expressed environmental barriers for practice. The environment in which practice occurs impacts the quality of practice. In school, practice was valuable and preferred because many students did not have the opportunity to practice at home.

Larger instruments were difficult to transport to and from school. In an urban setting, a majority of my students walk to and from school every day. Not only is the additional object difficult to carry, but also the routes students travel back and forth to school may be intimidating and hazardous. Similarly,
participation in after school programs may obstruct home practice, as students are unable to take instruments with them to practice for fear of breakage or theft.

Students were able to identify the things that they needed to know and improved in the performance of music they were practicing. They sought efficient ways to practice. They discovered that it took them more time to practice difficult music and practice significantly benefited their playing ability.

**Freedom**

*Freedom promotes self-regulation in practice, yet freedom may also be a distraction from self-regulation in practice.*

To practice, or not to practice? That is the question! Opting not to practice is not freedom. When students are given freedom of choice – to practice or not to practice, then many choose not to practice. This is shown repeatedly in my survey as students have the freedom to choose whether to practice outside of school and do not.

Practicing music is a solitary activity. Students need to learn to exercise self-control. Exercising self-control is valuable and leads to the development of skills for self-regulation (Zimmerman, 1994).

Middle school is highly social for students. Examination of figurative language used by my students led me to discover the highly social nature of the students in practice. Day one of my study revealed this culture when I asked students to sit with an unoccupied chair between them during small group lessons.
Students yelped, “Why can’t we sit right next to each other?” The students would like to sit beside their friends as they make music. Due to the collaborative environment this is usually the practice in most small group lessons.

Most of my students reported that they preferred to practice with someone or in large group rather than by themselves. This was supported when students were able to freely choose to practice independently, without coaching. When the students self-selected practice partners, they perhaps unknowingly chose group members of the same ability level and social circle.

As students practiced their instruments they made intelligent decisions about their playing. As they corrected their playing they were being intrinsically rewarded by the improvement of the sound of the music. Dewey (1938) tells us “The only freedom that is of enduring importance is freedom of intelligence, that is to say, freedom of observation and of judgment exercised in behalf of purposes that are intrinsically worth while (p. 61). By having the freedom to choose what they were to practice, as Phoenix related in her informal interview, students become highly engaged because improving was intrinsically worthwhile. It was what they needed to practice rather than what the teacher was telling them to practice. The students made observations about their playing by identifying problems, setting goals, and identifying the steps they need to take to improve their playing.
This process of practice needs to be modeled for the students who are not self regulated. For instance, Rosalinda was unable to get herself started with practice, feeling overwhelmed by the music during practice. Socially she was not part of the group, which was a big distraction and deterrent. As the other students made headway, her social alienation contributed to negative self-worth, ultimately paralyzing her practice. By coaching her through identifying a problem, she was able to initiate the practice process.

Freedom comes when students are able to self-monitor their practice and thereby encounter a positive experience. Students’ application of self-regulation to their practice allows them the opportunity to exert self-discipline. The student is responsible for his or her own practice and consequently feels empowered and free.

This was evident with the self-regulated students. The self-regulated students often broke out from the group and functioned independently. They would be the first students to sit down and start to practice. These students were self-initiated and often separated themselves from the group. They tended to cut off the social aspect of the group to put practice first. Cedric did this often when attending small group lessons. He went to the practice room and practiced independently for the period.

Dewey (1938) cautions us not to give students all of the power; the students will need guidance and modeling. “The greater maturity of experience
which should belong to the adult as educator puts him in a position to evaluate each experience of the young in a way in which the one having the less mature experience cannot do.” (p. 38).

Yo-Yo Ma, professional cellist, related in Marsalis on Music video that even professionals don’t like to practice (Marsalis, 1995). Once you get started practicing, then it becomes fun. It is important that students are able to see that perfection is not always attainable yet, striving for perfection is a worthy goal.

Wynton Marsalis’s, Step 10 is “Think for yourself” (Marsalis, 1995). Music notes on the paper do not make music. What you make of them through interpretation is the biggest factor. Keep a positive attitude. My charge as a musician teacher is to motivate students to continually improve. Practice is the tool to drive improvement. Although practice may not be perfect, it leads to improvement. Promoting positive discipline in the classroom I exercise social control and the students became invested in the process. Ultimate freedom is expressed in the stimulation of life-long learning.

Reflection

Reflection is a critical link in the process of self-regulation. Reflective thinking is the foundation of self-regulated thinking (Leon-Guererro, 2008, p.92). Self-regulation is supported by the students’ ability to reflect. Metacognitive awareness becomes evident when students are asked to
reflect on practice. Improvement is made through reflection. Intrinsic reward is realized in reflection.

Students documented the application of self-regulation to individual practice in journals. Using the process of reflection, students were engaged in critical thinking about their practice. Students “assess their learning progress and the effectiveness of strategies, alter their approach as needed, and make adjustments to environmental and social factors to establish a setting highly conducive to learning” (Schunk & Zimmerman, 1998, p. 230).

Students self-evaluate by comparing their performance to a previous performance or another person’s performance or an absolute standard performance (Zimmerman, 2002, p.68). In doing so, their self-reaction was either positive or negative, generating judgments leading to self-applied consequences. Activities with intrinsically reinforced consequences enable self-evaluative significance. Behavioral functioning improvement produces cognitive changes (Bandura, 1977, p. 106).
"You see things; and say, 'Why?' But I dream things that never were; and say 'Why not?'" George Bernard Shaw (as cited in McKenzie, 1997).

The music ends and the curtain closes. A moment for respite at last! Yet, dreams arise; reflections of past experiences emerge; images of the present and visions for the future evolve. The findings of this teacher action research study have spawned further inquiry. Where do I go from here?

Learning that forethought is not totally independent on the part of the student has raised the question of whether a partnership other than student to teacher may generate similar results. Peer tutoring, mentoring, and reciprocal teaching are methods that I may want to investigate to support student learning.

Goal setting allows students the opportunity to focus and individually scaffold their learning. As students realize what it is that they need know and be able to do, how might I more effectively and efficiently provide the required individualized instruction in a heterogeneous grouping? Will self-regulation help address the individual needs of each student in heterogeneous lesson groups?

The process of self-regulation, when applied to music practice stimulated metacognitive awareness. Students were able to stop and think
about what they were doing. As students continue to apply the strategies of audiation, P.I.E.R., and step-by-step graphic organizers to their individual practice over multiple school years, how will their musicianship continue to improve? Will more strategies surface? How might strategic planning affect improvements in a large ensemble?

Since performance motivates practice, what type of performance opportunities can be continually provided for students to be motivated to practice? A majority of the students who play instruments in this ensemble are multiple ensemble players. These “core” students tend to be the stronger musicians overall. Is this because of the additional time spent in practice? This phenomenon requires further investigation.

Self-regulation fosters democracy in music education by involving students in the process of educating themselves. Students were motivated by the freedom to select what they were able to practice. If students were to have the freedom to select music literature that is interesting to them with the curricular requirements necessary to meet the standards, would individual practice increase?

Student journals, interviews and surveys stimulated reflection and in doing so promoted critical thinking, analytic practice and self-judgment.
What reflection processes can students use independently to provide intrinsic rewards?

Practice at home is not carried out as frequently as in-school practice. Is this due to the social aspect of in-school practice? Will continual self-regulation motivate students to practice at home? If so, what will they choose to practice at home?

This action research study has strengthened awareness of my teaching method, taught me a great deal about the capability of my students and spawned further inquiry. It is with much anticipation that I look forward to sharing my findings with my colleagues, continuing to learn from their experiences as fellow music educators, and collaborating with my students as they emerge as inspired musicians.
REFERENCES


days between music lessons. Pearce, Australia: PracticeSpot Press.


*Educational Leadership, 48*, 14-16.


integrating mindfulness into psychology and the helping professions.


APPENDIX A

Dear Principal:

I am completing a Master of Education degree at Moravian College. My courses have enabled me to learn about the most effective teaching methods. One of the requirements of the program is that I conduct a study of my own teaching practices. This semester, I am focusing my research on music practice. The title of my research is "Perfecting Practice: Self-regulation strategies used during music practice of urban adolescent students". This study intends to benefit the students in instrumental music by improving their practice habits. A connection of inquiry to music will become apparent with the intent of fostering self-regulation strategies so that students begin to utilize synthesis in everyday practice.

As part of this study, students will choose questions they would like to answer about their music practice. The students will form strategies and test their strategies to draw conclusions and then share their results to the other instrumental music students. All students will maintain a music journal and provide feedback through interviews and surveys. The study will take place from August 30, 2010 to December 23, 2010.

During the study, I will collect and code various forms of data. The data collected will include samples of the students’ work, traditional assessments, music practice journals, surveys/interviews, conferences, and observations. All data will be held in the strictest confidence. Only I will have access to the data. My research results will be presented using pseudonyms – no one’s identity will be used. I will store the data in a locked cabinet in my office. At the conclusion of the research, the data will be destroyed.

A student may choose at any time not to participate in this study. However, students must participate in all regular instrumental music activities. In no way will participation, non-participation, or withdrawals from this study have any influence on any aspect of instrumental music.

I welcome questions about this research at any time. The students’ participation in this study is voluntary; refusal to participate will involve no penalty or consequence. Any questions you have about the research or about the process for withdrawing can be directed to me, Maryann S. Gross, extension, or my advisor, Dr. Joseph Shosh, Education Department, Moravian College, 610-861-1482, jshosh@moravian.edu.

Sincerely,

Maryann S. Gross

I give permission for my school to participate in this project. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.

_________________________________________  ____________________
Signature of principal                     Date
APPENDIX B

CONSENT FORM

Dear Parent/Guardian:

I am completing a Master of Education degree at Moravian College. My courses have enabled me to learn about the most effective teaching methods. One of the requirements of the program is that I conduct a study of my own teaching practices. This semester, I am focusing my research on music practice. The title of my research is "Perfecting Practice: Self-regulation strategies used during music practice of urban adolescent students." This study intends to benefit the students in instrumental music by improving their practice habits. A connection of inquiry to music will become apparent with the intent of fostering self-regulation strategies so that students begin to utilize synthesis in everyday practice.

As part of this study, students will choose questions they would like to answer about their music practice as part of the regular instrumental music curriculum. The students will form strategies and test their strategies to draw conclusions and then share their results to the other instrumental music students. All students will maintain a music journal and provide feedback through interviews and surveys. The study will take place from August 30, 2010 to December 23, 2010.

The data will be collected and coded, and held in the strictest confidence. No one except me will have access to the data. My research results will be presented using pseudonyms – no one’s identity will be revealed. I will store the data in a locked cabinet in my office. At the conclusion of the research, the data will be destroyed. The results of this study will be published in my Masters of Education thesis.

A student may choose at any time not to participate in this study. However, students must participate in all regular instrumental music activities. In no way will participation, non-participation, or withdrawals from the study have any influence on any aspect of your participation in the instrumental music program.

I welcome questions about this research at any time. Your child’s participation in this study is voluntary; refusal to participate will involve no penalty or consequence. Any questions you have about the research or about the process for withdrawing can be directed to me, Maryann S. Gross, or my advisor, Dr. Joseph Shosh, Education Department, Moravian College, 610-861-1482, jsosh@moravian.edu. You may also contact my principal, or your child’s guidance counselor, with questions about the study.

Sincerely,

Maryann S. Gross

I choose to allow my son/daughter to take part in this project. I understand that my son/daughter can choose not to participate at any time.

__________________________
Parent/Guardian Signature
Date

__________________________
Student’s Signature
Date
Practice Habits Survey: In-school practice

Do you practice your instrument at school?

Yes

No

How many days each week do you practice your instrument at school?

1 day

2 days

3 days

4 days

5 days

6 days

7 days

Other (please specify)
How many minutes per week do you spend practicing your instrument at school?

15 – 30 minutes

30 – 60 minutes

60 – 90 minutes

90 – 120 minutes

120 – 210 minutes

I do not practice at school

Other (please specify)

Name ______________________ Date __________
APPENDIX C

Practice Habits Survey: Home practice

Do you practice your instrument at home?

Yes

No

How many days each week do you practice your instrument at home?

1 day

2 days

3 days

4 days

5 days

6 days

7 days

Other (please specify)
How many minutes per week do you spend practicing your instrument at home?

15 – 30 minutes

30 – 60 minutes

60 – 90 minutes

90 – 120 minutes

120 – 210 minutes

I do not practice at home

Other (please specify)

Name ___________________________ Date ___________
Self regulation - Student Journal Entry

Self-evaluation and setting of specific goals
What are your goals for this practice?

Problem Recognition
What is my problem?

Strategy Selection
How can I solve it?

Self-instruction
When I…..then I …..

Evaluation of performance
How am I doing?
GOAL – REASON WEB

Name ___________________________ Date ______________
Music Lesson Survey

Use these questions to explore your interests and goals for music.

1. What kind of music do you like?
Here’s a sample list of music styles (these are the ones listed on iTunes):

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Country</th>
<th>Jazz</th>
<th>Rock</th>
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<tr>
<td>Blues</td>
<td>Dance</td>
<td>Latino</td>
<td>World</td>
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<td>Children’s Music</td>
<td>Electronic</td>
<td>R&amp;B/Soul</td>
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<tr>
<td>Christian &amp; Gospel</td>
<td>Folk</td>
<td>Pop</td>
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<tr>
<td>Classical</td>
<td>Hip-Hop/Rap</td>
<td>Reggae</td>
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If you’re not sure which of those styles describes the music you like, see if one of the descriptions below sounds like you:
(a) I like music that I can sing along with
(b) I like to rock out
(c) I like music that fits my mood when I’m feeling lonely or down
(d) I like music that fits my mood when I’m feeling mellow and happy
(e) I like music that’s familiar from when I was growing up
(f) I like music I can dance to
(g) I listen to whatever is on

Do you listen to music often?
(a) All the time – I turn music on whenever I can.
(b) I listen to the radio in the car.
(c) I like to listen to music when my friends/siblings/parents put something on.
(d) I hear cool music sometimes on TV or in video games.
(e) I used to listen to music a lot, but now I don’t really know what’s out there.

If you want to play music, listening to music is a good first step. For one thing, it helps you figure out what you like.

Before your first music lesson, try to think of some songs you would like to play. If you can’t think of anything, ask your friends and family for some suggestions.

It’s a great idea to bring your music player or a CD to your lesson. Your teacher can help you figure out how to play the songs you like.

2. What do you want to do with your instrument?
What inspired you to want to take music lessons?
(a) I saw a band play and it looked really cool
(b) I love music and I’ve always wanted to play
(c) My friends play instruments and it seems like fun
(d) I want to join the school band
(e) I used to take lessons and now I want to get back into it
(f) My parents think I should learn an instrument
When you picture yourself playing an instrument, what do you imagine?
(a) I want to be a rock star – onstage in front of thousands of people
(b) I want to sit in my living room and play a few tunes
(c) I want to get together with my friends and jam
(d) I want to play in an orchestra or band
(e) I want to play in a talent show
(f) I want to be a concert soloist
(g) I’m not sure, it just seems like fun

Knowing what you want to do with your instrument helps you set goals and stay motivated to play.

Learning how to jam at home takes a lot less work than becoming a professional musician, but they’re both great goals. Whatever you aim for, have fun!

3. How much time do you want to spend playing music?
Learning an instrument takes time. Think about how much time you have, and let that guide your expectations for how much you’ll learn and how quickly you’ll improve.

How often do you think you will make time to practice?
(a) I could play for at least a few minutes every day
(b) I’m really busy, so I probably won’t have a chance to practice much
(c) I’ll probably play a lot – at least half an hour a day
(d) I might practice a few times a week, for 10 minutes or so

If you want to make progress, plan to practice daily. Your teacher will give you assignments and help you set goals. You’ll be asked to practice technique in addition to learning songs, and you’ll have opportunities to perform in front of other people.

If you don’t expect to practice much, you can enjoy lessons even though your skill level won’t change rapidly. Your teacher will help you explore ways to enjoy music.
You’ll build knowledge that will help you understand music better, and you’ll eventually be able to play along with CDs and play with your friends.

Weekly lessons are the best way to make progress playing an instrument. Looking forward to your lesson each week helps remind you to play. If you need help with something, you know you can ask your teacher. You develop a relationship with your teacher – they have a chance to figure out your learning style and what type of music will interest you.

Content modified from survey
Self-Assessment for Music Lessons
http://www.slpbands.com/middle_school/program.htm#127127
Step-by-Step Chart (Pre-evaluation)
Write each step in order. Add details.

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APPENDIX H

Name ________________________________ Date ____________________________

**Step-by-Step Chart (Wynton’s Ways to Practice)**
Write each step in order. Add details.

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APPENDIX I

Name ________________________________  Date ____________________________

**Step-by-Step Chart** (Post evaluation)
Write each step in order. Add details.

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Interview: Self-regulation process

- Forethought
  - Goal Setting:
    - Do you have a goal when you are practicing your music? Explain.
    - Do you have a goal you are trying to achieve while practicing your music? Explain.
  - Strategy Choice:
    - How did you decide to use this strategy when practicing your music?
  - Self-Efficacy:
    - How sure are you that you can get 85% of the notes correctly when playing your music?
    - How sure are you that you can play 70% of the notes correctly when playing your music?
  - Intrinsic interest:
    - How interesting is practicing your music?
    - How much do you enjoy practicing your music?
APPENDIX J

• Performance
  o Attention Focusing
    Do you have to try to motivate yourself when practicing your music?
    What do you do when you don't feel like practicing your music?
  o Self-Recording
    Do you keep track of where you practice your music?
    Do you keep track of how long you practice your music?

• Self-Reflection
  o Self-Evaluation
    How do you determine if you performed your music well?
  o Satisfaction
    How satisfied are you with your music performance?
  o Causal Attributes
    What is the main reason you did well on your last performance?
  o Adaptive Inferences
    What do you need to do to improve your next performance?

Adapted from interview questions found in: Zimmerman & Schunk (Eds.), 2001