

July 2018

The Effects of a Self-Regulated Learning Music Practice Strategy Curriculum on Music Performance, Self-Regulation, Self-Efficacy, and Cognition

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The Effects of a Self-Regulated Learning Music Practice Strategy Curriculum on
Music Performance, Self-Regulation, Self-Efficacy, and Cognition.

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
School of Music
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Date of Approval:
Jun 25, 2018

Keywords: Self-Regulation, music practice, adolescent instrumentalists, cognition

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Acknowledgments

I would like to thank Logan Soray and Dre Graham for their sincere commitment to this research project. Without your support I would not have been able to complete this study. Thank you to my academic mentor for the last 5 years, Dr Jennifer Bugos. Your support and encouragement has been exemplary. I would also like to thank my close friends and family who have tirelessly supported me through this journey.

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Abstract

The purpose of this study was to evaluate the effects of a Self-Regulated Learning Music Practice Strategies Curriculum (SRL-MPSC) on Self-Efficacy in music practice, Self-Regulation in music practice, Music Performance Achievement, Processing Speed, and Meta-Cognitive Awareness for high school instrumentalists. The goal of the fifteen-day music training using the SRL-MPSC, was to teach adolescents how to practice more effectively, think meta-cognitively and develop musical independence while enhancing self-efficacy, performance achievement, processing speed and meta-cognitive awareness. Results of this study suggest that a 15-day music training intervention using the Self-Regulated Learning Music Practice Strategies Curriculum, significantly enhanced participant's Music Performance Achievement, $F(1,33) = 11.28, p = .002, d = 1.98$, self-perceptions of Self-Regulation in music practice, $F(1,33) = 16.91, p = .001, d = 1.98$. and Self-Efficacy in Music Practice $F(1,33) = 13.81, p = .001, d = 2.10$.

Based upon the results of this study, teaching students to practice effectively using strategies, cooperative group activities along side daily rhythmic audiation, sight reading and scale study, will develop independent musicianship, increase confidence and musical competence, broaden the literature level and increase student motivation to practice.

Chapter One

Introduction

The purpose of this research is to evaluate the impact of a Self-Regulated Learning Music Practice Strategies Curriculum on self-efficacy in music practice, self-regulation in music practice, music performance achievement, processing speed, and meta-cognitive awareness for high school instrumentalists. The goal of the 15-day music training using the SRL-MPSC, was to teach adolescents how to practice more effectively, think meta-cognitively and develop musical independence while enhancing self-efficacy, performance achievement, processing speed and meta-cognitive awareness.

In music practice, students are challenged to combine their understanding of music practice processes with setting practice goals, planning, problem solving, applying appropriate strategies, and self-monitoring. In response to this, music educators would be well-served to consider the various ways students think and learn. All learners possess their own individual approach to organizing and processing information in order to learn and perform in various domains, giving personal meaning to their learning process (Tennan, 1988; Senol & Geban, 2015; Kalatskaya, Selivanova, Llesanmi, 2016). In addition, adolescents are learning to reason effectively, solve problems, and connect acquired knowledge to new situations. These skills are necessary for academic success.

Research supports the notion that music learning may make a significant impact on adolescent's cognitive and academic skills (Schellenberg, 2006; Bugos & DeMarie, 2017; Posner

& Patoine, 2009). Schellenberg's (2004) study examined the influence of music lessons on general intelligence using the *Wechsler Intelligence Scale for Children (WISC-III)*, (Wechsler, 1991). Scores were calculated by converting raw scores into standardized scores ($M=10$, $SD = 3$), from each of the subtests: *Verbal Comprehension*, *Perceptual Organization*, *Freedom from Distractibility* and *Processing Speed* using *Coding* and *Symbol Search* subtests. The brief form of the *Kaufman Test of Educational Achievement* was also administered (Kaufman & Kaufman, 1985). This measure is a standardized test of academic achievement that provides a composite score as well as scores on the three subtests of *Mathematics*, *Spelling*, and *Reading*. Results of this study suggested that children who received 36-weeks of piano lessons scored higher in verbal comprehension, perceptual organization, and processing speed than children who did not receive music instruction. Wetter, Koerner, and Schwaninger (2009), examined average grades in all academic subjects between musically engaged and non-musically engaged adolescents. Multiple regression analyses revealed a positive association between academic achievement, parent income, and education level; however, students who had engaged in music activities reported higher academic achievement.

The social, behavioral, and cognitive perspectives on learning are a proposed synthesis of how learning takes place. This over-arching typology of theories inform the sub-concepts concerning teaching and learning that directly relate to self-regulation. These perspectives on learning inform numerous concepts and theories that contribute to the dimensions, characteristics and processes necessary for successful lifelong learning (Greeno, Collins, & Resnick, 1996).

Self-regulated learning is a metacognitive governed behavior (Winne, 1996). Self-Regulated Learning (SRL) refers to the processes that can facilitate the development of strategic, motivated, and independent learners. (SRL) involves goal-setting, strategic-planning, maintaining organization, controlling the environment, self-monitoring, self-assessing, adjusting,

and self-reflecting (Zimmerman, 1989). SRL requires assessing task-directed progress, selecting action plans, strategy-implementation, and assessing goal mastery. Self-Regulated Learning theory extensively informed the development of the Self-Regulated Learning Music Practice Strategies Curriculum (SRL-MPSC). SRL-MPSC is intended for use in the full band ensemble rehearsal setting and incorporates group collaboration, goal setting, problem solving, student modeling, discussion and strategy use for music practice. The SRL-MPSC was evaluated in a preliminary study for its effect on the efficiency of adolescent practice behaviors, performance outcome, strategy use, and self-efficacy (Mieder & Bugos, 2017). In the current study, the SRL-MPSC served as the independent variable that was evaluated for its effects on music performance achievement, self-efficacy in music performance, self-regulation in music practice, meta-cognitive awareness, and processing speed.

Adolescent Cognitive Development and Music Training

Cognition is the mental process of acquiring knowledge and comprehending that knowledge through thinking, perceiving, experiencing, and feeling. It is how the mind reasons, thinks and learns (George, 2015). The mind's thought processes are accompanied by cognitive functions such as attention, focusing, remembering, evaluating, decision-making, reasoning, and problem-solving that serve the acquisition of knowledge and state of knowing (Simon & Newell, 1970). Flavel (1976), who examined whether adolescents were aware of their own cognition, described meta-cognition as the learner's information about his or her own cognition. Awareness of these cognitive thought processes and actions and knowing how to organize them in a way that governs effective use and application, is metacognition (Flavel, 1979; Brown, 1987a; 1997; Dunlosky, & Hertzog, 2000; Georgiades, 2004).

Meta-cognition is a term for thinking about thinking or self-reflecting on the processes necessary to problem solve and make sense of phenomena. More specifically, it is the regulation of cognition whereby the learner is managing and organizing information. Managing information for the purpose of learning and knowledge comprehension is also supported by using problem solving tactics or debugging strategies, planning, comprehensively monitoring and evaluating during the learning process (Schraw & Dennison, 1994; Garner, & Alexander, 1989; Brown, 1987b). These behaviors enable students to regulate their use of cognitive strategies and learning tasks. The dimensions of self-regulated learning involve motivation, method, time management, learning behaviors, physical environment, and social factors (Zimmerman, 1994). These dimensions play a vital role in the extent to which a student is able to apply self-regulatory processes. Learners must be given opportunities to set goals, take responsibility for their own learning, self-assess, monitor, problem solve and adjust. Once these processes are integrated into educational curriculum and supported by learner centered instructional environments students will become more aware of their thinking processes and begin to manage their own learning (Zimmerman, 1998, 2002; Zimmerman, & Kitsantas, 1997, 1996; Mcperson, Nielson, Renwick, 2013).

Low socioeconomic variables such as stress and a lack of social support can have a strong effect on learning behavior, self-regulation, and cognitive development. Often students living in poverty can experience impairment in attention and concentration (Buckner, Mezzacappa, & Beardslee, 2009). The ability to remember and interact well with others using appropriate social skills and judgment, can be severely impaired (Lupien, King, Meaney & McEwen, 2001). However, not all students belonging to families with limited income experience cognitive lag. A study conducted by Buckner, Mezzacappa, & Beardslee (2009), suggested that students who were identified as resilient as opposed to non-resilient, demonstrated a stronger

ability to self-regulate their learning. After controlling for other possible predictors of resilience including intelligence and self-efficacy, this study suggested that self-regulation was highly associated with the ability to achieve despite adversity. The learning domain of music can provide adolescents, and especially underserved youth, with the cognitively challenging stimulus needed to develop higher level thinking, reasoning, and problem-solving skills (Baeck, 2002; Barry, & Hallam, 2002; Bengtsson, Nagy, Skare, 2005; Bilhartz, Bruhn, & Olson, 1999). Whether adolescents are singing, dancing, playing an instrument, or listening to music, their brains are focusing attention on one thing while simultaneously devoting attention to another and recalling previous knowledge to complete a task. The notion that enhanced meta-cognitive awareness, processing speed, working memory, as well as social- emotional and behavioral health as a viable outcome of music instruction, may be of considerable interest to music educators, as studies examining the cognitive frameworks for learning in the domain of music learning have reported that formal music practice, study, and performance, involve high levels of cognitive function (Schon, 2002; Stewart et al., 2003), as well as increased attention span and meta-cognitive processing and spatial reasoning skills (Bilhartz, Bruhn, & Olson, 1999; Costa-Giomi, 1999; Kopiez, 2004).

A successful learner must be able to quickly identify and focus on a selected object or area of importance in a particular environment and then sustain that attention as other stimuli unsuccessfully attempt to distract. Music learning for example, requires decoding music scores, translating information into a specific motor skill, and then monitoring the sound from one's own instruments while performing. In the high school instrumental rehearsal, adolescents are involved and operational in the learning process so that attention and focus are maintained and strengthened. The Self-Regulated Learning Music Practice Strategies Curriculum is intended to enhance the cognitive systems by giving students learning opportunities that include group

debate, discussion, modeling and requirements to attend to others, listen, focus attention, think, describe, evaluate, and problem solve. Attention is also an important pre-requisite for reaching many other cognitive potentials driven by memory and processing speed.

Memory and Processing Speed

It is important to consider working memory is a mental process that supports effective music practice and learning. Research suggests that professional musicians possess a superior overall cognitive ability, more specifically, general intelligence, processing speed and working memory (Baeck,2002; Brochard, Defour, & Despres, 2004). A meta-analysis evaluating memory training on adolescent cognitive and academic skills revealed that there may be a possibility of far transfer of intellectual enhancement as a result of domain specific training in music and chess. These findings may also provide a predictor for high academic achievement and performance outcomes (Deary, Strand, Smith, & Fernandes, 2007).

Information processing speed is the pace with which a learner takes in information, and integrates and assimilates it with previously received knowledge from the long-term memory (Kail & Salthouse, 1994). As learning experiences take place, the brain's ability to access information is increased. Cognitive processing speed naturally increases from childhood throughout adolescence (Bransford, Brown, & Cooking, 2000). However, once a child reaches adolescence, the need for personal identity and self-efficacy become dependent upon their personal perceptions of their own social and academic competence and achievement. Processing speed is then highly influenced by these perceptions (Brown, 1987). Engaging adolescents in social music learning experiences that also challenge them to use the working memory while encoding information that must be retrieved quickly, exercises the necessary mental and psychological processes necessary to achieve high levels of cognition (Bugos, & DeMarie,

2017). Research suggests that musical training may enhance overall information processing speed in the visual and auditory domains (Bugos & Mostafa, 2011).

Self-Regulation and Self-Efficacy in Music Learning and Practice

Self-Regulation Theory (SRL) focuses on the cognitive and motivational processes of learning. SRL is an important paradigm to use when examining how music learners monitor, control their thoughts, emotions, impulses, performance and attention, in order to improve practice behaviors and music performance outcomes. Promoting self-regulated learning in the music domain involves processes that allow students to become more strategic, motivated, independent learners (McPerson, Nielson, Renwick, 2013). More specifically, self-regulated learning within the music context includes the learning and practice of music and skills whereby students draw upon a set of context-specific processes and strategies to control their own learning.

The processes of SRL involve strategic actions such as setting goals, planning, organizing, taking control of the learning environment, self-monitoring, evaluating and self-assessing, making adjustments, reflecting and setting new goals (Zimmerman, 2002). SRL can be learned indirectly through social interactions and shared experiences within a specific domain. Music is a learning domain that requires students to focus on the organized metacognitive applications of music practice strategies and processes that will eventually lead them to self-regulate their own learning (McPerson, Nielson, & Renwick, 2013).

Zimmerman (2008), suggests that students need to self-regulate during activities such as music or sports as the processes in SRL include but are not limited to: assessing progress in a given session, deciding what strategy will improve performance, implementing the strategy and

evaluating again to determine if the goal was achieved. When learning strategies are applied to domain specific knowledge, students will begin to develop self-regulated learning behaviors, as effective use of learning strategies involves metacognition. Zimmerman (1998, 2008), supports this idea by further stating that one way to conceptualize student's self-sufficiency in music practice is through self-regulation of learning.

Self-efficacy is intrinsically connected to the human phenomenon of motivation, learning, self-regulation and achievement in all domains. Adolescents hold socially influenced perceptions and personal beliefs about their capabilities. This pivotal period of in their social development will lay the foundation for their future successes or failures in academia and in life. Without a positive belief system in place, adolescents will lack the perseverance to face challenges and set goals in the face of difficulty (Pajares & Urdan, 2005; McPherson, & McCormick, 2006).

Research indicates that there are significant correlations between effective music practice and feelings of self- efficacy (McPherson & McCormick, 1999; Pitts, Davidson, & McPherson, 2000). Bandura (1997), asserted that the strengthening of one's self-efficacy will provide the motivation and persistence needed to meet the challenging goals associated with music practice. The higher the self-efficacy, the greater the effort and perseverance towards music practice achievement (Pajares, 2002; DiBenedetto & Zimmerman, 2010; Hewitt, 2015).

In a study that measured the self-efficacy of 686 adolescent musicians prior to a music examination, it was observed that personal self-efficacy was a salient component in performance-based exams. The SRL-MPSC is used in this study provides students with the knowledge and skills and meta-cognitive thinking processes necessary to practice effectively based on the dimensions and processes of self-regulated learning; thus, fostering a strong self belief system. Learners who have a high belief system in place that supports their feelings of competence in mastering a task are demonstrating the necessary characteristic of a life-long

learner who will persist in all challenges (McPherson & McCormick, 2006). It is self-efficacy that supports the will to practice and without the will to practice and the belief in one's ability, self-regulation would not be possible (Wynnpaul, Abrami, & Upitis, 2016).

Conceptual and Theoretical Framework

This research is grounded in the conceptual and theoretical framework of Self-Regulated Learning Theory and builds upon the association that self-regulation has with the typology of *Behavioral, Cognitive, and Social learning* perspectives (Greeno, Collins & Resnick, 1996). Bandura (1986), theorized that humans are innately capable of proactive organizing, self-reflecting and self-regulating. In accordance with his social cognitive learning theory, he posited that these behaviors were shaped by social influences, referring to this phenomenon as *reciprocal determinism*. This conception explains personal cognitive affect, biological events, behavior, and environmental influences as reciprocal causes of human functioning.

In education, for example, the social, emotional and cognitive well-being of students may be fostered by a learning environment that provides opportunities to develop self-efficacy and self-regulation. Adolescents who may have low self-efficacy or who are lacking the adequate emotional, cognitive and motivational strengths for learning and achieving, need to have their faulty self-beliefs and habits of thinking transformed to improve academic skills and self-regulation. Behavioral learning theorists were responsible for the instructor-centered teaching style that dominated education until the mid 1970's. Scientists and psychologists at this time who used Skinner's operant conditioning to understand human behavior, also influenced how educators taught. Behaviorists viewed learning as a phenomenon that occurred as a result of external events instead of considering the complexity of human behavior and thought.

Behaviorist theory of learning values controlling the learning environment and giving extrinsic rewards and reinforcement for appropriate learning behavior and responses to stimuli, thus asserting that the learning process is driven by external motivation, reward and the development of needed responses to instructional stimulus. An emphasis is placed on developing a well organized structure of activity with clear goals, frequent feed-back and reinforcement. An impartment of knowledge is then presented in a way that demonstrates simple to complex sequencing of delivery and design. In music, this would be demonstrated through the gradual presentation of musical concepts and skill development that foster musical performance and task mastery.

The cognitive learning perspective focuses on the development of mental mechanisms such as; attention span, short and long-term memory, sequencing, processing, and meta-cognitive transfer skills. Knowledge is associated with deep reflection, conceptual growth and understanding of problem solving. By the late 20th century, cognitive psychologists recognized a need to study the various possible mental processes involved in learning and began to examine memory, perception, attention, language development, motivation and problem solving. Cognitive theorists believe that the mental processes taking place in the mind are an essential part of learning and what learners do with the information they are given determines how much they learn. Essentially, it is the one who does the work who does the learning (Doyle, 2008). Another salient aspect of the cognitive learning perspective is the importance of social interaction and context. The social context of the learning environment directly effects a learner's self-perceptions, belief systems and motivation to learn. Cognitive theorists posit that humans learn to problem solve when they are in a cognitive state of disequilibrium. This is the condition of receiving information that needs to be modified to match information already understood (assimilation), or matched with prior knowledge that needs to fit with the new

knowledge (accommodation). This is the cognitive state that directs humans to hypothesis and take action to problem solve (Hergenhahn & Olson, 1999). It is therefore, a combination of positive social interaction, self-efficacy, mental task awareness, and motivation, that define the cognitive perspective on learning (Bruning, et al., 1966; Gredler, 1997; Schunk, 2004).

Bandura's (1986), work regarding the learning process reflected a more interpersonal context rather than the behavioral condition models of behavioral learning established by Skinner. Bandura combines and conceptualized social and cognitive learning as an integration of behavioral, social and cognitive perspectives, and he brought together these philosophies in a way that provided a broader view of the nature of learning. Social Cognitive Learning theory embraces the idea that human learning primarily takes place in a social environment through observation and modeling. Bandura posited that a sub-component and distinct feature of Social Cognitive Theory is the closely related role it plays in self-regulatory function. He explains that the nature of human learning involves this interaction between a person's choice of behavior, decision making, problem solving, self-reflection, and adjustment of actions (self-regulation), with social the standards or outside expectations in the learning environment. This research considers the influence of social, cognitive, and behavior learning and the role these theories play with self-regulation in an effort to develop a curriculum that will enhances learner self-efficacy, and self-regulation in music practice. The theory of Self-Regulation has guided approaches to understand learning in many different domains. Self-Regulatory processes have been shown to support achievement differences in students of different proficiency levels in various domains of learning (Brown, 1978; Falvell, 1979; Veenman, & Spaans, 2005). The literature on the effectiveness of SRL approaches in academic disciplines is vast. Seminole research in effective music practice has been well explored within the paradigm of SRL using the principles, and dimensions of SRL to support effective music practice and development. Based

on findings in advanced music students, Nielsen (2001), proposed a cyclical model of SRL which identified the student's problem beliefs, strategy use, and self-evaluation, as core elements of successful musical practice. In this model, the different steps and decisions in the practice process are modulated through metacognitive knowledge and self-regulation. In their seminal framework for studying SRL in music, McPherson and colleagues also applied Zimmerman's principles and dimensions of self-regulation to musical practice and development (McPherson and Renwick, 2001, 2011; McPherson and Zimmerman, 2011; McPherson et al., 2012, 2013). In a longitudinal study, they demonstrated how musical skills developed in 157 children over a 3-year period depending on the degree of SRL in the musical sub skills sight-reading, playing from memory, and playing by ear (McPherson, 2005; McPherson et al., 2012). A majority of the studies in SRL and music practice are observational in nature and contribute to our understanding of the correlation between effective music practice and self-regulation, however, limited in number are empirical studies that examine the effects of a comprehensive SRL instructional intervention in music practice for adolescents. Miksza (2015), used instructional videos for effective music practice as a 5-week treatment condition for college musicians, providing strong support for the importance of appropriately applied self-regulated music practice strategies in practice. A recent systematic review of self-regulatory behavior in musicians was significantly related to self-regulation instruction by examining the SRL behaviors of expert musicians, pinpointing the importance of self-regulated behaviors such as: repetition, deliberate practice and focused goal setting (Abrami, Uppitis, & Varela, 2014).

Another recent study by Lisboa (2015), applied metacognitive strategy use by young non-expert musicians who were attempting to memorize a piano composition. This was an observational study that provided some strategy suggestions while relying on the recorded verbal thoughts of the participants during each practice session. Results indicated that a crucial element of self-

regulated music practice was metacognitive awareness of goals and strategies in music memorization.

The pedagogy presented in this dissertation study emulates previous researcher's consideration of the psychological dimensions of SRL; motivation, teaching method, learning behaviors, learning environment, and social factors, in combination with the processes for developing SRL; goal setting, planning, problem solving, strategizing, self-reflecting, assessing, monitoring, adjusting, modeling, discussing and collaborating. However, unlike other studies, this dissertation research uses an innovative curriculum specifically designed to engage high school instrumentalists in the metacognitive sub processes of self-regulation in the context of music learning and practice by providing a comprehensive self-regulatory intervention within the paradigm of music learning and practice within the full ensemble rehearsal setting.

Statement of Problem

A well-organized, productive and effective practice session is essential for music learning and achievement. How musicians practice and what is considered effective practice behavior is a complex subject. The topic of music practice is not often addressed in the music classroom or full ensemble rehearsal setting. Students are often told to simply practice an assigned piece of music with a determined amount of time in which to accomplish the task. Teachers often incorrectly assume that the examples of music practice they demonstrate in a group rehearsal or a private lesson will be emulated by the student, and then yield an effective and productive outcome (Davidson, & Jordan, 2007; Kostka, 2002; Miksza, 2012).

The ability to self-regulate in music practice poses a challenge to adolescents as the many skills associated with self-regulated learning such as goal-setting, appropriate strategy application and comprehension, self-monitoring and reflection and evaluation are on going

developmental journey requiring pedagogical support. These self-regulated learning behaviors are reflected in effective music practice skills. Meta-cognitive thinking and self-regulation are necessary to obtain high levels of musical achievement. Research suggests that adolescents are challenged to practice effectively. For example, young musicians use repetition without thoughtful intent by often playing a piece from beginning to end without a particular goal or adopted strategy in mind. (Hallam, 2001; McPherson & Renwick, 2001; Pitts, Davidson, and McPherson, 2000).

There are many potential reasons for this lack of productivity and thinking in music practice. Studies report that younger instrumentalists tend to measure musical achievement by time spent in practice rather than accomplishments (Duke, 2009). Adolescent musicians also tend to exhibit a lack of musical intent that should present itself through thoughtful pauses and a demonstrated ability to recognize errors and exhibit problem-solving techniques and strategies. Recent research examining the most prevalent practice behaviors of intermediate band students revealed that repetition of less than four measures at a time, varying tempo and irrelevant playing were strategies most often employed by this age group (Leon-Guerrero, 2008; Miksza, Prichard, & Sorb, 2012).

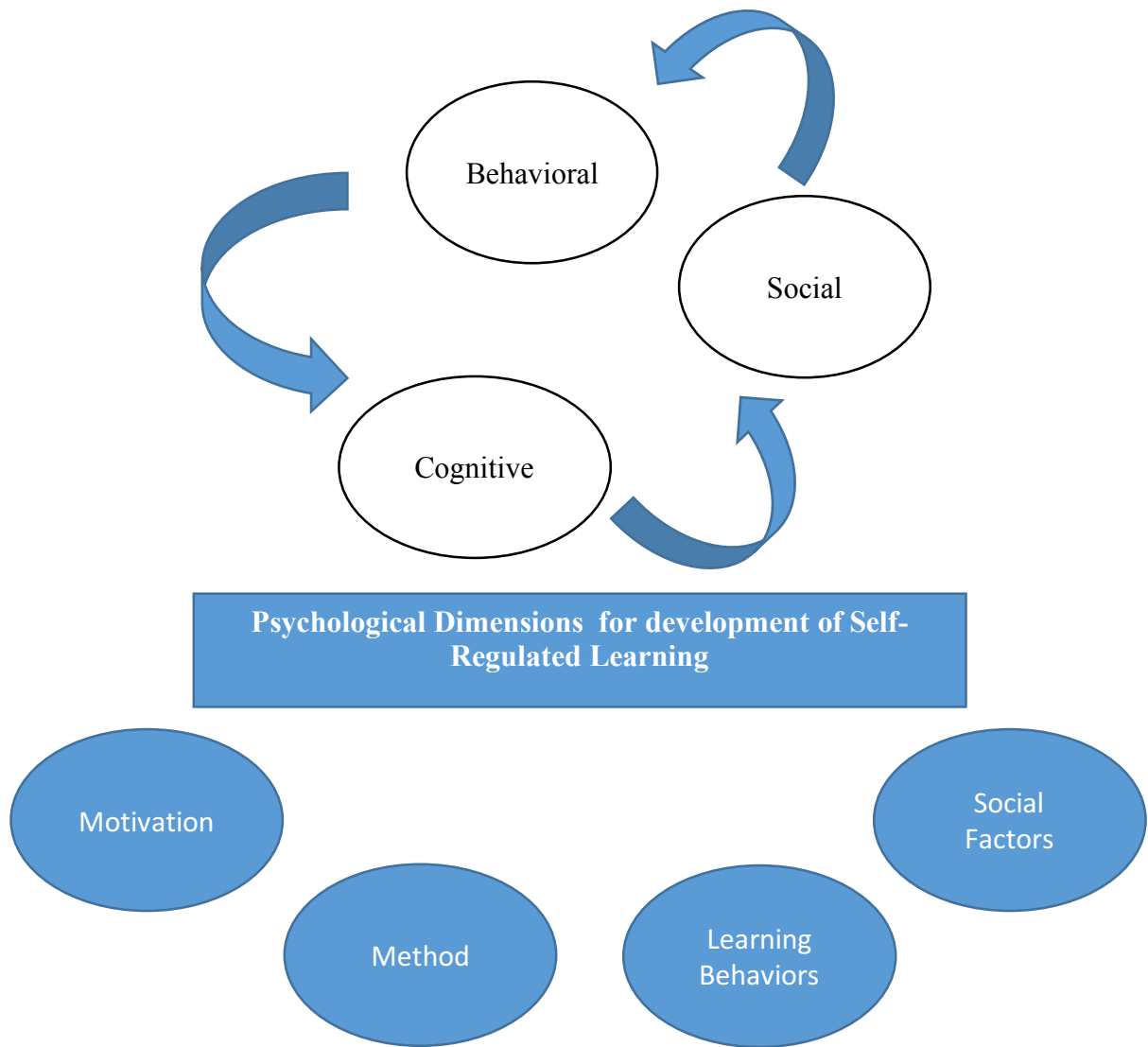


Figure 1. Conceptual and Theoretical Framework based on Learning Theories and SRL. (Greeno, Collins & Resnick, 1996; Zimmerman, 1998, 2001, Pintrich, 1996, Schunk, 2004, Bandura, 1997).

Rationale of the Study

The ability to self-regulate and think meta-cognitively is essential for a high level of musical and academic achievement. This dissertation examined whether a music practice curriculum that supports self-regulated learning will enhance self-efficacy, self-regulation, music performance achievement, meta-cognitive awareness and processing speed in high school instrumentalists. A preliminary research study suggested that the Self-Regulated Learning Practice Strategy Curriculum (SRL-MPSC) was effective in increasing student perceptions of strategy use in practice and self-efficacy in music practice (Mieder & Bugos, 2017). The intention of this dissertation research study was to build upon the previous SRL-MPSC and incorporate comprehensive self-regulated learning strategies that will support self-efficacy, self-regulation, music performance achievement, meta-cognitive awareness and processing speed

Purpose of the Study

The purpose of this study was to evaluate the effect of a Self-Regulated Learning Practice Strategy Curriculum on self-efficacy in music practice, self-regulation in music practice, music performance achievement, meta-cognitive awareness and processing speed in in high school instrumentalists. This research will determine if the SRL-MPSC, administered in a full ensemble setting, will enhance the individual learners' performance achievement, self-efficacy in music performance, and self-regulation and meta-cognitive awareness and processing speed.

The SRL-MPSC utilized a variety of research-based best practices based on the psychological dimensions, phases and developmental processes of Self-Regulated Learning Theory. A learner-centered teaching approach with group collaborative cognitive thinking skill

activities was applied in the daily band class rehearsal setting. This pedagogical application was intended to assist learners in developing the skills necessary to self-regulate, set goals, problem solve, monitor progress, maintain self-control, self-reflect, make adjustments, work collaboratively, and feel empowered through shared experiences and accomplishments.

The application of the SRL-MPSC took place over the course of three weeks. However, the long-term intent of this project is to develop an effective SRL music practice curriculum to develop the skills students need to be independent musicians.

Research Questions

This research study addresses the following questions:

1. What are the effects of the Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on *Self-Efficacy in Music Performance*?
2. What are the effects of the Self-Regulated Learning Music Practice Strategy Curriculum on *Self-Regulated Learning in Music Practice*?
3. What are the effects of the Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on performance within the domain of *Music Performance achievement*?
4. What are the effects of the Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on *Meta-Cognitive Awareness*?
5. What are the effects of the Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on *Cognitive Processing Speed*?

Key Variables

Main constructs measured in this study include music performance achievement, self-efficacy in music practice, self-regulation in music practice, meta-cognitive awareness, and processing speed. Music performance achievement is the degree to which a learner has progressed in perfecting both notational and rhythmic accuracy as well musical nuance. Effective practice skills are necessary to obtain a high level of music performance achievement (Hallam, 2001; McPherson & McCormick, 2006). Music performance achievement was measured using the Music Performance Assessment Rubric (MPAR). This measure contains ten domains that include essential and expected music performance outcomes. These domains are: note accuracy, rhythmic accuracy, tempo consistency, articulation, dynamics, road map of repeats, tone quality, breathe support, and phrasing and musical expression and successful navigation of the practice etude (Mieder & Bugos, 2017).

Self-efficacy is a social cognitive construct and theory that describes human functioning, developed by Bandura (1977). He explored the effect that self-efficacy had on human persistence, effort and motivation. For the purpose of this study, self-efficacy is being examined as the personal belief system that learners possess in reference to their ability to musically achieve outcomes. This study examines perceived self-efficacy in music practice as the design of this research entails strategy acquisition and music training. The learner's self-efficacy is then connected to the belief that an accumulation of necessary skills will enable one to think and problem solve more effectively in a variety of conditions.

Self-efficacy was measured using the Part-3 of the Self-Regulated Motivation in Music Practice Survey (SRM-MP), based on the Motivated Strategies for Learning Questionnaire (Miksza, 2006). The Self-efficacy sub set of this measure contained ten questions pertaining to

perception of self-efficacy. For example, “I am confident in my ability to improve on my instrument”, and, “When I set a musical goal for myself, I am sure I can achieve it.”

Self-Regulation in music practice is demonstrated by highly achieving and professional musicians who use systematic planning, problem solving strategies, and self-evaluation and monitoring. Self-Regulated learning is a learner driven process that also requires self-reflection. Sierens (2009) suggested that self-regulation in music practice occurs as the result of the learner processing an awareness of strategic practice strategies, and using feedback to further plan, goal set, and monitor. Self-regulation was measured using part-4 of the *Self-Regulated Motivation in Music Practice Survey* (SRM-MP), based off of the *Motivated Strategies for Learning Questionnaire* (Miksza, 2006). The self-regulated learning sub set of this measure contained thirty-seven questions pertaining to perception of self-regulation. For example, “I listen to listen to my own playing while I practice to make sure that I am not reinforcing bad habits.”

Meta-cognition relates to SRL as it is a process of self-reflection involving the self-monitoring of progress and making adjustments. Grounded in the processes of SRL and meta-cognitive thinking processes, this study uses the SRL-MPSC to instruct students on the necessary strategies that control individual performance. Implementation of the curriculum may assist the learner by developing the need to strategize, self-reflect, plan, and evaluate while enhancing confidence and comprehension in music learning.

Meta-cognitive awareness was measured using the *Meta-Cognitive Awareness Inventory* (Schraw, & Dennison, 1994). There are five sub-sets of this inventory that measure specific processes for regulation of cognition; information management strategies, debugging strategies or problem solving, planning and goal setting, comprehension monitoring, and evaluation. Processing speed is the ability to retrieve information from the working memory, and focus attention while specifically assimilating and applying old knowledge to new and present tasks in

order to problem solve. In music learning musicians are required to draw upon a large amount of previous information. Musicians apply that information to a constantly changing set of musical challenges which places demands upon processing speed. Without effective strategic knowledge and appropriate efficiency in applying that knowledge, processing speed capabilities can be compromised (Kail & Salthouse, 1994). Music training processing new knowledge is entirely dependent upon prior knowledge and musical task experiences. This study examines the effect of a SRL music practice strategy curriculum in a learner centered teaching environment on processing speed. The measure used to assess processing speed was the *Wechsler Adult Intelligence Scale (WAIS – III)*, *Digit Coding* and *Symbol Search* subtests. These are standardized assessments of working memory and processing speed that have been evaluated for accuracy and reliability. Validity of these measures was substantiated by a high correlation with other measures of intelligence including the *Standard Progressive Matrices* and the *Stanford-Binet-IV* (Martin et. al, 2000).

Significance of Study

Self-Regulation theory and the principles, processes and dimensions of focus that pertain to this construct underlie the systematic and thoughtful approaches to music practice in this study. Music learners who are taught systematic and thoughtful approaches to music practice may begin to develop self-sufficiency, higher level social and meta-cognitive thinking skills, and self-regulation (McPherson & Zimmerman, 2002; Paris & Paris, 2001).

The SRL-MPSC provides a practical approach to teaching self-regulated learning and practice skills in the full ensemble setting. This study explores opportunities to develop higher level cognition, enhanced meta-cognitive awareness, self-efficacy, self-regulation, and processing

speed through music learning. There is a limited amount of research that explores the possibility of cognitive enhancement through music training for adolescent instrumentalists. The SRL-PSC is designed for high school band and orchestra programs, providing a systematic method for teaching effective practice skills in an ensemble setting. This curriculum is intended to strengthen the essential meta-cognitive skills necessary for life-long learning within the socially supportive and inclusive context of the small and large ensemble rehearsal setting.

Contribution to the Field of Music Education

This study will contribute to the literature in music education; more specifically, the enhancement of self-regulated learning in the full ensemble setting using learner centered teaching methods. The SRL-MPSC will provide educators with the tools to teach effective strategy application, planning, problem solving, self-monitoring, evaluation and collaboration in music learning. These learning behaviors further support enhanced music performance achievement, and other psychological and neuropsychological dimensions related to self-regulation such as; processing speed, meta-cognitive awareness and self-efficacy.

The SRL-MPSC used in this study will provide practical and applicable curriculum for music educators to include a more learner-centered teaching environment in the full ensemble setting while simultaneously supporting performance goals, technical proficiency and a broadened exposure to advanced literature. This work may also be of particular importance to instrumental music directors who value saving rehearsal time while accomplishing the enhancement of musical independence and efficient practice behaviors for their students.

Delimitations and Limitation

This study was not concerned with High School instrumentalists over the age of 15, the role of music learning on socioeconomic status nor was this study a direct observation of music practice behaviors. Several limitations of the study design included a small overall sample size, (n=36) and limited length of intervention (15 days).

Definition of Terms

This research uses terminology for which clarification of meaning may be necessary.

Chaining

Chaining is a practice strategy that is best described as a process that involves isolating certain sections of a musical selection, working to perfect that short segment and then moving backwards adding one note at a time like a chain link affect.

Whole Part Whole

Whole part whole is a practice strategy similar to chaining only it involves larger segments of remediation. For example, one might play a selection of music from beginning to end, apply several practice strategies to the last 16 measures and then play from beginning to end again. This is useful for assessing whether the learner has really mastered the smaller section.

Woodshedding

Woodshedding is a practice strategy that resembles chaining and whole part whole but maximizes the repetition of added notes in the chaining and utilizes the tempo process from slow to fast as each new note is added to perfect what has already been mastered.

Element Elimination

Element Elimination is a category for practice strategies that involves the process of eliminating one or more aspects of a musical task. An example of this would be to play a selection in straight quarter-notes instead of the written rhythm, take out the articulation and dynamics, or Sizzle and finger the instrument without playing. Eliminating one or several aspects of a musical endeavor allows the learner to simplify the task so that they may more efficiently practice and perfect. Gradual return of each element in a slow tempo is suggested so the learner may gradually and effectively progress with each musical challenge.

Thoughtful Repetition

Repeating for the sake of just repeating can be ineffective and time consuming. Thoughtful repetition is a term that describes the suggested process of thinking, planning and reflecting on the reason for using repetition in music practice. Careful consideration of the type of repetition such as repeat one measure, repeat an entire section, or repeat a particular strategy in a variety of applications is also insinuated.

Mental Practice

Within the practice strategy category of element elimination, mental practice is a term that describes the process of feeling, breathing, visualizing, and tactilely experiencing the instrument without actually playing it. The learner can pause and rewind in their mind as technical passages or repertoire are being visualized and physically realized without the element of playing. This allows for greater concentration and focus on musical challenges.

Make It Musical

Make It Musical is referred to in this study as a category of musical strategies that one might apply to enhance the beauty and aesthetic aspect of a music performance. An example of

this approach would be experimenting with tone quality, dynamics, phrasing and articulation in order to bring about a more aesthetically pleasing performance.

Sight Reading

Sight Reading is the process of playing through a selection of music for the first time. In this study, careful planning and strategic procedures in the form of a check list, assist learners in effectively navigating the sight-reading process.

Guide Notes

Guide notes are established pitches or tonal references that the music learner can find with certainty while practicing independently.

Metro Rhythm

Metro-rhythms is referred to in this study as a set of thematic rhythms that are to be audiated each day followed by the playing of corresponding unison excerpts. These were developed by the researcher to assist learners in more effectively realizing rhythms and navigating the sight-reading process using a metronome.

Chapter Two

Introduction

This review of literature provided the ground work for this study built upon the inclusive relationship between theoretical perspectives on learning; social, behavioral, cognitive, and Self-Regulated Learning Theory (SRL). Self-Regulation is also examined as a correlated process highly associated with the development of meta-cognitive awareness and self-efficacy. Self-Regulation Theory and the psychological dimensions and sub-processes for developing self-regulation are examined with regard to instrumental music education, specifically focusing on a learner's psychological needs and the processes required for the development of self-regulation in music learning and practice. Following this introduction of principles and supporting theories, research examining the link between and integrated SRL curriculum and music performance achievement, self-efficacy, meta-cognitive awareness and processing speed will be discussed. The challenges that adolescents experience with regard to effective music practice behavior and SRL skills are the impetus for the design and application of the music training intervention presented in this study. This dissertation research study argues that there is a great need for more systematic, strategic, and pedagogically sound approach to music practice and learning within the full instrumental ensemble setting, thereby enhancing learner competence, self-efficacy and self-regulation.

Music Training and Cognitive Development in Adolescents

Cognitive development is effected by many aspects of the social and physical environment. Mental processes involving working memory, inhibitory control and mental flexibility are necessary for life-long learning, socialization, and wellness (Segawa, 2008). These processes draw upon the neurological circuitry of various distinct areas of the brain that drive mental processes for cognitive function and self-regulation. These changes in the brain or neuroplasticity are needed for adaptive learning and adjustment (Fuchs, Flugge, & Czeh, 2006). It was originally thought that the human brain was completely developed by the end of early childhood (Mann, 1984). Now researchers widely accept that inheritance, and various types of environmental influences are both responsible for shaping the structure of the brain from childhood well into adulthood. (Evans, Forgeard, Hyde, Lerch, Norton, Schlaug, Winner, 2009), explored training-induced neuroplasticity in children in a study of 31 instrumentally trained children for 29 months. The participants were sorted into three groups; high-practicing, low-practicing and control. The results of diffusion tensor imaging revealed that the musically trained children had a greater developed corpus collasum than the control group.

The neurological process and changes taking place in the adolescent brain occur rapidly and are greatly influenced by environmental, health, and socio-cultural factors (Erns, Nelson, Jazbec, McClure, Monk, Leibenluft, 2005). Adolescence is a particularly time sensitive period of adjustment and development. They have begun to question authority, seek social acceptance and are beginning to develop a self-identity through peer relationships (Steinberg, 2001). Adolescents are working to develop strong cognitive control. Research suggests that this impulsivity diminishes with age and a protracted development of the prefrontal cortex.

Neurologists have discovered that skill training interacts with the malleable adolescent brain, thus strengthening this age group's ability to develop the cognitive control needed to reach their fullest potential for academic success and social wellness across the life-span (Baeck, 2002; Kleibeuker, Stevenson, & VanderAar, 2017; Knudsen, 2004; Rauschecker, 2001). The training and skills facilitated during adolescent brain development will also determine how the brain will respond to future learning experiences. Musicians are continually experiencing this phenomenon; as music learning and practice requires processing new information dependent upon pre-requisite knowledge and task experience. Decades of research now suggests that music training may cause many changes in several areas of the brain. Neuroplasticity has resulted in enhanced sensory motor-skills, attention, memory, and processing skills (Stewart 2008; Wan & Schlaug, 2001; Bugos & Mostafa, 2011).

The brain of musicians is structurally different than non-musicians (Rammsayer & Altenmuller, 2006). For example, professional pianists and string players have a much larger pre-central gyrus, which directs the cortical motor hand area. Musicians who have studied from an early age into adulthood, have a larger corpus callosum than non-musicians, due in part to an increase of inter-hemispheric processing (Stewart, Henson, Kampe, Walsh, Turner, Frith, 2003). The multiplicity of mental tasks that affect the cognitive processing of a musician can be credited to the multisensory range of skills needed to practice and perform a musical instrument. The sensorimotor efforts of the hands, and often feet, lips and respiratory muscles as well as the coordination of both hands, requires extensive neural transmission between the hemispheres of the brain. This multiplicity of physical action provides musicians less inhibited inter-hemispheric muscle contraction response and motor hand movement than non-musicians (Bengtsson, Nagy, Skare, 2005). The surface of the cerebrum cortex or grey matter, specifically in the Heschl's gyrus, is responsible for auditory processing. There are notable differences in this primary

auditory cortex and the planum temporal regions of the musician's brain when compared to a non-musician. This change in brain structure may explain why some musicians who display this enhancement, possess absolute pitch (Sluming, et.al, 2002; Gaser, & Schlaug, 2003). Research also suggests that musically trained individuals demonstrate enhanced performance on visuospatial, and auditory processing speed measures. In a recent study, the evaluation of music learning's effect on verbal fluency in combination with processing speed suggested that a short-term piano training program enhanced processing speed with no change in verbal memory performance (Bugos, & Kochar, 2017). In order for musicians to maintain fluidity and precision, visuospatial and auditory processing skills are needed to coordinate the sound and motor skills drawn from the left inferior frontal cortex, the superior parietal cortex and the inferior temporal gyrus.

Processing speed is being examined as an outcome variable in this study as the construct of self-regulation involves an awareness of procedural knowledge, with the goal of setting monitoring, self-evaluating, adjusting, and checking progress to determine whether learning has occurred. Processing speed is the time it takes to process information and make decisions based on that acquisition of knowledge, influenced by reasoning and memory. There are age group differences in *processing speed* that have been demonstrated in domain specific and global measures. These differences indicate that there is an acceleration of processing capacity from childhood through young adulthood and then a gradual decline begins in adulthood This will vary according to individual life experience differences (Salthouse ,1994). Studies have also suggested that there is a significant correlation between processing speed and fluid intelligence and short term-memory (Salthouse, 1985; Kail & Salthouse, 1994; Schubert, Hagemann, Frischkorn, & Gidon, 2017).

This dissertation research considers processing speed as an associated outcome of self-regulation and meta-cognitive awareness. As meta-cognitive awareness includes procedural knowledge, comprehensive monitoring and evaluation, all aspects are driven by working memory and processing speed, thereby linking processes with self-regulated learning. In an effort to help us understand the uniqueness and neuroplasticity of a musician's brain, specifically regarding the role music training plays in adolescent cognitive development, this study considers the needs of students living in poverty. Students from low social economic situations experience impairment in the development of executive function delaying cognitive thinking skills. These children experience stress and are often deprived of a full array of learning resources and opportunities. Decision-making, prioritizing, self-organizing and problem-solving are difficult for students living in poverty, as these skills have not been developed and embedded over time. Adolescents of all socioeconomic levels need strong cognitive skills to self-direct, and persevere, in learning. Strong cognitive skills can provide students living in poverty greater access to higher education and the self-empowerment (Babcock, 2014; Gottfried & Gottfried, Bathurst, Guerin, & Parramore, 2003 Chandler, 2013). Recent evidence regarding cognitive developmental delay among economically disadvantaged children in the United States reveals that this population is more likely to score lower on tests of language, memory and executive function (Evans & Kim, 2013; McEwen & Ginaros, 2010). A meta-analysis of studies that used functional magnetic resonance imaging techniques to evaluate the correlation between volumes of brain structure, blood oxygen levels with reading, language ability, and memory tasks, found that students from lower socio-economic status backgrounds had a weaker structural development in three primary cognitive areas of the brain. The disparities were seen in the left hemisphere, prefrontal cortex and hippocampus (Pavlakis, 2014).

A study that examined the effect of an arts program on reading scores in Iowa found that students from lower socioeconomic backgrounds advanced more quickly and showed greater improvement compared with students of a similar demographic who had no arts program (Catterall & Waldord, 1999). This dissertation study was informed by recent research in the transfer of cognitive skills to other domains of learning that included music. Results of music study have indicated a significant correlation between the arts, music training and cognitive enhancement in younger children and adolescents (Chan, & Cheung, 1998; Lotze, Scheler, Tan, Braun, & Birbaumer, 2003; Schellenberg, et al. 2007).

The current research study took place in two Title I high schools. Title I refers to the financial assistance given to public schools with high percentages of low income families via the Federal elementary and Secondary Education Act. The aim of this study is to provide students who are in Title I school instrumental programs with a music training curriculum in order to enhance music performance achievement, cognitive-awareness, self-regulation, processing speed, and self-efficacy. These outcomes are essential factors associated with cognitive development. Students living in poverty experience a great deal of emotional and social challenge. This is often caused by the amount of emotional duress experienced in a student's social relationships, community and home life (Bradley, & Corwyn, 2002). Students in poverty often have only one caregiver who is working long hours and is unable to be fully involved and dependable

Research conducted by the "Champions of Change" in 1999, contributed to the inclusion of music education as a core subject in the "Goals 2000." Particular attention was paid to students living in poverty who without the intervention of the arts and music, would otherwise not be reached (Catteral, Chapleau, & Iwangaga, 1999). However, with the exception of elementary general music offerings in almost all public and private school in the United States,

students living in poverty still experience limited access to instrumental music education at the secondary level. There is little funding to provide instruments or private lessons and underserved public schools often do not have music programs. Collectively, these issues of social injustice require music educators to initiate novel, innovative curriculum and educational planning that supports cognitive skill development. This research is therefore, intended to serve those students who are economically underserved by providing a self-regulated music learning curriculum that may enhance self-efficacy in music practice, self-regulated learning, meta-cognitive awareness and processing speed.

Self-Regulated Learning

Zimmerman & Schunk (1989)'s conception of SRL focuses on the importance of teaching students to set goals, monitor, make adjustments, self-reflect, organize, manage time and take control of their work space. Research indicates that setting goals, implementing strategies with guided plans, could enable students to complete tasks with an increased level of self-efficacy and motivation (Pintrich, 2000; Schunk & Ermer, 2000). Although meta-cognitive awareness and organization of problem solving strategies such as monitoring, organizing rehearsing organizing time and establishing work space are all found to be key processes in developing self-regulated learners, research indicates that motivation and self-efficacy are also essential dimensions of Self-Regulated learning (Zimmerman & Schunk, 2008).

This dissertation study incorporates the three phases of self-regulation (i.e., forethought, practice and and reflection, in a model that integrates task engagement in academic regulation with the processes of music learning and practice. Phase one, forethought and planning, involves the learner setting a goal or practice session plan that includes decisions concerning problem

solving strategy use. In this phase, learners are encouraged to work towards a sense of self-efficacy in attaining their set goals. Phase two, the performance control phase, involves the learner applying problem solving strategies, as well as self-monitoring and self-evaluating those pre-determined decisions and making adjustments accordingly. In music learning, musical challenges are identified, applied, and self-monitored. Phase three, self-reflection and evaluation, involves the learner assessing progress and formulating new music goals for future practice. Research indicates that learners who self-monitor with confidence experience more sustained learning (Kitsantas & Zimmerman, 1997; Zimmerman, 2000, 2001; Zimmerman & Schunk, 2004).

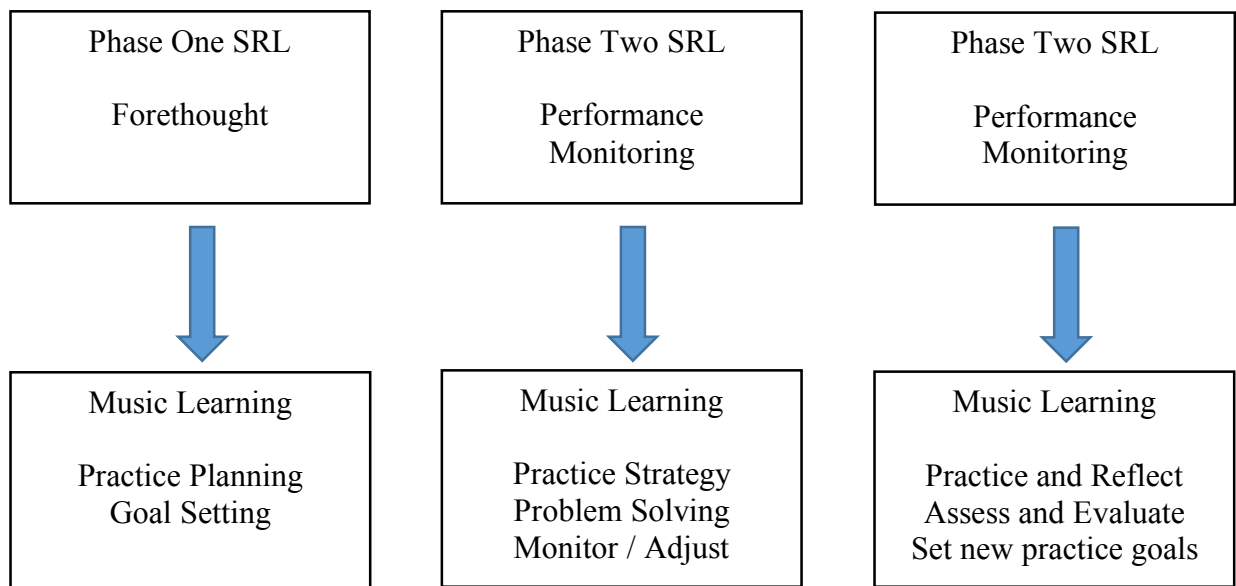


Figure 2.

The Three Phases of Self-Regulation (Zimmerman, 1998, 2008)

The Four Developmental Phases of Music Learning

There are four developmental phases concerning the acquisition of the cognitive skills needed for acquiring proficiency in music learning and practice: Observation, Imitation, Self-control and Self-Regulation (Barry & Hallam, 2002). Phase one, cognitive-motor skill development and observation, is set through modeling, trial and error, and creative synthesis of knowledge into new strategies and forms. Modeling infers a strong connection to social learning and may be presented in the form of live models (instructor demonstration), verbal instruction that describes how to engage in a learning behavior, and symbolic modeling which occurs through media and fictional characterizations (Atherton, 2009). This phase of musical learning and practice is strongly teacher led, however, active student engagement followed by constructive and positive teacher feedback, will prepare students to progress into phase two of the developmental process.

Phase two involves a development of musicianship that comes about through thoughtful repetition, adjusting through self-monitoring and various forms of feedback (McPherson & Zimmerman, 2002). Musicians use previous experience and knowledge to inform current decision making, as well as adjustments and future efforts in music practice (Chaffin, & Crawford, 2002). This transfer of knowledge and instructional feedback tends to be cyclical and can be categorized into three factors; *Behavioral* self-regulation involving a student's self-observation, *Environmental* self-regulation, involving observation and adjustment in the learning environment, and *Covert* Self-Regulation which occurs when there is an awareness of cognition

Phase three, a combination of applying essential cognitive skills with the appropriate motor skills, supports efficient practice and performance achievement. Research suggest that practice productivity will continue to increase as motor and cognitive skills are acquired and

refined (McPherson & Renwick, 2001). Phase three is also described as a period of improvement where musician can see, hear and feel the musical goal that they set out to accomplish. In order to reach stage three, a musician must be guided and taught how to acquire, create, synthesize, modify, reflect and refine music practice on their own. This independent effort begins with intrinsically motivated goal-setting.

Teaching students to structure practice time to include organized goal-setting that includes sound warm-ups, technical exercises, core repertoire, motivational pieces and additional time for creativity or free playing, will encourage practice. Goal-setting, along with self-monitoring, and making adjustments are practice behaviors that represent the most essential skills necessary to facilitate self-regulated learning in music practice (McPherson & Zimmerman, 2002). Research suggests that adolescents are often challenged to describe well focused, specific practice goals; this often results in less productive practice sessions (Oare, 2012).

Phase four represents an arrival point for self-regulated learning. Students who reach this stage adapt their knowledge and skill set to a changed situation and shift attention from the basic knowledge of the skill set to a more focused outcome (Zimmerman & Kitsantas, 1997). Swanson (1990), defines this phase as an awareness of one's ability to monitor, regulate and control one's own activities concerning learning, including higher-level thinking about how a learning task will be handled, as well as making plans based on the processes of observing and evaluating comprehension.

The Psychological Dimensions of SRL and the Music Learning Environment

Self-regulated learning involves several psychological dimensions, including: *motivation, methods, social factors, and learning behavior and environment* (Zimmerman, 1989).

McPherson, & Zimmerman (2002), view the dimensions of self-regulation as being relevant to

music learning and further clarify several points concerning these factors. *Motivation*, whether extrinsic or intrinsic, serve a student's belief in his or her own ability to achieve. *Methods* or task-oriented learning activities provide the tools and strategies that support a student's ability to problem solve.

The *Social, Behavioral and Environmental* factors cyclically influence learner motivation and decision making in the learning process. More specifically, Learning Behavior and the Learning Environment are reciprocally influential and reflect the social context of support that furthers the development of metacognitive behaviors such as: self-monitoring self-efficacy, self-adjustment and evaluation, and focused goal-setting (Schunk, 2004).

Motivation

Motivation is essential for learners to effectively utilize strategies, processes and apply domain specific knowledge to new situations and tasks (McPherson, & McCormick, 1999). Motivation is a necessary component of goal setting, as meaningful and focused goals precipitate an active engagement in the learning process, influencing how learning takes place and what is learned (Ning, & Downing, 2010). Motivation may be defined as a goal-driven sustained mental state that is fueled by achievement and persistence and stimulated by challenging tasks and activities (Peterson & Swing, 1983; Schunk et al., 2008, Schunk, 2004).

The social context of the learning environment such as peer influence and teacher expectations are closely connected to motivational development (Schunk, 2004). When learners are concerned with how their abilities or achievement will be norm referenced, their motivation to learn is then characterized by interpersonal competition, social comparison or public evaluation. This ego-centered motivation can sometimes lead to low personal perceptions of competence. A recent study examining the effects of a competitive environment on achievement

behaviors revealed that if one perceives his or her ability to be low, there is a greater probability for low effort and motivation.

Motivation is closely associated with self-regulation and is a key factor in the learning process in music practice (Zimmerman, 2004). In a mastery-oriented learning environment, students experience peer collaboration, and positive instructor feedback (Caraway, Hall, Tucker, & Reinke, 2003). Motivation to learn is supported by instructor set contingencies for performance, goal prioritization, and opportunities for interesting and fun challenges, problem solving activities and an understanding of the value of learning (Caraway, et.al, 2003). The SRL-MPSC is intended to provide strategies, mastery-oriented learning, and activities designed to engage students in effective music practice, supporting motivation to learn by empowering confidence through competence in music practice.

Method

Method refers to the instructional models and pedagogical approaches that align with the development of Self-Regulated Learning. SRL is a skill that can be taught and is best understood when applied to a context specific domain of learning. Instructors can support the development of independent learning by providing social models, task specific strategy application in learning activities (Zimmerman, 1998, 2000). A teaching method that can support effective goal-setting, strategy use and self-monitoring, will motivate students to persist in their learning endeavors and improve their self-efficacy, and perception of competence in learning independently (Pintrich, 2000). An effective instructional model considers the social and behavioral learning perspectives, focusing on teacher and student modeling, practical and appropriate problem-solving strategies applied in a project-based learning environment. Learning to use strategies to solve problems and transfer appropriately to new settings will most effectively support students in managing their own learning environment and strengthening self-regulation. This research

uses learner-centered and conceptual knowledge acquisition instructional styles that focus on strategy use, cooperative group activities and learning processes associated with the dimensions of self-regulation. One example of a cooperative group activity is requiring students to choose from several strategies to determine effectiveness. The rationale for using strategies is that as learners acquire the necessary skills and tools for context-specific independent learning such as music, an internalization of self-regulation may transfer to other aspects of student achievement (McGivern, Levin, Ghtala, & Pressley, 1986; Schunk & Ertmer, 2000).

Social Factors

Self-Regulated Learning is often social in nature (Bandura, 1986; Beishuizen, 2008; Chen, Masur, & McNamee, 2011; Harris, Grahm, & Mason, 2006), pioneered the revolution of social-cognitive learning theory by arguing that human behavior was not driven by external influence alone. He believed that it was the individual's cognitive and psychological functioning reciprocally interacting with the environment and social influences that were responsible for human behavior and learning. Bandura also posited that humans learn most efficiently by observing as this enables one to avoid the tedium of trial and error.

Bandura's (1986), concept of learning through observation led to a teaching model that drew from the principles of social factors in the learning environment that lead to three instructional styles: *live, verbal, and symbolic* modeling. Live modeling is taking place when a person is physically demonstrating the lesson. Verbal modeling is instruction that describes in detail how one must engage, and symbolic modeling is provided by other sources such as media and literature. All of these models are instructionally effective if presented within a flexible and diverse context of learning that considers how the multitude of social and emotional influences may effect student learning, thus supporting the developmental processes necessary for self-regulation. Social learning is evidenced in safe, caring well managed, cooperative learning

environments with instructional outcomes that reflect learner self and social awareness, self-organization, and relationship and decision-making skills (Elias, et. al, 2003; Rogers & Renard, 1999; Topping, 2005). In this dissertation research, social learning is considered in the instructional approaches and curriculum activities, therefore aligning with the relationship-driven teaching model necessary for self-regulated learning.

Learning Behavior and Learning Environment

The characteristics of a self-regulated learner are evidenced in learning behaviors that demonstrate a learner's control over their own thought processes. SR learners work to problem-solve by controlling one's own learning, environment. This process develops confidence in one's ability to achieve thereby increasing intrinsic motivation, and volitional control. Providing students an adequate amount of time to think, retain, and apply, will also enable learners to take responsibility for inhibiting emotions and distracting behavior, and in doing so, self-control is established and meta-cognition and self-regulation is developed (Atherton, 2009; Bjork, Dunlosky, Kornell, 2013; McGivern, Levin, Ghtala, & Pressley, 1986 ,).

A recent research study of high school chemistry students, using two treatment and two control groups, examined the effects of a learner-centered science curriculum on adolescent self-regulated learning skills (Senol-Sen, & Geban, 2015). *Motivated Strategies for Learning Questionnaire* (Pintrich, 1999), was used to measure enhancement of self-regulated learning skills. The curriculum used in the study is delivered using a learner centered approach entitled "The *Process Oriented Guided Inquiry Learning*" (POGIL). This student-centered learning environment used coordinated group activities that encouraged communication, teamwork, problem-solving and analytical and critical thinking skills. The chemistry lessons in the experiment group were administered in three phases, each consisting of a two-week period of exploration, concept invention, and application. The three phases guided students to address

critical-thinking questions about oxidation, leading students into the project phase to make associations and consider possible concepts that will explain a chemical oxidation process. The application phase involves taking the concepts discovered and providing examples of the chemical oxidation reduction process through experimentation activities. Results indicated a significant difference between self-regulated learning skills between the experiment and control group post-treatment. Students were observed collaboratively problem solving using the techniques for guided inquiry which included trial and error, and problem solving strategy choices supported by teacher feedback. The current dissertation research study uses an application similar to this as the three phases in this example; exploration, invention and application are employed in a music learning paradigm. The music learning paradigm includes critical thinking activities, goal-setting, planning, practicing, group collaboration, student modeling, discussion and reflection. The current dissertation study also parallels recent interdisciplinary research in the various phases of instructional delivery.

The three phases; *exploration, concept invention, and application*, are directly associated with self-regulated learning. Phases are included in the SRL-MPSC curriculum with cooperative group activities that guide students through an *exploration* of music reading and problem solving. Once students discover the musical challenges presented in the curriculum, they are taught to develop or *invent* a concept for tackling those challenges using music practice strategies. The *application* phase then describes how students apply the concepts and strategies learned to perfect their music performance in the cooperative groups and as an ensemble. As a result of this type of curriculum, learners are controlling and self-monitoring their own learning in a creative and positive, learner-centered environment.

Processes for Developing Self-Regulation and the Seven Component Teaching Module

Over the past 30-years classroom instruction has changed tremendously. Overtime, classroom teachers have been encouraged to lessen the amount of lecture-based training and use reflection, scaffolding and learner-centered approaches in their instruction. This approach helps students understand why they must learn as opposed to just asking them memorize and regurgitate knowledge (Paris & Paris, 2001). Instructional outcomes must now include measuring a student's ability to apply, synthesize, analyze and create with the knowledge provided. Motivation and emotion have now been added to the cognitive demands of the classroom curriculum giving teachers the challenge of making designing motivating and functional lessons.

In this study, the researcher has designed a set of instructional components to deliver the SRL-MPSC, based on the principles and suggested processes for guiding students to self-regulate. These processes are integrated into the curriculum design to assist students in comprehending and applying music practice strategies. Daily reiteration, repetition and cognitively engaging classroom activities applied over a period of time are necessary in order for students to fully understand the when, why, and how of using the practice strategies.

The researched processes and established practices of guiding students to better self-regulate include but are not limited to: Focused goal setting, controlling the learning environment and Pace, self-assessment, reflection and self-monitoring, problem solving and adjusting, discussing and verbalizing, demonstrating knowledge or mastery, student modeling and teaching others.

The curriculum also considers music practice strategy instruction that includes steps to follow, applications of practice strategies, guidelines for self-monitoring, instructor and student

modeling, an emphasis on the relevance and value of strategy use in music practice, instructor feedback, and encouragement for habitual reflection and planning (Pintrich, & DeGroot, 1990; Schunk, 2012; Zimmerman, & Kitsantas, 1997).

For the purpose of this study, these processes for developing SRL have been incorporated into the teaching module through carefully organized components and cooperative learning activities. The seven teaching module components are intended to serve as a building block for designing lesson plans and organizing curriculum in the following musical areas while aligning with the processes for developing self-regulation in learning. These components include: Warm up and Relaxation Techniques, Mental Imagery and Conceptual Visualization Exercises, Sight Reading using a well-developed set of procedures, teacher led demonstration and application of practice strategies, group activities involving verbal mediation, observation, monitoring, assessment, reflection and goal setting, instructor led group discussion that encourages students to share their practice goals, the strategies they used and the self-reflective observations they made, and a follow up review of concepts taught with student modeling and or a final performance. The warm-up component, consists of breathing and stretching exercise, and conceptualization and visualization exercises. These exercises provide not only relaxation and warm-up time for the ensemble, but the exercises foster application of valuable mental practice strategies. (Zatorre, & Halpern, 2005). Instructing students on the processes of mental practice can begin with instructing them to close their eyes, picture the concert B flat scale on the written staff, and then visualize playing the notes in half notes ascending and descending. Students are encouraged to focus on their fingers pressing the keys and breathing properly while conceptualizing playing the scale in their minds.

Table 1.

Processes	The Teaching Components of the SRL–MPSC
Goal and focus	Component 2: Focus/mental practice teaches goal setting. Component 4: Teacher led application of strategies. Component 5: Group activities that include goal setting. Component 6: Student group discussion/observations.
Student-driven learning	Component 5: Group collaborative verbal activities that included mediation, observation, monitoring, assessment, reflection and goal setting. Component 7: Final wrap-up with student modeling.
Self-assessment/reflection	Components 4, 5, 6: Questioning leads students to self-monitoring and understanding the “How, Why, and When” of strategy use, encouraging self-reflection and monitoring during music practice.
Problem solving/adjusting	Component 5: Group activity /students observe practice behavior and assist in making adjustments to facilitate problem solving.
Activities/presentations	Components 5, 6, 7: Group Activities and Discussion
Discussion/modeling	Students work cooperatively, make presentations, and demonstrate mastery.

If they make a mistake or lose focus, they are instructed to “hit pause” and “rewind”, meaning to go back and rework their practice to correct the error only in their mind. Students are then instructed to move their fingers and arms while singing and pointing to the key and time signature, follow the road map of the piece with their finger and mark the down beats in each measure. This component aligns with the researched SRL process of goal setting, focusing and planning (Barry, & Hallam, 2002; Chaffin, Imreh, & Crawford, 2002; Mcpherson, & McCormick, 1999; Smith, 2005).

Demonstration and Application of Practice Strategies is a brief teacher-lead explanation of each strategy using the unison etude to present the definition and appropriate applications of the practice strategies. Using the unison etude, the director will lead the ensemble through challenging sections using repetition thoughtfully, gradual tempo adjustments, rhythmic and articulation element elimination or out of context strategies such as chaining, woodshedding, and backward practice to perfect challenging sections. Suggesting combinations of strategies for

problem solving are also important as this encourages students to use creative and critical thinking. Group discussion is very effective way to engage students in the problem-solving process by discussing the musical challenges that are presented. This component provides opportunities to present Critical questions concerning appropriate practice strategy application is important in order to give students opportunities to defend the “whys” of their proposed solutions that they have matched with the challenges presented in the music. Understanding the “why” and “when” of using strategies appropriately, will engage students in metacognition, and when applied within domain specific knowledge, students begin to develop self-regulated learning behaviors. This component aligns with the SRL process of discussion and modeling posited by a large body of empirical research (Senol-Sen,Geban, 2015; Gettinger, & Walter, 2012; Beishuizen, 2008).

Addressing note, pitch, and rhythmic accuracy are the initial practice goals presented; as these are the fundamentals that are most necessary in order to reach a high level of music performance achievement. Once students are presented with the tools for this basic acquisition, strategies for making the etude *Musical* are then presented. *Make it Musical* strategies encourage students to consider how to interpret melodic lines and consider the development of appropriate tone and dynamic shape for a more mature, and musical expression.

Collaborative group activities are a large part of the practice strategy curriculum. Short fifteen-minute mini practice sessions are conducted with students in groups of two. One student will practice while the other student simply checks off the number of times each practice behavior on the practice strategy list is observed. After fifteen-minutes students reverse roles and the student practicing will verbalize what strategy they were using and why they were using that strategy as they practiced while their partners observed. This form of verbal mediation gives students an opportunity to become better acquainted with the practice strategies and begin

developing thoughtful intent and strategic decision making in their practice behavior. There are several additional coordinated group activities that will take place during the segment of the module in the SRL-MPSC. Other Music Practice Processes Activities (MPPA) also places students are in groups of two, and for ten-minutes one student continues to practice while the other student intermittently ask the following questions: “What strategy are you using and are you accomplishing your goal as a result of using it?” Students are instructed to listen to the answer and reply with the following statements: “If no, then pick another strategy to use or explain how you will modify what you are doing.” If the answer is yes, then they will ask what goal the student has set out to accomplish next. Students then reverse roles using the same process of observation and questioning. Self-Reflection and goal planning is used in this component encouraging students to reflect on their practice session and journal using the following questions as guides for self-reflection: “Explain why you did or did not achieve your practice goal,” “Once you began to use a practice strategy, did you have to adjust it in some way and describe a new practice goal-based on what you have or have not accomplished during this session.”

Although *Discussing and Verbalizing*, are required in the previous component, the last component of the module requires students to participate in a discussion, share their observations, thoughts and model what they have learned. This allows students to take control of the learning environment through modeling their mastery and sharing what they have observed and learned (Jones, Estell, & Alexander, 2008). In the discussion component the instructor assesses what the students have learned by posing questions such as, “What strategies did you observe the most”? “Why do you think your partner was using those strategies?”, “Did you agree with their choice of strategies given the challenges presented?” These questions will be used to guide students to think critically concerning strategy choice and the appropriate application of

each practice strategy. A Final performance with the full ensemble is conducted in an effort to assess the collective progress made. This component is a teacher led summarization and review of the strategies taught and accomplishments reached. This component reinforces the importance of teacher-feedback, self-reflection and goal setting.

The Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC)

It was suggested in the Senol-Sen, & Geban (2015), that self-regulated learning skills can be learned indirectly through social interactions and shared experiences. Further support of the importance of social interactions in learning are found in many research studies conducted with various age groups and domains (Jones, Estell, & Alexander, 2008; Martin, 2005; Zimmerman, 1998) Researchers agree that students who learn to self-regulate through context-specific practice, such as music or sports-training, and who use goal setting, task related strategies, self-monitor, adjust strategy usage as necessary, feel a sense of self-efficacy about using strategies, and have control over thoughts and anxiety, are more likely to succeed academically (Ericsson & Lehman, 1996; Martinez-Pons, 2002; Metallidou, 2012; Paris & Paris, 2001; Sadi & Uyar, 2013; Schraw, 1998; Schunk, 2012; Zimmerman, 2002). Self-regulated learning in music is similar to the processes of formulating practice goals, and applying problem-solving strategies, self-monitoring and adjusting to specific task demands in many domains of learning (Bjork, Dunlosky, Kornell, 2013; Gettinger, & Walter, 2012; McCombs & Marzaon, 1990). The SRL-MPSC is designed to support these processes and enhance self-regulation and cognition through music practice strategies.

The design of the SRL-MPSC began with music practice strategies, as teaching strategies with theoretical and practical substance are a valuable tool for music educators to assist students

in the development of self-regulated music practice. There are twenty-two accessible practice strategies that have been derived from research of practice behavior of pianists and wind players (Smith, 2005; Bugos & High, 2009). These practice strategies in this include but are not limited to; thoughtful repetition, adjusting the tempo to accommodate error correction, clapping and counting rhythms, practicing away from the instrument, and sizzling or whistling the music. The practice strategies are best understood when presented in three main categories: *element elimination, thoughtful repetition, and make it musical*. The *Element Elimination* category of practice strategies represent approaches that require temporarily altering or eliminating some musical element. Element elimination or contextual interference, is a learning strategy that makes the process of learning more elaborate by increasing variation in either a physical motion or skill. Research studies suggest that high contextual interference improves skill retention (Boyce & Del Ray, 1990; Giuffrida, 2002).

This concept of element elimination has also been applied to the field of sports training. Football players are trained off the field first with running and dodging activities before putting the ball into play. Athletes engage in activities that teach the motor skills and mental focus needed to master these skills by eliminating key sporting equipment (e.g., tennis racket, golf club, etc.). Athletes initially focus on the primary functions of their skill and then gradually add back the needed equipment and orientation to complete an endeavor (Travlos, 2010; Osman, 2017; Reid, 2013).

Element Elimination

Skip Directly to a problem spot

Sizzle and Finger

Sing and Finger

Speak the Note Names as you Finger

Sing the Music Away from Instrument

Sing the Rhythm away from Instrument

Clap and Count

Play It Backwards

Take out the articulation and practice with one constant articulation

Take out the rhythm and just play the notes in a straight beat

Make up a more difficult rhythm

Mental Practice

Self-Monitor and Adjustment Guide

- Always slow things down
- If you take it out, put it back
- Don't go from zero to sixty
 - Always proceed gradually
 - Slow then gradually faster
 - Taking elements out put them back one by one
 - When woodshedding varying the starting spot
- Use Repetition with thoughtful Intent
- Pause with thoughtful Intent

Figure 3. Practice Strategies of Element Elimination

Musicians can develop their skills in this same way using context specific contextual interference strategies such as; altering the sequence of notes, articulation, dynamics and rhythms. Eliminating one or more these elements in music may facilitate a more concentrated

focus on tonal center, intervallic pitch relationships and rhythmic comprehension (Giuffrida, Shea & Fairbrother, 2002; Guerrero, 2008). Element elimination in specific music practice strategies used in this study are sizzling, speaking, or singing the music separate from or with the instrument. In music, once the goal of hearing and feeling a passage is reached by this out of context strategy, the element is then put back into context and built upon with greater complexity.

Articulation and Rhythm out of Context, or play it backwards are practice strategies that are often considered to be forms of repetition but are more precisely defined as examples of taking something out-of-context by making the task either easier or more difficult. For example, a musical passage that is articulated with a slur could be played tenuto or staccato. This strategy will give the student an opportunity to perfect technical passages and hear the notes in a different way in order to more clearly realize the tonal center, and intervallic relationship between pitches. Removing the indicated articulation all together can also facilitate technique and pitch recognition without the additional task of articulating correctly.

The same philosophy is applied to rhythmic context. Technically challenging musical sections can be perfected by taking an existing rhythm and making it more difficult. A musical selection can be practiced using just one constant note value throughout, or for the duration of just one measure or small section. This strategy gives the student an opportunity to reference, pitch, intervallic relationships between notes without worrying about the rhythm. An example of this would be to change a series of 8th notes to triplets or reverse a dotted eighth sixteenth to a sixteenth dotted eighth note figure. Once the rhythmic context strategy has been applied and the student reaches their intended practice goal, the passage is then put back into context as with the articulation context strategy.

Sizzle or speak and finger, clap tap and count are all methods for teaching rhythms that are used very effectively by middle and secondary school music teachers. Speak and finger is a concept that eliminates the task of playing in order for students to first grasp the patterns or notes without the pressure of producing a sound.

Lisk (1987), introduced a method that is similar to this for the wind band pedagogy. One aspect of his method is to teach students the scales and modes by speaking the note names of the scales and patterns while fingering the instrument. Then the method includes playing the scale on the instrument without having to read music. This strategy eliminates several aspects of the task, facilitating a better comprehension of the modes and other music theory concepts. Lisk's alternative rehearsal techniques are innovative and creative. His methods encourage instrumental music directors to use creatively designed warm-ups that also include music theory concepts (Bauer, 2001). Lisk also teaches directors how to structure rehearsals using alternative approaches that foster listening skills through visualization and mental imagery (McPherson, 1988).

Performing some type of practice strategy away from the instrument or with the instrument in a limited degree such as; fingering the notes but not playing, and tapping and clapping are often associated with a strategy known as mental practice. Mental practice, a concept in element elimination, is widely recognized as a strategy for musical performance achievement that involves cognitive acquisition of a skill without the actual physical performance. Electrophysiological studies have revealed that the same neural pathways are activated when musicians imagine musical performance as when engaged in musical performance (Halpern, 2005; Strait & Kraus, 2011). Mental practice combined with physical practice, involves associations with previous tasks that promote focus, concentration and visualization.

Mental practice is a synthesis of the mind and body and is best executed in brief sessions (Weinberg, 1982). This practice has been widely recognized as a strategy for musical performance achievement and researchers acknowledge its effectiveness (Freymuth, 1993; Stanton, 1994). Electrophysiological studies have revealed that the same neural pathways are energized when musicians imagine their music and visualize their performance goals as when the instrument is actually played. Medical surgeons and athletes also use mental visualization. It has become a very popular method for not only teaching novices but perfecting the skills of those who are masters in these respective fields (Kosslyn, 2006; Williams, 2009; Suinn 2007).

Learning to use mental imagery in music practice is a six-step process. It begins with various relaxation techniques such as; deep breathing and closing the eyes while mentally releasing the body of all tension. Then one must focus on visualizing the instrument, being aware of the body, hand and finger placement. Step three involves imagining a warm up, technical passage or musical selection. Hear yourself, see yourself, feel your fingers pressing the keys as you play through your warm-up routine and imagine yourself playing. Keep playing until you make a mistake and then hit pause in your mind. Rewind your thoughts back to the occurrence and make the corrections slowly in your mind. Keeping the entire experience as vivid and real as possible in the mind will give the learner the mental imagery and positive energy to work through practice sessions in preparation for performance.

Thoughtful Repetition

Repeat a small series of notes or short passage

Repeat a Single Measure

Repeat a Section of Music

Repeat the entire work from beginning to end

Chaining

Whole Part Whole

Woodshedding

Make It Musical

Demonstrate and explore dynamics

Create musical phrasing

Explore numerous ways to speak a particular musical thought or sequence of measures.

Examine different articulation, dynamics and tone color

Self-Monitor and Adjustment Guide

- Always slow things down
- If you take it out, put it back
- Don't go from zero to sixty
 - Always proceed gradually
 - Slow then gradually faster
 - Taking elements out put them back one by one
 - When woodshedding varying the starting spot
- Use Repetition with thoughtful Intent
- Pause with thoughtful Intent

Figure 4. Practice Strategies in Thoughtful Repetition and Make it Musical

The *Thoughtful Repetition* category of practice strategies contains repetitious activity such as chaining, whole part whole, using the metronome and woodshedding. Repetition is a natural aspect of our learning process. Neurological studies suggest that repetition strengthens neural connections. From early childhood humans learn to incorporate repetition to master language, dialect, and reach high levels of physical dexterity to play a musical instrument or master the skills required for participation in a particular sport (Laden, & Ansalada, 2017).

The neural process of synopsis can be described as a constant adaptation and response to activity and stimulus, thus supporting the notion that repetition of a mental or physical task strengthens neural connections in the brain (Atwood & Karunannithi, 2002). Repetition without thoughtful intent fails to provide students with the skills and knowledge to apply what they have learned successfully (Thorndike & Woodward, 1901).

Although repetition is a strategy most often employed by young instrumentalists, regardless of the intent for repetition that is used, repetition alone is not always effective (Stanbaugh, 2011). Repetition as a music practice behavior is highly employed by young instrumentalists as well as music educators in classroom curriculum and group rehearsal settings. Students often successfully learn by imitation and this type of repetition is useful in the short term for goal achievement, if effective teacher feedback is provided. Teaching repetition through imitation may keep students engaged in a repetitive exercise; however, accuracy and timeliness of instructional feedback is essential, as allowing students to repeat incorrectly without timely correction can postpone the learning process unnecessarily. Saville (2010), suggests that altering the approach to repetition as a practice and learning tool in music will simplify and reframe the process and create a sense of novelty, avoiding the onset of boredom and ineffective results of repetition. He uses activities in the full ensemble rehearsal that make repetition seem novel. For instance, disguising repetition through paired inquiry and discovery; partner A performs a passage while partner B listens and has 30 seconds to critique and then they switch roles. A technique entitled guided discovery and repetition involves asking questions that will lead the students to discovery. An example of repetition questioning would be, “When does the vocal unison passage add harmony?” This type of questioning will give students an additional task as they are repeating a passage several times. Thoughtful repetition will guide students to practice with a clear goal and musical intent.

Simple repetition without purpose does not result in better performance. Research suggests that one way to avoid the unwanted outcome of poor repetition choices is to give students other strategies to work with in association with repetition. Giving students different approaches to practice strategies with the pretense of repetition, will teach students to use repetition more judiciously.

The *Make It Musical* category is a metacognitive practice behavior that includes attention to musical phrasing and expressiveness through dynamics, articulation and tone experimentation. These elements can be explored by marking the part, gradually speeding up the tempo, performance of altered rhythm or articulation in context, or reworking of particular challenging sections. Musical expressiveness is essential for musicians to perform technical passages, interpret notation and rhythm, concentrate, focus, plan, and evaluate.

Self-monitoring and adjusting in addition to the teaching students various musical practice strategies and their respective categories of *Element Elimination*, *Thoughtful Repetition*, and *Make It Musical*, there is also a need for guiding students to understand the importance of self-monitoring and adjustment during music practice (Chaffin, Imreh, & Crawford, 2002; Duke, 2009). For example, a practical approach to self-monitoring while using repetition, is to always slow the passage down when repeating so that thoughtful intent can be included in the decision-making and adjusting process. Students need to be reminded to gradually increase speed back to the original tempo once the passage has been slowed down. A self-monitoring technique for the *Element Elimination* strategies would be to gradually put back elements that are taken out one at a time. When woodshedding is used for example, it is suggested that the students vary the starting spot for each passage as to not over-practice certain challenging portions of the music unnecessarily. In the SRL-MPSC there are basic guidelines that students are reminded of to assist them in self-monitoring and adjusting as they practice.

Summary

Instrumental music curriculum and music training can offer a myriad of opportunities for adolescent students to think critically, reflect, self-monitor and problem solve. The literature supports the possibility of enhancing learning skills and cognition through self-regulated learning teaching approach in the music learning environment (Barry, & Hallam, 2002; Bengtsson, Nagy, & Skare, 2005; Bilhartz, Bruhn, & Olson, 1999; Bugos, & DeMarie, 2017). Adolescents are naturally experiencing accelerated neurological changes and growth, making this time sensitive period in their life-span an important window of opportunity for interventions that can support cognitive enhancement, self-efficacy, and competence. Adolescents from low socio-economic demographics are especially in need of this type of instructional intervention, as the stress and economic constraints of this underserved population are an inhibiting factor in cognitive and social well being (Bradley, Corwyn, 2002; Chandler, 2013). Observed adolescent music practice behavior has revealed a need for a music training intervention that includes practice strategy tools. The SRL-MPSC contains music practice processes activities that are group collaborative activities intended to teach students about the various practice strategies available and how to apply those strategies appropriately. Comprehensive self-monitoring, information management, problem solving, planning and evaluation are all areas of meta-cognition that serve as subcomponents of self-regulation and are required for highly effective music practice and performance achievement.

The seven component teaching module used to deliver the Self-Regulated Learning Music Practice Strategies Curriculum was designed considering the dimensions and processes of SRL. The SRL-MPSC is a novel curriculum for secondary instrumental students that may enable more effective and accurate music learning. Based upon this literature, I hypothesize that using

the self-regulated practice strategy curriculum in a music learning intervention, will enhance music performance, musical self-efficacy, self-regulation in music practice, meta-cognitive awareness, and and processing speed in adolescent instrumentalists.

Chapter Three: Method

Overview

The purpose of this study is to examine the effects of a 15-day implementation of music training using the Self-Regulated Music Practice Strategy Curriculum, on music performance achievement, musical self-efficacy, self-regulation in music practice, processing speed, and metacognition in high school instrumentalists. An experimental design was used to determine the difference in the mean scores of the treatment and control groups, at pre and post-training on each dependent variable: music performance achievement, self-efficacy, self-regulation, processing speed and metacognition. This fifteen-day music training used the SRL-MPSC, in order to teach adolescent instrumentalists how to practice more effectively, think meta-cognitively and develop musical independence while enhancing self-efficacy, performance achievement, processing speed and meta-cognitive awareness. This study also intended to offer instrumental music directors a practical and applicable way to integrate the SRL-MPSC into their daily instrumental class instruction, as teaching students to practice effectively using strategies, cooperative group activities along side daily rhythmic audiation, sight reading and scale study , will develop independent musicianship, increase student confidence and musical competence, broaden the literature level, and increase student motivation to practice.

Pilot Study

A pilot study was conducted using a within subject's design (Mieder & Bugos, 2017). A seven component teaching module was used to apply the Self-Regulated Music Practice Strategy curriculum in two separate ninety-minute after-school clinics followed by a ten-day reiteration and review period during the instrumental class period. In the pilot study, the treatment period was a total of ten class days and three hours in length. The ten days of reiteration and review during the school day involved a comprehensive application of practice strategies as these applied to full band arrangements, small ensemble projects, and scale/ technical proficiency studies. In the pilot study, the ten-day treatment period consisted of a teacher-led instructional approach to applying the 22 practice strategies to musical challenges encountered in the daily band class using proficiency techniques, scale studies and wind literature preparation. The current study differs greatly from the previous pilot study in that a more student centered learning approach is taken using a greater scope of cooperative group activities, and student modeling. These components were limited in selection and scope, and only took place during the two 90-minute after school clinics in the pilot study. Many other aspects of the current research project had not been developed at the time of the pilot study. For example, the present study applied the seven components of the teaching module throughout the framework of three power practice lesson plans in various creative ways over the course of 15-days rather than 10-days. The current study also incorporated a broader presentation of collaborative group activities, student assessments, practice worksheets, checklists and gradual presentations of the 22 strategies set in practical categories for greater comprehension of application and purpose.

The pilot study was a within subject's research design and no control group was used. Based on post-test results, the pilot study informed this dissertation research as it was suggested

that the implementation of the SRL-MPSC enhanced student's perceptions of strategy use during practice and self-efficacy in music practice (Mieder & Bugos, 2017). However, there were no significant differences in performance achievement. It is possible that treatment period of two-weeks may have not been a sufficient amount of time for students to show improvement in music performance achievement as this domain requires a complex skill set and broad comprehension of music practice strategy application. A need for a greater length of treatment was also evidenced in the assessment of the participant's knowledge and application of the strategies. It was observed that some students were not able to effectively verbalize why a certain strategy should be used in a presented musical challenge. To ameliorate this challenge, the current study employs a longer treatment period and a broader variety of researcher designed group cooperative learning activities entitled the *Music Practice Processes Activities (MPPA)*. This set of researcher designed collaborative activities are based on the various dimensions and processes of Self-Regulated Learning, and are intended to support the development of critical thinking skills, problem solving, planning, practicing, and self-reflection in music practice.

Participants

Participants who chose to participate within two randomly selected band programs, met the criteria of having at least two years of prior instrument playing experience, and were high school freshmen enrolled in an instrumental ensemble that met daily. There were initially 20 participants in the experiment group and 22 participants in the control group; however, due to scheduling conflicts and loss of interest, the final sample consisted of (n=18) experimental participants and (n=18) controls. Baseline measures were administered to ensure group equivalency in general intelligence and music aptitude. The control group was periodically

monitored for the purpose of observing instructional style, and curriculum content. It was observed on four separate occasions that the basic structure of class activities, and course content of the control group was very similar to that of the experiment group with the exception of the implementation of the SRL-PMSC. The participants were recruited from two separate Title I high school band programs within the same school district in the South-Eastern United States. One control and one experiment group were randomly selected out of a possible six programs whose directors agreed to the possibility of participating in the study. There were 8 females and 10 males in the experiment group (n=18), and 6 females and 12 males in the control group (n=18), with ages ranging from fourteen to sixteen. the ages of 14 to 16. Both groups were ethnically and socio-economically diverse demographic. The control group population consisted of 38% Hispanic, 39% Caucasian, 22 %Black and 1% Asian. The treatment group population consisted of 22% Hispanic, 17% Caucasian, 50% African American, 6% Asian, and 5% Pacific Islander. Participation criteria included at least two years of prior instrument instruction, and enrollment in a daily band class. Students were recruited for participation in the study by the researcher. The principal investigator visited each group and explained the study reading an IRB approved script. Letters of support were obtained from both high school's as well as the School District, and informed written parent consent and child assent were obtained in accordance with the policies and procedures of the University of South Florida Institutional Review Board. A participation rate of 80% was evidenced in the successfully completion of the study by 36 of the initial 45 recruited participants.

Study Design

Data collection included one week for pre-testing, immediately followed by a 15-day music training period (three weeks) for the treatment group only, ending with one week for post-testing; totally five weeks for the study. The control group was provided the opportunity to partake of the music training upon completion of post-testing. The fifteen-day (3 weeks) music training treatment period took place entirely during the normally scheduled daily band class. During this 15-day music training, the SRL-MPSC, was administered using the 7 component teaching module. The SRL-MPSC served as the primary pedagogical approach to the daily band class, and the experiment group band director integrated the curriculum and teaching approach with his choice of band literature, technical exercises and warm ups. The director received one week of training and was guided by the principal investigator each day with feedback and 30-40 minutes of reflection and discussion time. This SRL-MPSC is designed to flexibly support the daily full ensemble instrumental music class. It is organized into three sections; Power Practice I, II, and III, and in this study, took place over the course of three weeks. Each Power Practice Lesson Plan contains a flexible framework based on the 7 component teaching module and includes Concepts, Student Objectives, National Standards, Suggested Materials, Handouts, Group Activities, Assessments and Lesson Plan Narratives. The SRL-MPSC contains a set of Unison Etudes for comprehension and application of the practice strategies and guidelines for self-monitoring, as well as fifteen Rhythmic Studies with thematically corresponding unison excerpts for daily development of rhythmic audiation and strengthening of music sight-reading skills. The Sight-Reading component of the SRL-MPSC was added after the pilot study, as sight Reading or navigating a selection of music for the first time, posed a challenge to the participants. Sight Reading is a necessary skill for effective music learning, practice and

independent musicianship. Both the pre and post-test outcomes for treatment and control group were evaluated for possible significance in mean differences in self-efficacy in music practice, self-regulation in music practice, music performance achievement, processing speed, and meta-cognitive awareness.

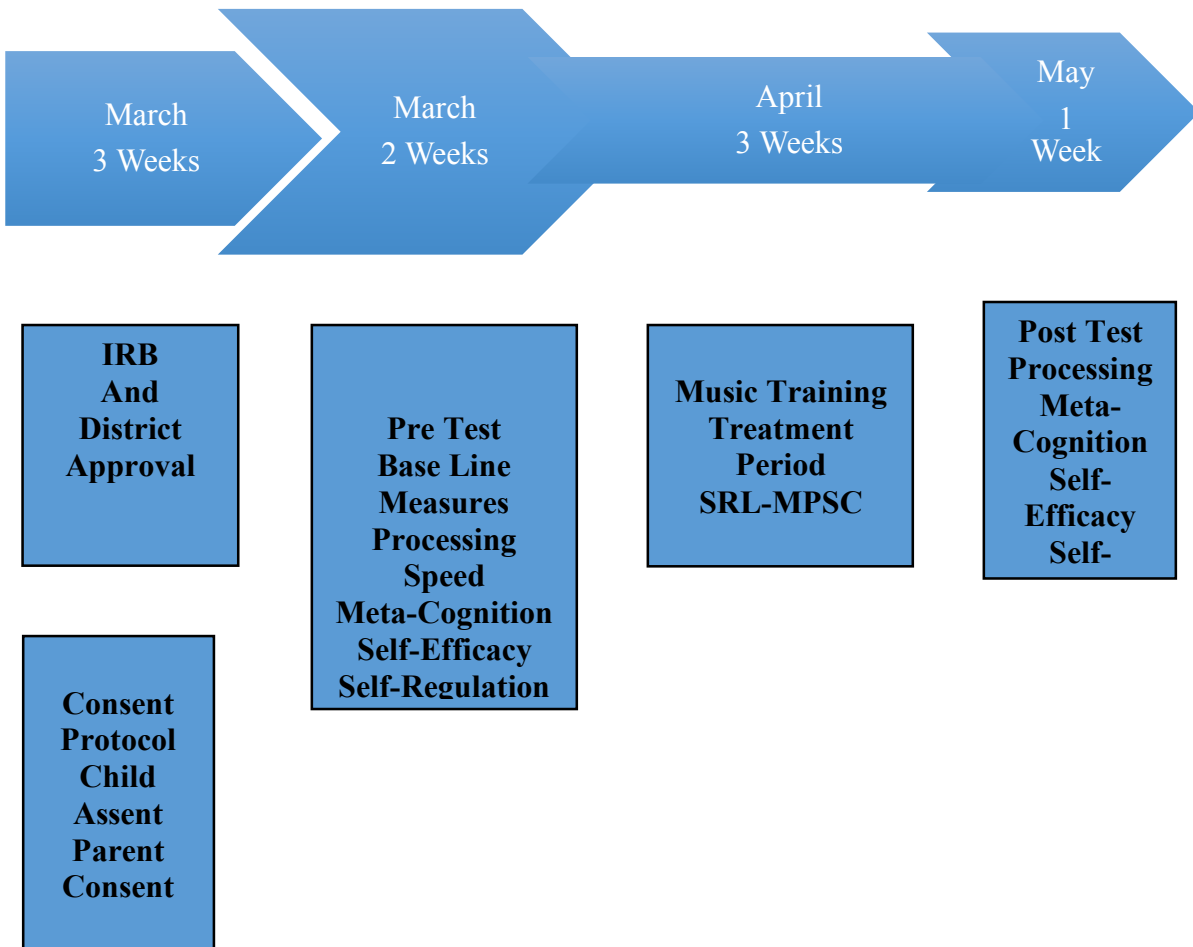


Figure 5. Study Design Time Line and Elements of SRL-MPSC

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The Self-Regulated Learning Music Practice Strategies Curriculum

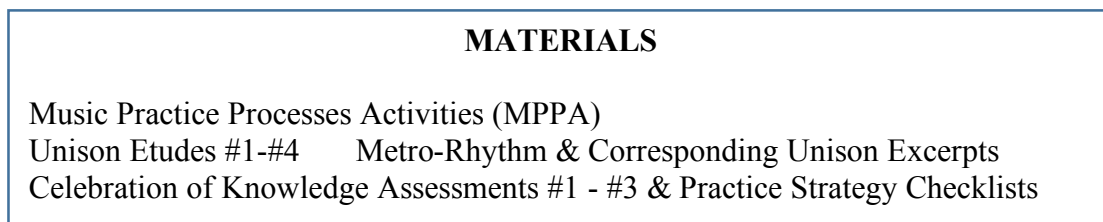
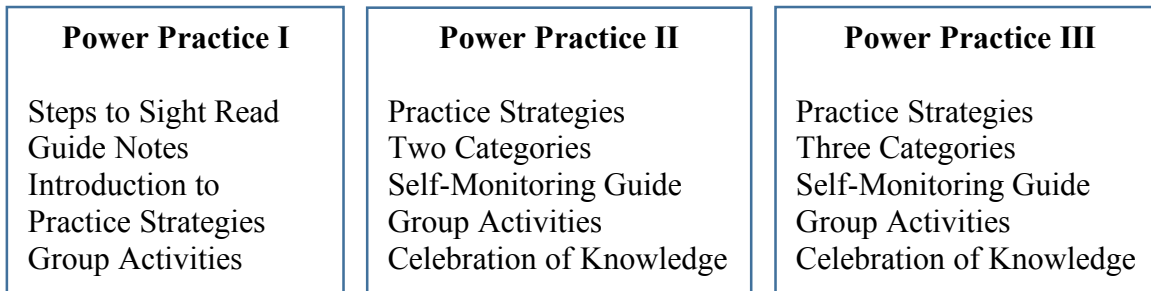
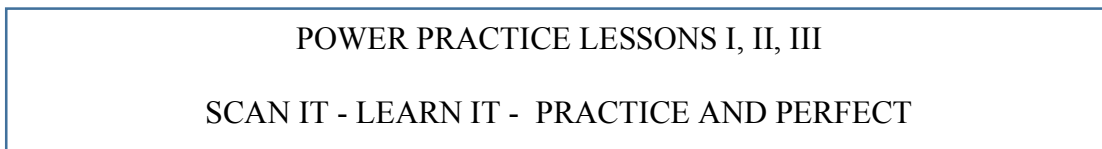
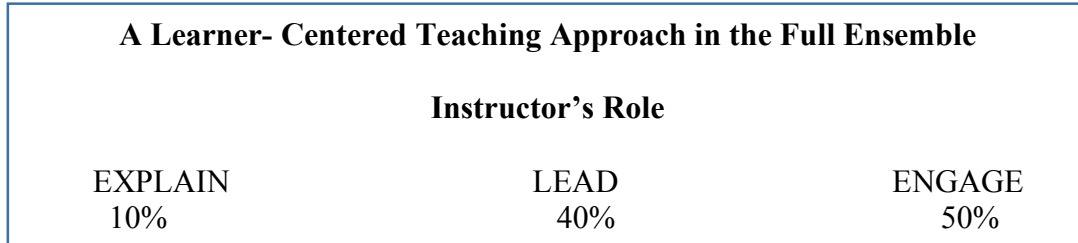


Figure 6. SRL-MPSC Content Design

Procedures

Both control and experiment groups consented to participate in the study by completing the IRB appropriated parent consent and student assent forms two week prior to data collection. A one-week pre-test period prior to the 15-day music training gave participants in both groups adequate time to complete a group administered vocabulary and non-verbal reasoning measure of estimated intelligence, from the *Wechsler Adult Intelligence Scale – 3rd* edition (WAIS-III), and the group administered *Gordon Advanced Measure of Music Audiation* (AMMA), estimation of musical aptitude.

The two WASI sub-tests and AMMA were administered to examine baseline group characteristics. If statistically significant differences were found between these variables, IQ and music aptitude may be included as potential covariates. The AMMA was group administered by the principal investigator of the research project as a baseline measure for both the control and experiment participants. An audio recording of the musical examples was played from a CD recording and students responded individually on the provided answer sheet. Results were kept confidential and used only for the purpose of correlating the equivalency of music aptitude between the control and experiment group participants. After completing measures of vocabulary, non-verbal reasoning and Music aptitude, participants completed the Pretest Self Efficacy and Self-Regulation in Music Practice using the Self-Regulated Motivation in Music Practice Survey (SRM-MP), adapted from the Motivated Strategies for Learning Questionnaire (Miksza,2006), and the Meta-Cognitive Awareness Inventory (MAI), (Schraw & Dennison, 1994). Both the SRM-MP and MAI were group administered by the principal investigator and each participant completed their own survey at their desk with partitions in between student work areas to maintain confidentiality and privacy.

After completing the SRM-MP and MAI, participants completed two WAIS-III sub-tests for processing speed: *Symbol Search* and *Digit Coding*. These sub-tests were modified for group administration. Participants were asked to copy symbols paired with numbers and identify paired symbols in a series of mixed symbols in short timed intervals. The digital symbol search subtest measured working memory processing speed by requiring participants to match numbers with corresponding symbols under time constraints.

After all cognitive assessments were completed, participants in both the control and experiment group sight read as a group, the Unison Etude #1. This opportunity was given to both the experiment and control groups in order to briefly familiarize them with the music before requiring each participant to practice for 15 minutes and make an individual performance audio recording of the etude. A sight reading session for the SRL-MPSC was conducted at pre and post-training. This Sight Reading session took place during the weeks of pre and post-training assessments and provided participants with a list of sight reading procedures such as: pointing to the key and time signature, following the piece with their finger and marking the beats in each measure. After all of the steps of the sight reading process were followed, the ensemble then played through the entire etude without stopping. No attempt to teach practice strategies with the etude was done with either group until the music performance pre test audio recordings were completed. After the sight reading session, participants in both groups were then scheduled that same week for individual 15-minute practice sessions (un-observed), immediately followed by a 5-minute audio recorded performance of the Etude. Further exploration and training to develop strong Sight Reading skills was also an integral aspect of the music training and SRL-MPSC. Only the experiment received the 15-day music training. The delayed treatment control group was given the music training after all post test assessments had been completed. The recorded performance of Unison Etude#1(pre-test) and Unison Etude #4 (post test), was assessed using the

Music Performance Assessment Rubric (Mieder & Bugos, 2017). The music performance assessment consisted of a 15-minute individual practice session (unobserved), immediately followed by a 5-minute time slot to perform the designated unison band etude. Participants were situated in four different quiet rooms in the music building of each high school. Each room was equipped with a music stand, a chair, a metronome, and pencil. An administrator from each high school volunteered to read a script instructing participants to practice the designated etude for 15 minutes. After the practice session time is up, the volunteer returned and read a script instructing the participant to perform the etude to the best of their ability. Each practice room had a dedicated laptop with a recording application “Audacity,” for the volunteers to use to record the participant’s music performance. The volunteers left the room for the five minutes of designated music performance time and returned after five minutes to confirm that the recording was captured. The music performance data was then converted to an MP4 file and uploaded to a password protected file. Participants were numbered on the recordings for confidentiality and also stored in a password protected Cloud file.

SRL-MPSC Procedures

The SRL-MPSC Music Training was delivered over a period of 15 days (3 weeks), using the seven component teaching module is an instructional framework for the SRL-MPSC. This curriculum and pedagogical framework are based on the foundational processes and necessary conditions for developing Self-Regulated Learning. Each component of the teaching module supports the various processes necessary for developing self-regulated learning (See Figure 3.). The 7 components of the teaching module were often presented sequentially as well as in various orders at other points during the training period in order to flexibly support the daily lesson plan. The teaching components comprised of daily band warm-ups, mental practice that supports

breathing and visualization, sight reading and rhythmic audiation, application of practice strategies, collaborative group activities, group discussion and reflection with student modeling and a final group performance with discussion of future goals.

Power Practice lesson plans I, II, and III in the SRL- MPSC began with a demonstration and application of the Music Practice Strategies for the treatment group only. A brief teacher lead explanations followed by cooperative group exploration and discovery activities assisted students in learning how to apply each of the music practice strategies with reference to the unison etude. Etude #1 was used for the pretest and unison etude #2 was used for the post-training assessment. Once all of the strategies had been explored, participants were then put into groups of two for cooperative fifteen-minute mini practice sessions. Participants completed the specific practice activities in the *Music Practice Processes Activities Work Sheets* (MPPA), described in Chapter two. These activities provided the participants with an opportunity to apply new knowledge of the practice strategies to the unison etude. The MPPA activities were used throughout each of the Power Practice Lesson plans and contained level appropriate suggestions for collaborative group activities such as; deciding on a short practice goal, choosing strategies to attain that goal, and verbally mediating their practice behaviors (See Figure 1). The last component of the module was a teacher lead group discussion. Participants were asked to share and model what they learned in the group activities and the teacher posed questions leading participants to decipher the meaning and appropriate application of the practice strategies. Lastly, a final performance of the etude revealed the experiment group's accomplishments followed by a discussion based on shared self-reflection and opinions concerning necessary goals for future practice.

Post-testing began with the same sight reading session as the pre-test on a different Etude was used (Etude #4). This sight reading session provided both the control and the experiment

group an opportunity to become briefly familiar with the etude before practicing individual for 15-minutes (un-observed), and immediately individually recording a performance of Etude #2. Cognitive assessment procedures for the post test were conducted in the same manner as the pre-test assessments. Participants again completed the Self-Efficacy and Self-Regulation in Music Practice, the Metacognitive Awareness Inventory (MAI), and the WAIS-III processing speed Symbol Search and Digit Symbol Coding sub-test measures. Results of the processing speed sub-test were kept confidential and used only for the purpose of providing pre and post test data to statistically analyze possible differences in the mean scores between the control and experiments group.

Role of the Teacher

The specific role of the experiment group teacher was that of instructor and ensemble director. The experiment group teacher was responsible for delivering consistent and thorough applications of the SRL-MPSC and integrating the concepts and teaching module components into the daily structure of the band class. Review and reiteration of the music practice strategies and learning processes introduced in the SRL-PSC were also a necessary aspect of the experiment group director's role. The director received daily guidance and training in respect to the practice strategy review and application both in the group collaborative instruction as well as the full ensemble rehearsal application of strategy use.

Role of the Researcher

The researcher provided training and continual guidance in regard to the pedagogy and methodologies involved in the SRL-MPSC. The preliminary teacher consultation, and guidance

during the 15-day treatment period, was provided in order to ensure that the SRL-MPSC was implemented correctly and all methodological and pedagogical protocols were adhered, ensuring consistency and fidelity of the intervention. Fidelity was insured by the daily observation and guidance provided by the principal investigator. The researcher was available to meet with each participating director to answer any questions or concerns they had regarding the protocol of the study. The researcher was present for each day of the treatment period and provided guidance, and support while assisting the experiment group director in delivering the review and reiteration of the SRL-MPSC. The principal investigator had a very positive relationship with the director which allowed for receptivity of all feedback and guidance before and during the intervention.

Data Collection Measures

Weschler Adult Intelligence Scales

The WASI-III two-subtest form provided a short measure of estimated intelligence. The *Vocabulary*, *Matrix Reasoning*, and WAIS-III processing speed subtests (*Digit Coding* and *Symbol Search*) were modified for group administration to experimental and control groups. Reliability of the WASI across all age groups is high, ($r = .98$). Test-retest reliability ranged from ($r = .94$) to ($r = .97$). WASI-II correlated with previous WASI versions after being administered to 198 adolescents with testing intervals of ten to sixty-seven days. The correlation between scores of these measures are moderately high, ranging from .56 to .83. Validity of these measures was substantiated by a high correlation with other measures of intelligence including the *Standard Progressive Matrices* and the *Stanford-Binet-IV* (Martin et. al, 2000).

The Advanced Measure Music Audiaton Test (AMMA)

Advanced Measures of Music Audiation (AMMA; Gordon, 1989) is a measure of music aptitude. Thirty paired melodic phrases are presented for discrimination of tone and rhythmic composition. Participants must determine if the melodies and rhythms presented are the same, tonally different or rhythmically different. A composite score is generated from the two categories of Tonal and Rhythmic differentiation. The AMMA was selected for its reliability ($r = .81$) and content validity. The AMMA performance is correlated ($r = .78$) to the Music Aptitude Profile (MAP; Gordon, 1989).

The Self-Regulation Motivation in Music Practice Survey (SRM-MP)

Self-efficacy and Self-Regulation in music practice were measured pre- and post-treatment, using an abbreviated form of the *Self-Regulated Motivation in Music Practice Survey* (SRM-MP) administered pre- and post-training. The questions were adapted from the *Motivated Strategies for Learning Questionnaire* (Miksza, 2006), which consisted of sub-scales designed to measure self-regulation (ten items). These five-point Likert scale items (ranging from SD = strongly disagree to SA = strongly agree) were used to examine self-efficacy in a high school population. Possible total raw scores for Self-Efficacy ranged from a minimum of 10 to a maximum of 50. In part four, the five point Likert scale items (ranging from 1 = Never to 5 = Always) were used to examine self-regulated learning behavior in a high school instrumentalist population. Possible total raw scores for Self-Regulated Learning Behavior ranged from a minimum of 37 to a maximum of 185. An example of an item is, “I usually have a plan of what I need to practice most before I begin my practice session.” For three sub-scales included in the measure—consisting of intrinsic value, cognitive strategy, and self-regulation—reliability correlations have been reported, $r = .63$ to $.83$ (Pintrich & DeGroot, 1990).

The Metacognitive Awareness Inventory (MAI)

The Metacognition Awareness Inventory (Schraw & Dennison, 1994) is a 52 question inventory to measure metacognitive awareness. Items on the inventory are categorized by two broad categories; Knowledge of Cognition and Regulation of Cognition. Only the components within the domain of regulation of cognition were used. The sub categories under regulation of cognition were described as: planning, comprehensive managing strategies, self-monitoring, problem solving and self-reflection (Brown, 1987; Flavell, 1987). Sample questions from each category included: “I slow down when I encounter important information,” “I ask others for help when I don’t understand something,” “I pace myself while learning in order to have enough time,” “I ask myself periodically If I am meeting my goals,” and “I ask myself how well I accomplished my goals.”

The Metacognitive Awareness Inventory was evaluated by factorial analysis that addressed the statistical relationship or possible match between knowledge and regulation of cognition and the observed patterns between both of these factors. There were originally 120 inventory items, eight items for each category and after being piloted to a group of college undergraduates (n=70), the inventory was revised and items were eliminated where appropriate. The two factor analysis corresponded to knowledge and regulation of cognition, and the eight factor analysis corresponded to knowledge, regulation of cognition, planning, declarative managing strategies, self-monitoring, problem solving and self-reflection were moderately high .34, suggesting an adequate construct validity (Schraw, & Dennison, 1994).

The Music Performance Assessment Rubric (MPAR)

The researcher designed Music Performance Assessment Rubric (MPAR), contained ten domains that included essential and expected music performance outcomes such as; note

accuracy, rhythmic accuracy, tempo consistency, articulation, dynamics, road map of repeats, tone quality, breath support and phrasing and musical expression. The MPAR used a point system of one to four to measure the quality of each domain. In an effort to alleviate as much subjectivity as possible, rhythm and tempo accuracy were evaluated using the following error scale appraisal: 0-5 mistakes = 4-point score, 6-10 = 3-point score, 11-15 = 2-point score and anything over 15 mistakes was a 1-point score. The Music Performance audio tapes were evaluated using the Music Performance Assessment Rubric. Three collegiate music education majors trained by the researcher to use the Music Performance Assessment Rubric evaluated the music performance audio tapes. Each evaluator received 6 hours of training and correlational statistical analysis using split-halves was conducted to determine inner-rater reliability. Split halves reliability analysis of pre-training and post-training ratings was $r = .94$ and $r = .96$ respectively.

Data Analysis

This research will address the following questions:

1. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC), on *Self-Efficacy in Music Performance*?
2. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum on *Self-Regulated Learning in Music Practice*?
3. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on performance within the domain of *Music Performance achievement*?
4. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC), on *Meta-Cognitive Awareness*?

5. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on *Cognitive Processing Speed*?

The baseline measures of intelligence and music aptitude were administered to control for potential mediating variables. If significant differences were found between the experiment and control groups on these measures, intelligence or music aptitude would be included as a covariate in all analyses.

To answer questions 1-5, a repeated measures MANOVA was used to analyze the difference in means and indicate significance of the hypothesized variances within and between groups at two points in time, pre-training and post training.

A MANOVA was used to analyze the difference in means and indicate significance of hypothesized changes in each group from pre -training to post- training. Both constructs of self-efficacy and perception of metacognition will be the dependent variables along with the researcher-designed performance outcome measure, and processing speed subtests. The MANOVA was necessary to address the differences in group interactions based upon experimental and control conditions while controlling for Type 1 error.

Chapter Four: Results

Overview of Questions and Participant Data

This chapter will discuss the procedures used to analyze the data and report results of analysis in response to the research questions presented in Chapter 1.

1. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC), on *Self-Efficacy in Music Performance*?
2. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum on *Self-Regulated Learning in Music Practice*?
3. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on performance within the domain of *Music Performance achievement*?
4. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC), on *Meta-Cognitive Awareness*?
5. What are the effects of a Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) on *Cognitive Processing Speed*?

Data were collected from 42 participants from two separate high school instrumental band programs in the southeast region of the United States. Both schools were randomly selected from a pool of six schools that agreed to participate in the study. One experiment group (n=20) and one control group (n=22) were chosen randomly from the possible seven schools.

Two students from the experiment group were removed from the instrumental band program for scheduling reasons and were therefore unable to finish the study. Four students from the control group withdrew from the study for lack of interest and an expressed frustration with level of difficulty of the etude. After consulting with the band director, it was determined that these students had transferred late into the band program resulting in great deficiencies in their reading and playing abilities in comparison to the other participants. The total participants who successfully completed the study were ($n=18$) for the experiment group and ($n=18$) for the control group. The experiment group consisted of 8 females and 10 males between the ages of 13 and 15. The experiment group was from an urban Title I high school with an International Bachelorette (IB) magnet program. The IB program is an accelerated and academically rigorous program that affords students, the opportunity to earn their high school diploma in honors level studies and an additional equivalence of one year of college credit. Thirty-three percent of the experiment group were IB students. Two students in this group received private lessons in the present school year. The lessons were administered in the form of bi-weekly pullout instruction during the regularly scheduled band class. Private instruction for these two students respectively totaled 18 hours.

The control group consisted of 6 females and 12 males between 13-15 years. The control group was from a suburban Title I high school with a collegiate academy magnet program. The collegiate academy, although not as rigorous as the IB program, is an advanced academic program that offers qualifying high school students the opportunity to complete honors courses and earn college credit. Twenty-two percent of the control group participants were enrolled in the collegiate academy program. No students in the control group received private lessons. Participant demographic information including age, gender, instrument, and whether participants received private instruction or not, is shown in Table 2. It was important to ensure equivalency

between groups, thus an independent samples *t* test was used to determine differences in group means on estimated full-scale intelligence based upon the short form *Wechsler Adult Intelligence Scale – 3rd* edition (WAIS-III) and on music aptitude based on the *Advanced Measures of Music Audiation* (AMMA).

Baseline Measures

The intelligence measure consisted of two subtests, *Vocabulary* and *Matrix Reasoning* and the music aptitude was determined using a composite score of tonal and rhythmic aptitude. The shortened version of the Wechsler Adult Intelligence Scale III (WAIS III) was group administered using the two subtests, vocabulary and matrix reasoning for each participant to yield baseline FSIQ intelligence quotient. The total *t* score for *Matrix Reasoning* with the total *t* score for *Vocabulary* consisted of a total t-score which corresponded to a standard FSIQ quotient (Wechsler, 1999). Results of the independent samples *t*-test conducted to determine differences in means for general IQ between groups indicated there was no significant difference in estimated intelligence between experiment and control groups, $t(34) = -.279, p = .782$.

The *Advanced Measures of Music Audiation* (AMMA, Gordon, 1989), was group administered to determine general music aptitude and scored by a standardized criterion-based formula that used raw scores of both tonal and rhythmic assessments. Results of the independent samples *t* test conducted to determine difference in means for general music aptitude between groups indicated that there was a significant difference in estimated musical aptitude between groups, $t(34) = 2.72, p = .010$. Due to a significant difference in music aptitude between the groups, it was necessary to include music aptitude as a covariate in the analyses. Table 3 describes scores for the Music Aptitude test (AMMA) and the two subtests for estimation of IQ

administered only at the initial time point of the study (pre-test). Data were collected across two time points: pre-training and post-training for the independent variables of music performance achievement, self-efficacy in music practice, self-regulation in music practice, meta-cognitive awareness, and processing speed.

A Multivariate Analysis of Variance (2 Group X 2 Time) with an alpha level of $p < .05$ was used to examine changes over the two time points and differences between groups as a result of the independent variable, Self-Regulated Learning in Music Practice Strategies Curriculum (SRL-MPSC). Levine’s test, $F(1,33) = 4.98, p = .03$ was conducted to ensure that overall assumptions of variance were met. Wilks’s Lambda was also conducted, as this statistic provides the product of the unexplained variance on each of the outcome variables, thereby representing the ratio of error variance to total variance ($\Lambda = 0.586$). This significance in difference in music aptitude between the groups necessitated using a MANCOVA in order to control for group baseline differences in music aptitude. Table 3 includes scores from the music aptitude measure (AMMA) and the two- subtest form of the WASI for estimation of intelligence. These measures were administered only at baseline.

Table 2. Demographic Information for Participants in Experimental (EXP) and (CON)

Group	Age	Instrument	Gender	Private Lessons
EXP	15	Tuba	M	No
EXP	14	Flute	M	No
EXP	14	Flute	M	No
EXP	15	Alto Sax	M	No
EXP	14	Trumpet	M	No
EXP	13	Clarinet	F	No
EXP	14	Bass Clar	M	No

Table 2. Continued

Group	Age	Instrument	Gender	Private Lessons
EXP	14	Oboe	F	Yes
EXP	14	Horn	M	Yes
EXP	13	Flute	M	No
EXP	14	Alto Sax	F	No
EXP	14	Clarinet	F	No
EXP	15	Horn	F	No
EXP	14	Flute	F	No
EXP	14	Euphonium	F	No
EXP	15	Clarinet	M	No
EXP	14	Trombone	F	No
EXP	14	Clarinet	M	No
CON	14	Alto Sax	M	No
CON	15	Flute	M	No
CON	14	Flute	M	No
CON	14	Trumpet	M	No
CON	15	Tuba	M	No
CON	14	Clarinet	F	No
CON	14	Trombone	F	No
CON	14	Tuba	F	No
CON	15	Tuba	M	No
CON	14	Flute	F	No
CON	13	Trumpet	M	No

Table 2. Continued

Group	Age	Instrument	Gender	Private Lessons
CON	14	Flute	F	No
CON	14	Trumpet	M	No
CON	14	Trumpet	M	No
CON	14	Tuba	M	No
CON	14	Alto Sax	F	No
CON	15	Flute	F	No
CON	14	Tuba	M	No

Table 3. Wechsler Adult Intelligence Scale Subtests

Group	EXP (N=18)		CON (N=18)		Overall	
Baseline Measures	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Vocabulary	36.2	12.9	34.7	11.5	35.45	12.2
Matrix Reasoning	24.2	4.8	26.1	3.8	25.15	4.3
Music Aptitude	57	5.7	51	7.4	54	6.5

Cognitive Assessments

Processing Speed

Data were collected pre and post-training for the WAIS-III subtests that measured processing speed: *Digit Coding* and the *Symbol Search*. Table 4 includes the raw scores with means and standard deviation over both time points. The *Digit Coding* subtest measures working memory and processing speed by requiring participants to match numbers with

corresponding symbols under time constraints. The *Symbol Search* subtest required participants to identify paired symbols in a short time constraint. Although both groups increased their scores between pre and post-training, there were larger increases in the experiment group (See Table 4). A MANCOVA co-varied by AMMA scores revealed a significant difference between groups in processing speed at two time points while holding music aptitude constant, $F(1,33) = 3.98, p = .05$. Results indicate that although both groups demonstrated increases in *Digit Coding* and *Symbol Search*, there a slight increase in processing speed post-training for the experiment group as compared to the control group.

Table 4. Weschler Adult Intelligence Scale III Raw Scores for Repeated Subtests

Group	EXP (N=18)		CON (N=18)		Overall	
	M	SD	M	SD	M	SD
<i>Digit Coding</i> (T1)	67.6	27.2	60.6	24.4	64.1	25.8
<i>Digit Coding</i> (T2)	74.4	16.4	64.4	19.5	69.4	17.95
<i>Symbol Search</i> (T1)	41.5	8.7	33.8	8.7	37.65	8.7
<i>Symbol Search</i> (T2)	47.72	16.4	34.1	8.4	40.91	12.4

Meta-Cognitive Awareness

Descriptive data on two time points has been collected using The Meta-Cognitive Awareness Inventory (MAI). This inventory is intended to measure meta-cognitive awareness within the domain of Regulation of Cognition. Table 5 describes the raw score means and standard deviations for both control and experiment groups for each sub-set of this category including, Information Management Strategies (10 pts.), Debugging Strategies (5 pts.), Planning (7 pts.),

Comprehensive Monitoring (7 pts.), and Evaluating (6 pts). Each of these sub-sets will be discussed separately as each contributes uniquely to the different overall dimensions and processes necessary for students to self-regulate in music practice. Table 5 provides the raw scores for all five sub-sets of Meta-Cognitive Awareness with means and standard deviation for both time points; pre and post-training for experimental and control groups. Mean scores on the sub-set category Information Strategy Management, the experiment group scores indicated insignificant increases from pre-test to post test, with the control group scoring high on the pre-test yet decreasing for the post-test. For the sub-set category of problem solving, once again the control group scored slightly higher than the experiment group in both pre and post testing, with both groups scores increasing only slightly from pre-test to post-test. For Comprehensive Monitoring, both groups scores were similar, increasing just slightly between pre and post-testing. For the sub-set of Self-Evaluation, the experiment group scored slightly higher than the control group for the pre-test, increasing their scores on the post-test while control group decreased scores for the post-test. All five sub-set components of the meta-cognitive awareness recognition of cognition awareness assessment were totaled to provide a comprehensive estimation of cognitive awareness. Results of a MANOVA indicate that overall meta-cognitive awareness increased just slightly from pre-test to post test for both groups; however, group differences were not significant, $F(1,33) = 1.76, p = .19$.

Pre-Training(T1), Post Training(T2), Experiment Group (EXP), Control Group (CON)

Table 5. The Meta-Cognitive Awareness Inventory Raw Scores for 5 Sub-Sets

Group Assessments	EXP (N=18)		CON (N=18)		Overall	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Inf. & Strategy (T1)	5.9	1.8	6.7	1.8	6.3	1.8
Inf. & Strategy (T2)	7.1	2.4	6.6	2.1	6.85	2.25
Problem Solving (T1)	4	1.13	4.4	.73	4.2	.93
Problem Solving (T2)	4.3	.84	4.6	.77	4.45	.8
Planning (T1)	3.9	2.18	4.3	1.7	4.1	1.94
Planning (T2)	6	1.08	4.38	1.37	5.19	1.33
Comprehensive (T1) Monitoring	4.05	1.98	4.05	1.58	4.05	1.78
Comprehensive (T2) Monitoring	5.5	1.5	4.27	1.3	4.88	1.4
Evaluation/ (T1) Self-Reflection	3.2	1.6	3.16	1.38	3.18	1.5
Evaluation/ (T2) Self-Reflection	4.5	1.4	2.94	1.21	3.72	1.3

Self-Efficacy and Self-Regulation in Music Practice

Data collected using the *Self-Regulated Motivation in Music Practice Survey* (SRM-MP) in Table 6 show self-efficacy and self-regulated learning behaviors pre and post-training for experimental and control groups. Data showed an increase in scores for self-efficacy across time for the experiment group and a slight decrease in scores for the control group. Results of the Multiple Analysis of Variance (2 Group X 2 Time) with an alpha level of $p < .05$ indicated that the increase in self-efficacy in the experiment group across time was significant, $F(1,33) = 13.81, p = .001, d = 2.10$. These data suggested a large effect size. Overall pre and post-training

scores were higher in the experiment group compared to the control group. Self-regulation increased from pre-training to post-training for the experiment group and scores slightly decreased from pre-test to post for the control group. Results of the Multiple Analysis of Variance (2 Group X 2 Time) with an alpha level of $p < .05$ indicates that the increase in self-regulation in the experiment group from pre-test to post test was significant, $F(1,33) = 16.91, p = .001, d = 1.98$. The effect size was quite large for self-regulation.

Table 6.

Self-Regulated Motivation in Music Practice Survey Raw Scores for 2 sub-sets

Assessments	EXP (N=18)		CON (N=18)		Overall	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Self-Efficacy (T1)	31.7	5.9	29.8	3.05	30.7	4.47
Self-Efficacy (T2)	38.1	5.26	29.1	3.0	19.06	4.13
Self-Regulation (T1)	106.7	17.5	98.1	12.8	102.4	15.15
Self-Regulation (T2)	129.8	22.06	96.16	9.36	112.98	15.71

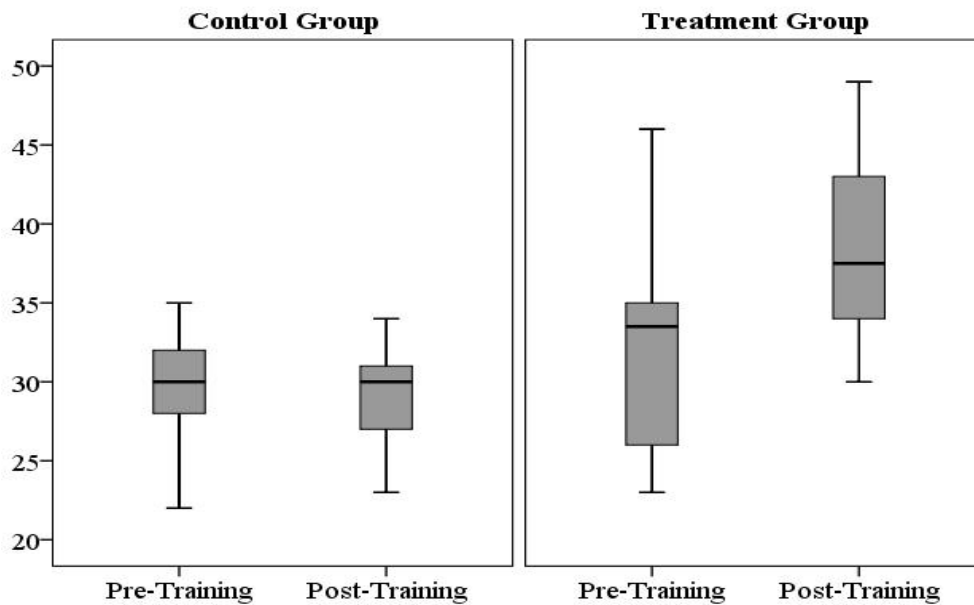


Figure 7 Self-Efficacy

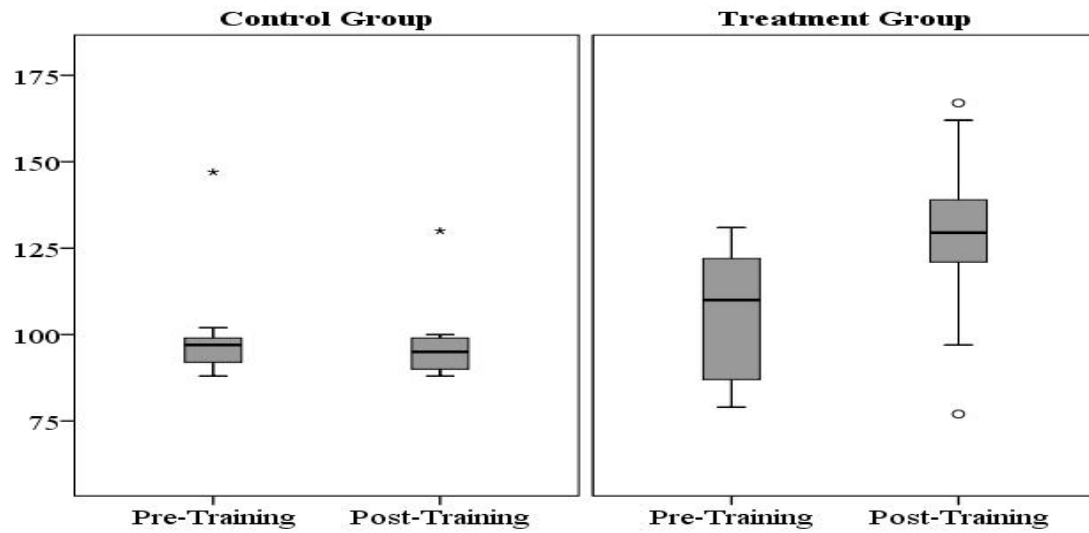


Figure 8. Self-Regulation

Music Performance

Data were collected to measure music performance achievement. Descriptive data on two time points reflecting the raw score means and standard deviations of overall performance achievement for both the control and experiment group are provided on Table 7. The Music Performance Achievement overall score for the experiment group increased 4.67% from pre-test to post-test and the control groups mean score decreased .8% from pre-test to post-test. Results of the Multiple Analysis of Variance (2 Group X 2 Time) with an alpha level of $p < .05$ indicates that the increase in music performance achievement was significant, $F, (1,33) = 11.28, p = .002, d$

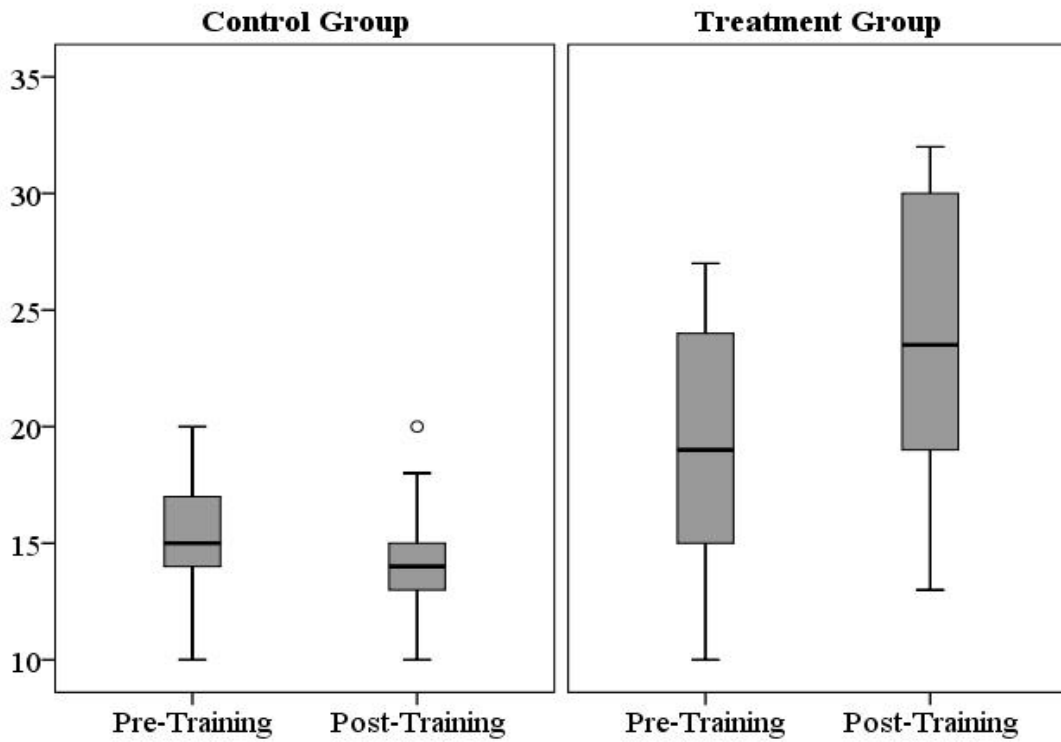


Figure 9. Music

Performance Assessment

Table 7. Music Performance Assessment Raw Scores Performance Achievement

Group	EXP (N=18)		CON (N=18)		Overall	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Etude #1 (T1)	18.83	5.84	15	2.6	16.9	4.22
Etude #2 (T2)	23.5	6.2	14.2	2.3	18.8	4.25

Summary

Results of this study suggest that a 15-day music training intervention using the Self-Regulated Learning Music Practice Strategies Curriculum, significantly enhanced participant's music performance achievement, self-perceptions of self-regulation in music practice, and self-efficacy in music practice. This innovative instruction integrated music practice strategies and cooperative group activities with the process and practices that may be essential for developing self-regulation in music learning. The learning behaviors exhibited by the experiment group during the music training intervention suggested that participants were using the power practice check-lists and music practice processes activities to formulate new thinking skills associated with effective music practice. For example, in the group collaborative sessions, students expressed their opinions of strategy use and even created their own forms of practice strategies to enhance their practice. Participant learning behaviors during training demonstrated their ability to manage the practice strategies by problem-solving and goal-setting. Participants worked in small groups to practice verbal mediation during music practice and then shared the experience by modeling what they had learned at the discussion session. The social learning environment and student centered instructional style may have contributed to self-regulation and increased self-efficacy.

Chapter Five

Discussion

This chapter discusses the results of the study in response to the research questions and provides potential explanations and future implications for the direction of instrumental music instruction's role in developing independent musicianship and performance achievement in the full ensemble rehearsal setting while enhancing cognition, and self-efficacy and self-regulation in music practice. A brief overview of the purpose of the study will be followed by a discussion of the results. This chapter will conclude with a discussion of implications and recommendations for future research and contributions to the field of music education.

Overview of the study

The purpose of this study was to examine the effects of a Self-Regulated Music Practice Strategy Curriculum (SRL-MPSC) on music performance achievement, self-efficacy and self-regulation in music practice, meta-cognitive awareness and processing speed of adolescent high school instrumentalists. Participants were recruited from a possible six high school band programs whose directors had expressed an interest in the study. Participants who chose to participate within these two randomly selected band programs met the criteria of having at least two years of prior instrument playing experience, were high school freshmen enrolled in an instrumental ensemble that met daily. Results of the fifteen-day training indicate significant enhancements in music performance achievement, and self-efficacy and self-regulation on music practice for the experiment group compared to control group. Although there were small increases in overall meta-cognitive awareness, and processing speed, these changes did not

significantly differ from controls. An increase in self-efficacy with regard to music practice was found post-training. Results of the self-efficacy in music practice measure indicated that participants in the experimental group self-monitored in their music practice, corrected musical errors by listening, and self-evaluating, sought advice from directors, planned and determined practice goals, and self-reflected on their practice session progress. An increase in self-regulation in music practice was found post-training, in relation to the participant's self perception of confidence in their ability to perform on their instrument, and problem solve when presented with musical challenges. An increase in perception of self-regulation in music practice may be attributed to the intervention as group differences were found between experimental and control groups. However, there is a need to replicate with an active control condition. A significant increase in music performance achievement was found in relation to the participants decreased error rate and improved navigation of etude #2 as evidenced in their ability to play the piece from the beginning to the end with less difficulty than pre-training performances. A slight increase in meta-cognitive awareness was found in relation to each participant's self-perception of his or her meta-cognition. Sub-categories included strategy management, problem solving skills, planning, self-monitoring and self-evaluation. The largest increase was shown in planning and problem solving. A less than significant increase in processing speed was found at the post-test time point in relation to participants increased scores in Digit Coding and Symbol Search.

Discussion

Although no significant effects on meta-cognitive awareness or processing speed were found, there were slight increases in the means for both groups at post-training. Music learning and music practice involve high level, complex cognitive thinking skills. The processes and mental tasks developed in music learning, may support the self-regulated learning and other

closely related cognitive skills necessary for high achievement in all learning domains (Brochard, Defour, & Depres, 2004; Ho, Cheung & Chan, 2003). Participants in this study were engaged in high level cognitive thinking skills as they were asked to interpret musical symbols, notation, articulations, dynamics, and tempo, while simultaneously conducting multiple motor skills, accompanied by auditory adjustment of intonation, pitch, balance, blend maintaining an internal tempo. This complexity of music practice and learning involves an integration of sequential processing of sensory and motor skills. This supports the notion that although there were no significant increases in this study for this 15-day training, it has been generalized in studies of greater length that music instruction may enhance processing speed (Bugos, 2017; Bugos, & Mostafa, 2011). As a result of the implementation of the SRL-MPSC into a 15-day music training intervention, participants in this study experienced an increase in music performance achievement, self-regulation and self-efficacy as well as a slight increase in processing speed and meta-cognitive awareness. This is consistent with the previous pilot study conducted using a within subject's study design. For future applications and possible replicative studies using this approach, researchers and directors have the option of taking more than three weeks to implement this curriculum. Any amount of time necessary for each Power Practice Lesson, depending on the needs and ability level of their group is acceptable and encouraged.

A reflection and daily observation journal was kept throughout the 15-day music training intervention to inform the researcher of needed adjustments early on in the SRL-MPSC implementation. A very common problem observed were the participant's inability to effectively realize rhythms and pitch accuracy. To ameliorate this challenge, the "Guide Note" worksheet and Metro-Rhythms with corresponding unison excerpts were developed. Once students mastered finding different pitches using the guide note technique, they were able to realize correct pitch more easily, making their music practice more effective. The daily rhythmic

audiation and excerpt exercises contributed to the participant's ability to strategically navigate their way through a new piece of music as was evidenced in the post-test music performance achievement outcome, particularly domain ten of the MPAR, which measured their ability to navigate the etude from beginning to end. The review of literature on social, cognitive and behavioral perspectives on learning and their relatedness to self-regulated learning theory, contributed greatly to the design of the SRL-MPSC. The learning and behavioral outcomes of these conceptual learning perspectives also informed the development of the Music Practice Processes Activities. These music practice processes activities (MPPA) were utilized consistently throughout the 15-day music training, engaging students in collaborative group activities requiring comprehensive problem-solving, strategy choices, planning, goal setting, and student modeling.

The experiment group participant's increase in music performance achievement may be attributed to the sequential and strategic application of music practice strategies and guidelines for self-monitoring in music practice presented in the SRL-MPSC. Participants may have gleaned comprehensive knowledge concerning music practice skills that enabled them to better problem solve when faced with musical challenges. The metro-rhythms and corresponding excerpts offered students daily practice in rhythmic audiation and sight-reading procedures. Sight-reading and rhythmic audiation were reiterated through the course of literature rehearsed and further reinforced in each Power Practice Lessons. The Power Practice Lessons provided participants with step by step checklists that assisted them in navigating the music etudes and excerpts. Research examining how people learn supports the notion that improved instruction and enhanced learning outcomes in any domain are the direct result of using learning strategies that emphasize self-regulated learning (Bransford, Brow, & Cocking, 2000; Hattie,2009).

One of the most salient findings of this research was the increase in self-regulation in music practice in adolescent instrumentalists. Studies examining common music practice behaviors of adolescent instrumentalists have focused on the challenges related to music performance and self-regulation (Guerrero, 2008; Hallam, 2001; Barry, & Hallam, 2002; McPherson, & McCormick, 1999; McPherson, & Renwick, 2001; Miksza, 2006, 2007, 2012). Few experimental studies examine the development of self-regulation and self-efficacy in adolescents. Research on this age-group has focused mostly on outcomes rather than processes and approaches to remedy music practice challenges. In addition, implementation of a comprehensive music practice strategy curriculum with lesson plans, practice strategy applications, and supplemental activities to directly aligned with the three phases of self-regulation; Forethought, Performance and Reflection, is unique to the field of music education. The curricular design of the SRL-MPSC provided the participants with a strategic plan and set of strategies to practice more effectively. This strategic planning, self-monitoring and reflecting was modeled by the cooperating teacher during the full ensemble rehearsals and was also a expectation of the collaborative group activities.

Another key outcome related to the development of self-regulation examined in this study was self-efficacy. Research has long suggested that instructional applications that consider cognitive, social and motor skills development may be credited for high academic and performance achievement in all domains, thus leading to enhanced self-efficacy (Bandura, 1977, 1982; Schunk, 1989; Schunk, & Gunn, 1986). Considering the importance and key role that self-efficacy plays in student behaviors in educational contexts may explain the high level of participant's self-perception of self-efficacy at the post-test time point in this study. Participants in this study were given autonomy to choose practice strategies and apply those strategies to daily musical tasks. One common challenge among participants was the ability to state a focused

and attainable practice goal. Pre-training, participants stated very broad goals such as, “play the piece without error,” or “play it up to tempo.” In response to these responses, instructional time was spent discussing appropriate long and short-term goals for music practice. Opportunities to discover through trial and error served the reflection process. As a result, students were better able to set new practice goals based on the effectiveness or ineffectiveness of their sessions.

It is possible that group discussion and student modeling at the end of each power practice lesson may have guided self-monitoring, which strengthened beliefs about future music learning. Participants may have also acquired knowledge from other students, and received positive feedback from the instructor giving credence to the social learning context. It was observed and documented in the researcher’s daily reflection journal that learning behaviors during the intervention reciprocally supported the learning environment, as expectations of performance outcomes were set by the instructor. Students in the experimental group also learned about effective music practice processes and strategies by modeling and motivating each other through their social interactions. Unlike other current research on adolescent music practice in relation to self-regulation (Hallam, 2001; McPherson, & McCormick, 1999; McPherson, G., & McCormick, 2006; McPherson, & Renwick, 2001; Miksza, 2006, 2007, 2012, 2015), this study goes further to explain the relationship between the sub-processes of self-regulation as it relates to meta-cognitive awareness and processing speed. The SRL-MPSC focused on key instructional strategies that would support general meta-cognitive awareness. Participants engaged in music learning activities that required applying previous knowledge to new musical challenges. This mental task is representative of the reliance one has on working memory and processing speed. Participants in this study were taught strategy management, and problem solving skills, monitoring and self-reflection skills and these were reinforced daily using the music practice processes activities. Dunlosky’s (2017), review of Elaborative Interrogation and Self-

Explanation learning techniques were used in part to construct various Music Practice Processes Activities. These techniques encouraged participants to ask the questions “Why,” and “When,” as they were practicing and applying the music practice strategies. Although meta-cognitive awareness and processing speed were not effected significantly, this study provided participants with a preliminary base line for developing theses skills in the future

Limitations and Future Directions

The results of this study found no significant differences between groups on meta-cognitive awareness and processing speed. While the Meta-Cognitive Awareness Inventory had good reliability, it may not have captured the meta-cognitive awareness demonstrated by adolescents of this age group. This is consistent with the findings of Young and Frye (2008), a three week study that was similar in design to the current study, however, the age group for their study was undergraduate collegiate. Consequently, in future studies the MAI measure may be more appropriate for collegiate populations.

The processing speed measure was altered for group administration and as a result, some issues in participant compliance during testing may have influenced the outcome. Several participants in the experiment group completed the time response Symbol Search and Digit Coding in the wrong order resulting in outliers in the pre-test. This was corrected during post-test administration. It is also possible that a practice effect may have influenced the participant’s familiarity with the measure, as the time points for pre and post were only three weeks apart.

One last issue concerning both the processing speed and MAI measure, is that these measures may not have had a high enough degree of cognitive load, as the tasks on both

measures were relatively simple. Replication with a more complex processing speed measure may have yielded different results.

Additional limitations include a small sample size ($n=36$), and although the groups were chosen randomly from a possible seven groups, this was a convenience sample. Other limitations may be noted in the limited length of the study. A 15-day training period may not have been a sufficient amount of time for the participants to show enhanced outcomes on all of the measures. There were slight demographic differences in the study groups such as IQ, music aptitude, and social economic factors that may have effected the outcomes. One last limitation to note is the lack of attention received by the control group. The control group was not given a placebo curriculum and the experiment group may have gained a great deal of motivation from knowing that they were getting the music training intervention. Future research is necessary to generalize findings with a larger diverse population and to rectify the design to include an active control curriculum or condition.

Based upon the results of this study, instrumental music directors might integrate the SRL-MPSC into their daily instrumental class instruction for high school instrumentalist in all socio-economic demographics. Although this study took place in low-socio economic schools, replication of this work should be examined in various demographic settings. Research suggests that teachers who provide systematic structure in the form of practice strategies and guidelines further the development of self-regulated learning (Sierens, 2009). The Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC), was specifically designed to support the development of SRL and may contribute to the literature of enhancing independent musicianship within the full ensemble rehearsal setting. The framework of the curriculum and instructional implementation of the SRL-MPSC, directly align with the processes, dimensions, and principles of SRL as well as the sub-processes of meta-cognition. Structuring music practice with strategies

and guidelines for self-monitoring in a learner-centered teaching environment may help increase music performance achievement, self-regulation, and self-efficacy. Additional non-musical benefits may stem from including a novel music curriculum that can increase self-regulation in high school students. For instance, enhanced self-regulation may enhance academic performance, reduce the potential social issues, and increase self-efficacy (Caraway, Tucker, Reinke & Hall, 2003).

In addition, music educators may consider developing innovative curricula of different lengths and durations based upon the practice process strategies and materials included in the SRL-MPSC curriculum. This research highlights the impact of a curriculum that considers developmentally appropriate strategies to reach adolescent instrumentalists. The procedures, processes, and strategies for effective music practice and music learning presented in this curriculum occur in an ensemble setting while supporting independent musicianship and higher cognitive thinking skills. The lesson plans are structured yet flexible so that directors may use this approach to complement their daily routine without infringing on an already ambitious trajectory of performance commitments and evaluations. Teaching students to practice effectively using strategies, cooperative group activities along-side daily rhythmic audiation, sight reading and scale study will develop independent musicianship, increase student confidence, and musical competence.

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Appendices

Appendix A: IRB Letter of Approval



RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

4/23/2018

Kimberly Mieder
School of Music
1610 Picardy Circle
Clearwater, FL 33755

RE: Expedited Approval for Initial Review

IRB#: Pro00034014

Title: The Effects of a Self-Regulated Learning Music Practice Strategy Curriculum on Music Performance, Self-Efficacy, and Cognition.

Study Approval Period: 4/22/2018 to 4/22/2019

Dear Ms. Mieder:

On 4/22/2018, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

Approved Item(s):

Protocol Document(s):

[Study Protocol Version two 2.21.18.docx](#)

Consent/Assent Document(s)*:

[Child Assent Versio#1 Control Group 2.22.18.docx.pdf](#)

[Child Assent version #1 experiment group .pdf](#)

[Parental Consent for control group version one 2.25.18 copy 2.docx.pdf](#)

[Parental Consent for experiment group version one 2.22.18 copy.docx.pdf](#)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved.

Appendix B: School District Letter of Approval

School Board
Sally A. Harris, Chair
Tamara P. Shamburger, Vice Chair
Lynn L. Gray
April Griffin
Melissa Snively
Cindy Stuart
Susan L. Valdes



Superintendent of Schools
Jeff Eakins
Deputy Superintendent
Van Ayres
Chief of Schools
Harrison Peters
General Manager
Office of Strategy Management
Joe Cochran

April 9, 2018

Ms. Kim Mieder
1610 Picardy Circle
Clearwater, FL 33755

Dear Ms. Mieder:

The Hillsborough County Public School district has agreed to participate in your research proposal, *The Effects of a Self-Regulated Learning Music Practice Strategy*. A copy of this letter **MUST** be available to all participants to assure them your research has been approved by the district. **Your approval number is RR 1718-61. You must refer to this number in all correspondence.** Approval is given for your research under the following conditions:

- 1) Participation by the schools (King and Armwood) is to be on a voluntary basis. That is, participation is **NOT MANDATORY** and you must advise **ALL PARTICIPANTS** that they are not obligated to participate in your study.
- 2) If the principals agree the schools will participate, it is up to you to find out what rules the schools have for allowing people on campus and you must abide by the school's check-in policy. You will **NOT BE ALLOWED** on any school campus without first following the school's rules for entering campus grounds.
- 3) You must **request approval from this department before other schools are added to your sample.**
- 4) Confidentiality must be assured for all. That is, **ALL DATA MUST BE AGGREGATED SUCH THAT THE PARTICIPANTS CANNOT BE IDENTIFIED.** Participants include the district, principals, administrators, teachers, support personnel, students and parents.
- 5) Any student data **MUST** be **DESTROYED** when the project has been completed.
- 6) Research approval does not constitute the use of the district's equipment, software, email, or district mail service. In addition, requests that result in extra work by the district such as data analysis, programming or assisting with electronic surveys, may have a cost borne by the researcher.
- 7) This approval **WILL EXPIRE ON 8/1/2018.** You will have to contact us at that time if you feel your research approval should be extended.
- 8) A copy of your research findings must be submitted to this department and for our files.

HCPS VOLUNTEER FORM:

Your proposal indicates that you will come into contact with students, but your contact will be **SUPERVISED**. You **MUST** complete the district's Volunteer (Say Y.E.S.) Application online (instructions enclosed) and advise the school's principal or designee (the school will verify your application), and present a copy of this approval letter. **IF THIS CHANGES, YOU MUST** contact us for further instructions.

Raymond O. Shelton School Administrative Center • 901 East Kennedy Boulevard • Tampa, Florida 33602
School District Main Office: 813-272-4000 • P.O. Box 3408 • Tampa, Florida 33601 • website: www.sdhc.k12.fl.us
Office of Strategy Management

Appendix C: Self-Regulation and Self-Efficacy Measure

Instrument: _____ Grade: _____ Age: _____ Gender: M or F

Practice Habit Survey

Consider practicing to be the time you spend playing alone (not in private lessons, or ensembles)

PLEASE REMEMBER TO PROVIDE AN ANSWER FOR ALL QUESTIONS/STATEMENTS

Part 1 – Instructions: Please answer the following items regarding your practice habits by writing in the requested number.

- 1 What is your average amount of practicing per day in minutes? _____ minutes
- 2 On average, how many practice sessions do you participate in per day? _____ sessions
- 3 On average, what percentage of your practice time is spent playing simply for fun with **NO** specific musical or technical goals in mind? _____ %
- 4 On average, what percentage of your practice time is spent playing with a specific musical or technical goal in mind? _____ %

Part 2 – Instructions: Please provide global assessments of your practice efficiency by choosing a rating between “1-Extremely Inefficient” and “10 – Extremely Efficient”

- 5 On an AVERAGE DAILY BASIS my practicing is: 1 2 3 4 5 6 7 8 9 10

Part 3 – Instructions: Please rate the following 10 statements by indicating whether you *Strongly Disagree (SD)*, *Disagree (D)*, *Neither Agree or Disagree (N)*, *Agree (A)*, or *Strongly Agree (SA)*

		Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
1	No musical task is too difficult for me	SD	D	N	A	SA
2	I DO NOT feel confident in my ability to perform on my instrument	SD	D	N	A	SA
3	Compared with others in band, I think I am a good musician	SD	D	N	A	SA
4	I believe I can become unusually good on my instrument	SD	D	N	A	SA
5	When I set musical goals for myself, I am sure I can achieve them	SD	D	N	A	SA
6	I expect to be known as a good musician	SD	D	N	A	SA

Appendix D: Meta-Cognitive Awareness Inventory

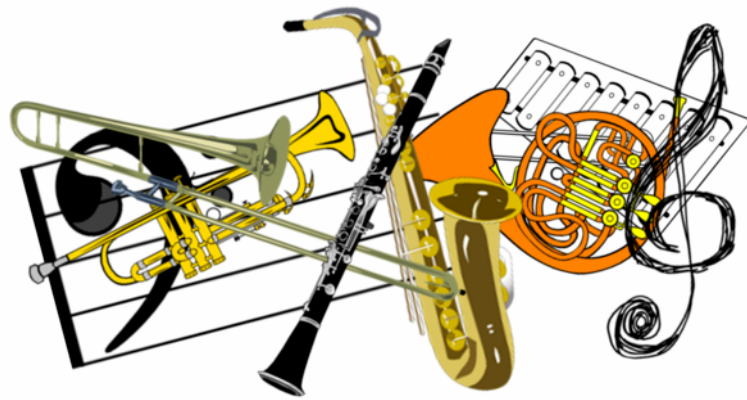
Metacognitive Awareness Inventory (MAI)

Check True or False as appropriate. Use the Scoring Guide after completing the inventory.
 Contact Pamela Runge, Student Success Specialist at 443-412-2429 to discuss strategies to increase your metacognitive awareness.

	True	False
1. I ask myself periodically if I am meeting my goals.		
2. I consider several alternatives to a problem before I answer.		
3. I try to use strategies that have worked in the past.		
4. I pace myself while learning in order to have enough time.		
5. I understand my intellectual strengths and weaknesses.		
6. I think about what I really need to learn before I begin a task.		
7. I know how well I did once I finish a test.		
8. I set specific goals before I begin a task.		
9. I slow down when I encounter important information.		
10. I know what kind of information is most important to learn.		
11. I ask myself if I have considered all options when solving a problem.		
12. I am good at organizing information.		
13. I consciously focus my attention on important information.		
14. I have a specific purpose for each strategy I use.		
15. I learn best when I know something about the topic.		
16. I know what the teacher expects me to learn.		
17. I am good at remembering information.		
18. I use different learning strategies depending on the situation.		
19. I ask myself if there was an easier way to do things after I finish a task.		
20. I have control over how well I learn.		
21. I periodically review to help me understand important relationships.		
22. I ask myself questions about the material before I begin.		
23. I think of several ways to solve a problem and choose the best one.		
24. I summarize what I've learned after I finish.		
25. I ask others for help when I don't understand something.		
26. I can motivate myself to learn when I need to.		
27. I am aware of what strategies I use when I study.		
28. I find myself analyzing the usefulness of strategies while I study.		
29. I use my intellectual strengths to compensate for my weaknesses.		
30. I focus on the meaning and significance of new information.		
31. I create my own examples to make information more meaningful.		

Harford Community College
 Learning Center 7/9/14

*The Self-Regulated Learning Music Practice Strategy
Curriculum Director Manual*



by

Kim Mieder PhD Music Education

About the Author

Kim Mieder is a pianist, horn, trumpet player, wind-conductor and researcher; she has served as director of bands, orchestra and piano studies at the elementary, middle and high school level in Hillsborough county Florida for 20 years. Her concert, jazz, orchestral ensembles and marching bands have consistently received superior honors at district music performance assessments.

Ms. Mieder is published in both international research and state music journals and has co-authored two book chapters pertaining to the topic of adolescent self-regulation in music learning. She is an adjudicator and clinician for high school and middle school ensembles, offering her “Self-Regulated Learning Curriculum in the Full Ensemble Rehearsal,” to enhance adolescent self-efficacy, ensemble performance outcomes, music practice strategy use and meta-cognition. She received her degrees in Music Education from Florida State University (B.A.), University of South Florida (M.A.) and is currently a Doctoral Candidate at the University of South Florida. She is a member of and maintains affiliation with the National Association for Music Education, The Florida Band Masters association, Florida Music Educators Association and the College Music Society.

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Introduction

As a high school band and orchestra director, I was continually focused on finding instructional methods that could bring my students, especially incoming ninth-grade students, to an outstanding ability level as efficiently as possible. Incoming freshmen players need a strong skill set in order to acclimate to the rigor and demand of high school instrumental performance and forge a confident path towards musical success. The Self-Regulated Learning Music Practice Strategies Curriculum is designed for directors to provide all instrumentalists with a systematic approach to music practice by promoting self-regulated learning through music practice. The procedures, processes, and strategies for effective music practice and music learning presented in this curriculum take place in the full ensemble setting while supporting independent musicianship and higher cognitive thinking and problem-solving skills. The lesson plan frameworks are structured yet flexible so that directors may use this approach to complement their daily routine without infringing on an already ambitious trajectory of performance commitments and evaluations.

What is Self-Regulated Learning?

Self-regulated learning (SRL) describes the processes that facilitate the development of strategic, motivated, and independent learning. SRL is a construct that encompasses goal-setting, strategic-planning, maintaining organization, controlling the environment, self-monitoring, self-assessing, fine adjustments, and self-reflecting (Zimmerman, 1989). SRL involves assessing task-directed progress, selecting action plans, strategy-implementation, and assessing goal mastery. The characteristics of a self-regulated learner are reflected in one's motivation to learn, willingness to seek help and advice, and ability to take control of the learning process while being confident enough to attribute one's success or failures to factors in their own control.

Although SRL can be learned indirectly through social interactions and shared experiences, students who acquire self-regulation skills through context-specific practice, such as music or sports-training, may develop organized metacognitive strategies that contribute to effective self-regulated learning (Paris & Paris, 2001). The music ensemble is a unique social context that creates an environment that can play a crucial role in self-regulated learning skill development. Students in this learning environment can experience a deep sense of social belonging and be motivated to participate in peer collaboration through developing a teamwork mindset that values the overall success of the group as well as the contribution of each player. The conceptual basis of the SRL-MPSC is that independent musicianship and self-sufficiency in music may be accomplished through self-regulated learning, and offers a curricular alignment with the three phases of Self-Regulated Learning Theory: forethought, practice, and reflection.

Learner Centered Teaching in the Full Ensemble

In most ensemble rehearsal settings, the director makes the decisions and directs the improvement of the group. Students passively experience the processes and strategies used by the director to perfect the ensemble's sound quality and accuracy. In order for students to direct their own learning in music practice, they must be given the opportunity to identify musical challenges on their own, set goals for problem solving, adjust and monitor during the practice session, and self-reflect and set new goals for future work. Although this may not seem attainable in the full ensemble setting, the SRL-MPSC is designed with a learner-centered teaching approach in the full ensemble rehearsal setting. This curriculum is designed to be practical and productive, and can be fully implemented and maintained by the director.

Directors must consider the instructional processes necessary to lead students from the analytical, verbal, mental, and mechanical stages of learning music to the artistic performance of music. More important, this journey to artistry and performance must be a shared educational experience. When students have ownership in their own learning process they develop confidence in their ability to learn which then increases musical competence, forging a path of life long musical participation. Each instructional experience in the SRL-MPSC is designed to provide a practical and productive path for students to gradually conquer the challenges of sight reading, learning, and perfecting music on their own.

The SRL-MPSC presents strategies in three categories: Element Elimination, Thoughtful Repetition and Make it Musical. The "power practice" lesson plans are framed by thematic and sequential tasks entitled: Scan-It, Learn-It, Practice and Perfect. The instructional framework encourages directors to spend 10% of their instructional time explaining, 40% leading, and 50% giving students hands on activities. This is accomplished in the full ensemble setting by

integrating group collaborative music practice activities with daily warm-ups, technical proficiencies, scale study, and preparing literature. The aim of the program is not only for students to increase their self-regulated learning, but for students to have a broadened curricular experience and greater artistic performance.

The Self-Regulated Learning Music Practice Strategy Curriculum Overview

The Self-Regulated Learning Music Practice Strategy Curriculum (SRL-MPSC) is an innovative instructional program that integrates practice strategies with the processes and practices that are key in developing self-regulated learning. The program is grounded in the Self-Regulated Learning Theory. The three phases of self-regulated learning (i.e., forethought, practice, and reflection) are integrated into the lesson plans and group activities. Students take control of their own music learning through modeling, goal setting, problem solving, and self-reflecting. The SRL-MPSC is designed to be integrated into daily band class, enhancing independent musicianship. The SRL-MPSC applies 22 research based music practice strategies, separated into three categories: Element Elimination, Thoughtful Repetition, and Make It Musical. The practice strategies are presented in an instructional approach that includes Power Practice Lesson plans that are structured by a seven-component teaching module.

This curriculum is intended to compliment and flexibly support the daily full ensemble instrumental music class. Each Power Practice Lesson Plan Framework is complete with Concepts, Student Objectives, National Standards, Suggested Materials, Handouts, Group Activities, Assessments and Lesson Plan Narratives. The SRL-MPSC is intended to provide a framework and structure for teaching students how to self-regulate in music practice and develop higher cognitive thinking and problem-solving skills.

There are three sequential Lesson Plan Frameworks: Practice Power I, II, and III. Each Practice Power is designed to be used over the course of one or more weeks and is meant to be implemented using the Seven Component Teaching Module. Describe each of the I, II, and III here, briefly.

The Seven component teaching module is designed to provide a sequential structure and organization to the implementation of the SRL-MPSC supported by the structure and approach of the “Practice Power” Lesson Plan Essentials and Lesson Plan Frameworks. The Seven component teaching module includes:

1. Daily Band Warm-Ups
2. Mental Practice – Breathing and Visualization Exercises
3. Sight Reading and Rhythmic Audiation
4. Application of Practice Strategies
5. Collaborative Group Activities
6. Group Discussion and Reflection / Student Modeling
7. Group Performance / Set Future Goals

Though the Practice Power lessons are sequential, the seven components can be integrated individually or as deemed appropriate by the instructor. The lesson plan frameworks for the SRL-MPSC are designed to be integrated into any instrumental director’s curriculum that include instrumental instruction such as: daily warm-ups, technical proficiencies, scale study, a rhythmic audiation system, and a working ledger of appropriate wind literature for the purpose of performance and/or evaluation. The percentage of time dedicated to Explaining should be 10%, Leading students 40% and Engaging students in the learning process 50%. These expectations are presented in each Practice Power Lessons Framework within the three categories of task development: *Scan It – Learn It – Practice and Perfect*. The Scan It category of the task

development encourages students to physically point to the music and audiate either the rhythm, pitch names or a tonal syllable while they finger the instrument and or tap.

The *Learn It* category is for introduction of new strategies and self-monitoring techniques and the *Practice and Perfect* category is for application of the new concepts, strategies and techniques using the the Unison Etudes #1 - #4, Metro-Rhythms with corresponding Unison 4 measure excerpts or director selected wind literature. The *Music Practice Processes Activities and Assessments* may be used at anytime throughout the Lesson at the discretion of the director.

Power Practice I

Named for the motivation of practicing to self-empower students, the Power Practice I lesson essentials and lesson plan framework presents the fundamental principals and skills necessary for students to begin to develop self-regulation in music practice. This lesson can take place over the course of one week or many weeks. It depends entirely on the ability level of the group and the current agenda of the program. The *Scan It* category for Practice Power I (PPI) contains strategies that eliminate note playing at first and use contextual interference or Element Elimination as a learning tool. The step by step processes in PPI gives students a system to follow providing assistance in understanding rhythms and finding correct pitches. The *Learn It* category in the PPI introduces Guide Notes and aspects of mental practice or reciting the names of notes of the respective key while fingering instrument. The *Practice and Perfect* category in the PPI reviews Guide Notes and gradually introduces the Self-Monitoring techniques or Rules of the Road to be used along side the practice strategies and an introduction to Chaining, Whole-Part-Whole and Woodshedding. The MPPA #5 The Scan It Learn It Practice and Perfect Power Practice I Check List should be used to review and reiterate the entire process of sight-reading, learning pitch, rhythm, and using practice strategies. The MPPA # 6 reinforces the concept of guide notes and #7 assists students in the Plan – Practice – Reflect activity, helping them to

develop a greater practice strategy repertoire. MPPA #1-#4 are also helpful and can be used at any point in any of the power practice lessons.

Practice Power I lesson handouts and activities:

- Power Practice I Checklist
- Unison Etude #1, #2, #3 or #4
- Guide Note Exercise Work Sheet
- Metro- Rhythm Sheets and Corresponding 4 measure Excerpts
- Plan - Practice - Reflect Work Sheet
- Celebration of Knowledge Assessment #1
- Music Practice Processes Activities (MPPA) #5, #6, #7

Practice Power II

This lesson can take place over the course of one week or many weeks depending upon the ability level of the group and the current agenda of the program. However, it is suggested that Practice Power I precede Practice Power II. In this lesson, students are learning how to categorize the practice strategies for great comprehension and appropriate application.

The categories of element elimination and thoughtful repetition are referenced throughout and guidelines for self-monitoring are more present. Using the Power Practice II Checklist, students can complete the step by step processes contained in the *Scan It, Learn It, Practice and Perfect* framework. Woven throughout this framework are tasks that develop students' ability to realize rhythm, find correct pitches, process the key, and categorize practice strategies.

These strategies are gradually introduced and reiterated into the categories of Element Elimination and Thoughtful Repetition. Student comprehension of music practice strategy categories may be further reviewed and reiterated by using the additional hand-out, The Practice and Perfect by Category work sheet. This worksheet may be used in conjunction with several

Music Practice Processes Activities such as: MPPA # 1 Practice Behavior Observation, MPPA #2 Verbalization and Observation, MPPA # 3 Student Modeling, #5 Scan It- Learn It, Practice and Perfect, #6 Practice Plan and Reflect, # 9 Practice and Perfect by Category (2 categories)

Practice Power II lesson handouts and activities

- Power Practice I and II Checklist
- Practice and Perfect by two Categories Work Sheet
- Unison Etude #1, #2, #3 or #4
- Metro- Rhythm Sheets and Corresponding 4 measure Excerpts
- Plan - Practice - Reflect Work Sheet
- Celebration of Knowledge Assessment #2

Music Practice Processes Activities (MPPA) #1, #2, #3, #5, #7, #9

Practice Power III

This lesson can take place over the course of one week or many weeks depending upon the ability level of the group and the current agenda of the program. However, it is suggested that Practice Power I and II precede Practice Power III. At this point in the lesson progression, it is essential that the concepts of Self-Monitoring become ever present in every practice session and group activity.

The instructor may reiterate consistently the importance of always slowing down, putting things back one at a time and increasing tempo gradually. Using the Power Practice III Checklist, students should complete the step-by-step processes contained in the *Scan It, Learn It, Practice and Perfect* framework. Woven throughout this framework are tasks that develop students' ability to realize rhythm, find correct pitches, process the key, and categorize practice

strategies into Element Elimination and Thoughtful Repetition and Make It Musical. Student comprehension of music practice strategy categories may be further reviewed and reiterated by using the additional hand-out, The Practice and Perfect by Category of Element Elimination, Thoughtful Repetition and Make It Musical. This worksheet may be used in conjunction with several Music Practice Processes Activities such as: MPPA # 1 Practice Behavior Observation, MPPA #2 Verbalization and Observation, MPPA # 3 Student Modeling, #5 Scan It- Learn It, Practice and Perfect, #6 Practice Plan and Reflect, # 9

Practice Power III lesson handouts and activities:

- Element Elimination and Self-Monitoring Guide
- Thoughtful Repetition, Make It Musical and Self-Monitoring Guide
- Practice Power III Check List
- Unison Etude #1, #2, #3 or #4
- Metro- Rhythm Sheets and Corresponding 4 measure Excerpts
- Plan - Practice - Reflect Work Sheet
- Celebration of Knowledge Assessment #3

Music Practice Processes Activities (MPPA) #4, #5, #7 #8, #9, #10

Power Practice I Lesson Plan

Learning Objectives:

1. Sight-reading and rhythmic audiation
2. Introduction to music practice using “Chaining, Woodshedding and Whole Part Whole” and
3. Self-monitoring guidelines for music practice of “Rules of the Road”

Student Learning Outcomes

1. Students will physically experience the step-by-step procedures for sight-reading.
2. Students will discover various strategies for learning music after the initial sight-reading.
3. Students will be able to demonstrate and define the following music practice strategies:
 - a. Chaining –Woodshedding
 - b. Whole Part Whole
4. Students will be introduced to techniques and guidelines for Self-Monitoring in practice.

National Standards for Music Education

- Performing: Rehearse, Evaluate, and Refine
- MU:PR5.3.E.5a, MU:PR5.3.E.8a, MU:PR5.3.E.1a, MU:PR5.3.E.11a, MU:PR5.3.E.111a

Materials

1. Unison Band Etude #1 (Individual instrument parts distributed and conductor score)
2. LCD Projector and Screen for display of:
 - a. Power Practice I Checklist
 - b. Metro Rhythms
 - c. Corresponding unison 4 measure excerpts
3. Guide Note worksheet
4. Plan-Practice-Reflect worksheet
5. Celebration of Knowledge Quiz #1
6. Music Practice Processes Activities (MPPA) #5, #6, #7
7. Doctor Beat or metronome device
8. Sound system for amplification if needed
9. Pencils, Chairs, Instruments, Music Stands

Daily Lesson Essentials

Always Begin with a Warm-Up and End with a Discussion and Performance

- Use a band warm-up that is appropriate for your ensemble incorporating the concepts of effective breathing and relaxation exercises as well as short applications of mental imagery. Further explanation of mental imagery in music practice is provided in this lesson narrative.
- Provide a few minutes of METRO-RHYTHM or Rhythmic Audiation exercises anywhere in the lesson. This will give students daily practice realizing rhythmic notation. This is essential for developing effective independent music practice skills. In Practice Power II students are ready to engage in METRO -RHYTHM sheets with corresponding unison 4 measure excerpts.
- End each lesson with a short group discussion, opportunity for student modeling if appropriate, and final performance and new goal setting based on a reflection of the final performance.

Lesson Framework

Scan It

1. *Explain:* Explain scanning as using your finger to guide you through physically touching the music on the written page from the beginning to the end.
2. *Lead:* Lead students through the *Scan It* section of the checklist so they can familiarize themselves with Time Signatures, Dynamics, Key Signature, Style and Tempo indications. Scan again for changes in any of these elements.
3. *Engage:* Engage students in Toe Tapping while they scan and verbalize the rhythm. Use whatever system of rhythmic verbalization you have in place.

Learn It

1. *Explain:* Explain Guide Notes. These are the notes most familiar to each instrumentalist; usually open harmonics that are easily found and identify where those notes are written on the staff. For example, trumpets can usually find middle C, second line G, and third space C on their own. Explain that these “Guide Notes” will help clarify other notes that students may not be sure are pitch accurate.
2. *Lead:* Lead students through singing the pitch with the rhythm and fingering the notes on the instrument. This is a form of Element Elimination. Have students experience the key by pointing to the key and then fingering and RECITING the respective major or minor scale ascending and descending. If there are key changes, students can recite each respective key that is presented in the piece. This is also a form of Element Elimination or mental practice.
3. *Engage:* Engage students in circling all of the notes throughout the piece that are affected by the key signature as well as accidentals. Play the respective scales and then begin to sight read the unison etude or excerpt from beginning to end without stopping. Have students play the first four measures or top line of the selection playing each note like a quarter note, eliminating the rhythm, articulations, and dynamics.

Practice and Perfect

1. *Explain:* Guide notes again. Have students play the starting note together after considering guide notes. Explain the importance of goal setting in music practice. Have students work with their stand partner to identify problem spots in the music and set a practice goal, then share with the class.
2. *Lead:* Lead students through playing the four selected measures or an identified problem spot in context at a slow tempo. Gradually increase the tempo by explaining that this is a “Rule of the Road” when practicing.
3. *Engage:* Engage students in woodshedding the notes in this difficult spot. Start the woodshedding in the middle of the passage and then explain again, “Woodshedding, Chaining and Whole Part Whole” as practice strategies that will assist in technical mastery by starting slowly and then gradually increasing tempo.

Suggested Group Activities

1. *Scan It – Learn It – Practice and Perfect (MPPA #5)*

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/short excerpts, or wind literature, have one student announce each sight reading and introduction to music practice procedure on the *Power Practice I Checklist*. The three sections are *Scan It*, *Learn It*, and *Practice and Perfect*. Students will check off each step on the handout as they accomplish the task in pairs.

2. *Learning to Use Guide Notes (MPPA #6)*

Pair students in different groups of two. Using the “Guide Note Exercise” worksheet. Have students complete starting notes #3, 4, 5, and 6 in pairs. Instruct students to work together to first attempt to play the starting notes, then identify which guide note is closest and play chromatically from the chosen guide note to the starting note.

3. *Plan – Practice – Reflect (MPPA #7)*

Pair students in different groups of two. Students will complete a “Plan – Practice – Reflect” Sheet. Students will choose several measures to focus on, select a practice goal, and choose a practice strategy. Each student will take turns practicing while the other student observes for 5 minutes. Students then discuss together how effective the practice was and write a 3-5 sentence reflection. Students will then switch roles so that both students have an opportunity to pick a new goal, pick strategy/s, as well as practice and reflect together afterwards.

Assessment

- “*Celebration of Knowledge*” Quiz # 1: This quiz celebrates student knowledge of sight-reading, learning processes, and practice strategies.

Lesson Plan Narrative

Step 1. Is the warm up. This may be the director’s choice. Step 2. Mental practice and visualization exercises serve as practice strategies that are categorized as a form of element elimination. It is suggested that visualization and imagery be used in conjunction with any band warm-ups or technical proficiency studies that the instructor may have in place. Learning to use mental imagery in music practice is a multi-step process. Mental practice may begin with various relaxation techniques including deep breathing and closing the eyes while mentally releasing the body of all tension. Students can focus on visualizing the instrument, being aware of the body, as well as hand and finger placement. Step three involves imagining a warm up, technical passage, or musical selection. Ask students to hear and see themselves, feel their fingers pressing the keys as they play through the warm up routine and imagine playing. Ask students to keep playing in this fashion until they make a mistake and then hit pause in their minds. Students can then

rewind their thoughts back to the occurrence and make the corrections slowly in their minds.

Keeping the entire experience as vivid and real as possible will give students the mental imagery and positive energy to work through practice sessions in preparation for performance.

Often the two stumbling blocks for productive and effective independent practice for young instrumentalists are understanding the rhythm and playing the correct pitches. These challenges are supported by the Guide Note exercise and the Metro-Rhythm sheets with corresponding unison 4 measure excerpts. Daily practice in reading rhythms and procedural sight-reading strategies will help students develop greater competency in music practice. The Power Practice I lesson is intended to give students a step-by-step procedure for learning a piece of music on their own. This lesson may be presented using the 7 component teaching module. It is suggested that each presentation and or variation of this lesson begin with a warm-up and rhythmic audiation practice and end with a teacher led group discussion, student modeling, ensemble performance, and future goal setting.

The collaborative group activities may take place at any time during the lesson or through out the week that the instructor feels it will serve the greatest purpose. For instance, the “Guide Note exercise” activity is designed to support student understanding of pitch reference, so the instructor may want to pause the lesson in the *Learn It* section and allow students to complete this activity before moving on.

The *Scan It and Learn It* Sections of the Lesson Plan engage students in practice strategies such as eliminating the rhythm, articulation, and dynamics in order to clarify pitch and play each note of the music. Tapping or clapping and counting, tapping the foot, and scanning while verbalizing the rhythm are strategies included in Element Elimination.

The *Practice and Perfect* Section of the lesson gradually engages students in using various Thoughtful Repetition practice strategies such as: chaining, whole part whole, and woodshedding. Instructors can use the Unison Etudes #1 - #4 or the Metro-Rhythm sheets and corresponding 4

measure excerpts to introduce how to use each strategy. Students can also use Group Activity #3 (MPPA #7) and set their own practice goals, self-reflect, and discover and explore strategies in this lesson, which include chaining, whole-part whole, and woodshedding. The instructor may find it helpful to use whatever wind literature they are working on as practice material for the group activities and teacher lead introduction to the strategies as performance agendas vary for all groups.

Self-monitoring guidelines are to be introduced alongside of the strategies gradually over the course of all three lesson plans (i.e., Practice Power, I, II, and III). Lesson I should include a mention of slowing things down as students apply any music practice strategy, especially when introducing Wood-Shedding. Directors can then add “Gradually increase Tempo” as a Rule of the Road during this strategy. Other aspects of Self-Monitoring may be introduced in Lessons II and III.

Power Practice I Check List

Scan It

Scan means to physically point to the music and run your finger through each measure from the beginning of the piece to the end, including any special endings and repeats.

- ___ Point to the Title and Composer, Style, Tempo Time Signature
- ___ Scan the entire piece for Special Endings, Repeats etc. This is the “Road Map”
- ___ Scan the entire piece for possible Time, Tempo, Dynamics and Key Changes
- ___ Tap your toe in a steady slow tempo while Scanning and verbalize the rhythm

Learn It

- ___ Using a pencil, mark a straight line below every down beat of each measure
- ___ Tap your toe while clapping and verbalizing the rhythm
- ___ Sizzle the rhythm while fingering the notes on your instrument (articulations and dynamics)
- ___ Experience the KEY by pointing to key signature. Realize that you may be in a minor key. This may be indicated by a consistent number of raised 7th's
- ___ Finger and Recite the respective major or minor scale ascending and descending
- ___ Play the respective major or minor scale ascending and descending
- ___ Take a pencil and circle in the music all of the sharps or flats that you must remember
- ___ Using your “GUIDE NOTES” Play the correct starting pitch
- ___ Play the entire selection playing each note like a quarter note, eliminating the rhythm and articulations and dynamics. This is to focus on correct pitch.

- ___ Now put everything back into context and read the entire piece from beginning to end slowly without stopping. If you stumble or struggle in certain spots just keep moving forward to the end of the piece. Play a second time and add back in articulation and dynamics this time.

Practice It – Perfect It

- ___ Now that you are somewhat familiar with the piece, Identify the challenging spots
Circle those areas with a pencil and think about why these areas are a challenge
- ___ Pick a challenging spot in the music to practice the strategy CHAINING. Practice a small section slowly, perfecting it, then LINK what has been learned prior to that spot
- ___ Pick a challenging spot in the music, Play the entire selection up to that spot, work on that spot to perfect it slowly and then Play the entire selection including the spot you wanted to fix. This is WHOLE-PART-WHOLE.
- ___ Pick a technically challenging spot in the music and use the WOODSHEDDING Practice Strategy to conduct a technical note by note repetitious cleaning and perfecting and then increase tempo gradually.

Lesson Title Practice Power II

Concept Practice strategies in two Categories with guidelines to Self-Monitor
Element Elimination – Thoughtful Repetition – Self-Monitoring in Music Practice
Plan – Practice - Reflect in Music Practice

Objectives

1. Students will be able to categorize music practice strategies learned thus far.
2. Students will demonstrate an ability to apply the appropriate strategies to musical challenges during cooperative group activities.
3. Students will demonstrate the ability to set practice goals, apply and practice the application of strategy decided upon, reflect on their progress and set additional practice goals for the next session.
4. Students will demonstrate the appropriate application of the remaining strategies in the categories of Repetition and Element Elimination
5. Students will discover and explore techniques and guidelines for Self-Monitoring

National Standards for Music Education

Performing: Rehearse, Evaluate and Refine

MU:PR5.3.E.5a, MU:PR5.3.E.8a, MU:PR5.3.E.1a, MU:PR5.3.E.11a, MU:PR5.3.E.11a,

Materials Unison Band Etude #2, #3 or #4 , Short Unison 8 measure Excerpts., Wind Literature. Band Warm-Ups (Director’s choice) , Technical Proficiencies. (Scales etc.). LCD Projector and Practice Strategies in the Categories of Element Elimination and Repetition Doctor Beat or Metronome Device, sound system for amplification if needed.

Pencils, Chairs, Instruments, Music Stands, Power Practice II Check List. Practice strategies by category worksheet.

Daily Lesson Essentials

Always Begin with a Warm-Up and End with a Discussion and Performance

Use a Band Warm up that is appropriate for your ensemble incorporating the concepts of effective breathing and relaxation exercises as well as mental imagery. Remind students that Mental Practice is Practice Strategy that is in the category of Element Elimination.

Provide a few minutes of METRO-RHYTHM or Rhythmic Audiation exercises anywhere in the lesson. This will give students daily practice realizing rhythmic notation. This is essential for developing effective independent music practice skills. Remind students that Rhythmic Audiation during practice is a music practice strategy in the category of Element Elimination.

Remember to always end each lesson with a short group discussion, opportunity for student modeling. If appropriate and final performance and new goal setting based on a reflection of the final performance.

Lesson Plan Framework

Scan It

Explain

Explain to the students that this section of the lesson *Scan It*, is same as the Power Practice I lesson only now they are using a new Unison Etude, or 4 measure unison excerpt. Remind students that the Toe Tapping and verbalizing rhythm is a strategy that is in the Category of Element Elimination

Lead

Lead students through the *Scan It* section of the Power Practice II check list so they can familiarize themselves with Time Signatures, Dynamics, Key Signature, Style and Tempo indications. Scan again for changes in any of these elements.

Engage

Engage students in Toe Tapping while they scan and verbalize the rhythm. (Uses whatever system of rhythmic verbalization you have in place and remind them again that this is a Practice Strategy that falls into the category of element elimination. This can be done using Unison Etude #1-#4, the 4 measure sight-reading excerpts or wind literature.

Learn It

Explain

Explain to students that *Sizzle/Sing and Finger, and Tap/Clap and Count* are also practice strategies in the category of Element Elimination. Review the Practice Strategies learned thus far: *Chaining, Whole-Part-Whole and Wood-Shedding* are in the category of Thoughtful Repetition.

Chaining - In very small chunks Link what you have learned and practiced thus far Whole-Part-Whole – 1st Entire section, then practice a small section, then add entire prior sections

Wood-Shedding - Technical note by note repetitious cleaning /increase tempo gradually.

Lead

Lead students in a playing demonstration of these previously learned practice strategies using either Unison Etudes #1-#4. The 4 measure sight-reading excerpts, technical studies, or wind literature. The instructor will find sections of the literature to demonstrate appropriate application of the Element Elimination and Thoughtful Repetition practice strategies learned thus far along with self-monitoring.

Engage

Engage students in cooperative group activity # 5 Scan It Learn It or Activity # 7 Plan-Practice – Reflect referencing the strategies they have discovered thus far. Provide students with the Power Practice II Check List for *element elimination and Thoughtful Repetition practice strategies for Power Practice II*

Practice and Perfect

Explain

Explain that there are three more practice strategies to learn that are in the *Element Elimination* Category: *Play It Backwards, Take Out the Articulation, and Make the Rhythm more difficult*. Explain that there are four more practice strategies to learn that are in the *Thoughtful Repetition* Category: Repeat a small series of notes or short passage, repeat a Single Measure, repeat a Large section of music, and Repeat the entire piece of music from beginning to end. Review and Reiterate the “Rules of the Road.” (See Narrative)

Lead

Lead students in a playing demonstration of these new practice strategies using either Unison Etudes #1-#4. The 4 measure sight-reading excerpts, technical studies, or wind literature. The instructor will find sections of the literature to demonstrate appropriate application of the Element Elimination and Thoughtful Repetition practice strategies.

Engage

Engage students in cooperative group activity #9 and provide students with the Practice and Perfect by category worksheet for *element elimination and Thoughtful Repetition practice strategies*. Engage students in *Group Activity # 7 Plan-Practice – Reflect*. Students will be referencing the strategies they have discovered thus far using the Plan – Practice -Reflect activity where they will work together to find challenges, set goals, match strategies that are appropriate and then self-reflect on the progress made in the practice session and then set new goals for the next session together.

Collaborative Group Activities for Power Practice II

Practice Behavior Observation (MPPA #1)

With a stand partner, one student practices while the other student simply checks off the number of times each practice strategy is demonstrated. Remember that you can use more than one strategy at a time. Students should switch roles half way through the session.

Verbalization and Observation (MPPA #2)

With a stand partner, one student will verbalize what they are doing as they attempt to practice. They should also give a reason for why they are using a particular strategy. The other student will simply check off the number of times each practice strategy is demonstrated keeping in mind that you can use more than one strategy at a time. Students should switch roles half way through the session.

Student Modeling (MPPA #3)

Students will be given an opportunity to teach and model for the class by sharing their practice goal, strategies used and give a short demonstration of the application of that strategy.

Scan It - Learn It Practice and Perfect (MPPA #5)

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, one student will announce each task and introduction to music practice procedure on the *Scan It* and *Learn it Practice and Perfect* sections. Students will check off on the hand-out each step as they accomplish each task together. The Handout is entitled Practice Power II Check List.

Plan – Practice – Reflect (MPPA #7)

Pair students in groups of two. Students will complete a “Plan - Practice –Reflect” Sheet. Students will choose several measures to focus on, right a practice goal, and choose a practice strategy from the ones they have learned thus far. Each student will take turns practicing while the other student observes for 5 minutes then they must write discuss together how effective the practice was and complete in a few sentences the reflection. Students will then switch roles giving both students an opportunity to pick a new goal, pick strategy/s, practice and reflect together afterwards.

Practice and Perfect It by Category / Element Elimination – Repetition (MPPA #9)

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, one student will announce each Practice and Perfect it by category worksheet for element elimination and thoughtful repetition. Students will check off on the hand-out each step as they accomplish each task together or students can trade off by switching roles, every other task to save time.

Assessment

Celebration of Knowledge Quiz #2

This assessment will celebrate student knowledge of practice strategies in the categories of Element Elimination and Thoughtful Repetition.

Lesson Plan Narrative for Power Practice Lesson II

This Lesson Plan framework is very similar to Power Practice Lesson I only with an increase in practice strategies being introduced, categorized into Element Elimination, Thoughtful Repetition, and accompanied by Self-Monitoring guidelines for music practice. The Self Monitoring techniques that will be introduced along the way in this lesson plan framework will need to be consistently reviewed and explained alongside of the practical application and

discovery of each practice strategy. Students will need to consistently practice both in collaborative group activities and during teacher lead engagement using the following self-monitoring techniques:

1. Always slow things down and work in small sections
2. If you take something out, put it back slowly and gradually
3. Don't go from Zero to Sixty
 - a. Always proceed gradually with any strategy
 - b. play slowly then gradually faster in tempo
 - c. When you take several elements of the music out always put them back one at a time
 - d. When Wood-Shedding, vary the starting spot and Chain
4. Use Repetition with thoughtful intent
5. Pause with thoughtful intent

Some additional Self-Monitoring techniques or guidelines that may help students develop in this area are supported by the MPPA#4, Verbal Mediation Cooperative Group Activity. Although students may be more ready for this MPPA in Lesson III this activity will assist students in beginning to self-monitor and any juncture of their strategy comprehension. In groups of two, students will set a practice goal together and decide on appropriate practice strategies to use. While one student practices, the other will interject periodically with the following prompts requiring the student practicing to stop and answer before continuing on. Students should switch roles during the session. The following questions and elaborative questions are suggested:

- I. What are you thinking and focusing on?
2. Is the strategy you are using working? If not let's think of another strategy you could use.
If yes, the strategy you are using is working, then decide what to do next. For example,
 - a. Put the adjusted rhythm back into context
 - b. Put the adjusted articulation back into context
 - c. Gradually speed up the tempo now
 - d. If you singled out one measure, try starting from the measure before that and then the one after.
 - e. If you played it backwards, now play it forward

In Practice Power Lesson II, it is strongly suggested that the instructor begin to consistently reiterate the appropriateness of practice strategy choice. Instructors should ask students to think about why and when they are using certain strategies. This may be reinforced while the instructor is working on wind literature with the ensemble just as easily as it can be addressed using unison etude, excerpts or technical proficiencies. Remember to always reinforce and reiterate during the ensembles rehearsal of Wind Literature. This is extremely important. Instrumental directors use practice strategies all the time when rehearsing an ensemble, it is important to take a moment and remind students that you are asking them to Chain, Whole-Part Whole, repeat a single measure or section and Wood-shed.

These concepts are not new to conductors who need to practice and perfect for an ensemble performance. Instructors just need to communicate these strategies as they present themselves throughout the course of an ensemble rehearsal. It is suggested that in daily lesson planning and rehearsal planning that directors write down places in the score where they can use practice strategies. It will be helpful to have the check list handy in order to always make a daily effort to reference the strategies as they may apply to the many aspects of the ensemble rehearsal in an effort to perfect the ensembles performance. This will solidify student understanding of the practice strategy categories, and appropriateness of the strategy being used. This full ensemble reiteration and reinforcement of practice strategies may transfer to a student's individual and cooperative group practice session progress.

Power Practice II Check List

Scan It

- ___ Point to the Title and Composer, Style, Tempo, Time and Key Signatures
- ___ Using a pencil, mark a straight line below every down beat of each measure
- ___ Scan the entire piece for Special Endings, Repeats etc. This is the "Road Map"
- ___ Scan the entire piece for Dynamics – Consider how this will create musicality
- ___ Scan the entire piece for Articulations – Consider how this will create musicality
- ___ Tap your toe in a steady slow tempo while Scanning and verbalize the rhythm

Learn It

- ___ Experience the KEY by pointing to key signature. Realize that you may be in a minor key. This may be indicated by a consistent number of sharped 7th's
- ___ Finger and Recite the respective major or minor scale ascending and descending
- ___ Play the respective major or minor scale ascending and descending
- ___ Take a pencil and circle in the music all of the sharps or flats that you must remember
- ___ Using your "GUIDE NOTES" Play the correct starting pitch

Practice and Perfect

Element Elimination

- ___ Tap Toe while verbalizing the rhythm _ Tap and Count
- ___ Tap your toe while clapping and verbalizing the rhythm- Clap and Count
- ___ Sizzle and finger the notes on your instrument (include articulations and dynamics)
- ___ Play each note like a quarter note, eliminating the rhythm, articulations and dynamics.
(This is to focus on correct pitch) SLOWLY!
- ___ Now each element that you have taken out must be put back in one at a time. Each time you add an element back in, read the entire piece from beginning to end slowly without stopping. SLOWLY!

Thoughtful Repetition

Now that you are somewhat familiar with the piece, Identify the challenging spots
Circle those areas with a pencil and think about why these areas are a challenge

- ___ Pick a challenging spot in the music to practice the strategy CHAINING. Practice a small section slowly, perfecting it, then LINK what has been learned prior to that spot
- ___ Pick a challenging spot in the music, Play the entire selection up to that spot, work on that spot to perfect it slowly and then Play the entire selection including the spot you wanted to fix. This is WHOLE-PART-WHOLE.
- ___ Pick a technically challenging spot in the music and use the WOODSHEDDING Practice Strategy to conduct a technical note by note repetitious cleaning and perfecting and then increase tempo gradually.

Lesson Title Practice Power III

Concept Practice strategies in Three Categories
Element Elimination – Thoughtful Repetition – Make It Musical
Self-Monitoring Techniques during Music Practice

Objectives

6. Students will recognize music practice strategies as either forms of Element Elimination, Thoughtful Repetition, or Make It Musical.
7. Students will demonstrate an ability to apply appropriate strategies to musical challenges during cooperative group activities.
8. Students will demonstrate the ability to self-monitor in music practice during cooperative group music practice activities.

National Standards for Music Education

Performing: Rehearse, Evaluate and Refine

MU:PR5.3.E.5a, MU:PR5.3.E.8a, MU:PR5.3.E.1a, MU:PR5.3.E.11a, MU:PR5.3.E.111a,

Materials Unison Band Etude #2, #3 or #4 , Short Unison 4 measure Excerpts., Wind Literature. Band Warm-Ups (Director’s choice), Technical Proficiencies. (Scales etc..). LCD Projector and Practice Strategies in the Categories of Element Elimination/ Repetition Doctor Beat or metronome device, sound system for amplification if needed. pencils, chairs, Instruments, music stands, Power Practice III Check List, Practice and Perfect in 3 Categories, All Music Practice Strategies and Rules of the Road. Music Practice Processes Activities # 4, #8, #10, and Assessment Celebration of Knowledge #3.

Daily Lesson Essentials

Always Begin with a Warm-Up and End with a Discussion and Performance

Use a Band Warm up that is appropriate for your ensemble incorporating the concepts of effective breathing and relaxation exercises as well as mental imagery. Remind students that Mental Strategy that is in the category of Element Elimination.

Provide a few minutes of METRO-RHYTHM or Rhythmic Audiation exercises anywhere in the lesson. This will give students daily practice realizing rhythmic notation. This is essential for developing effective independent music practice skills. Remind students that Rhythmic Audiation during practice is a music practice strategy in the category of Element Elimination.

Remember to always end each lesson with a short group discussion, opportunity for student modeling if appropriate and final performance and new goal setting based on a reflection of the final performance.

Lesson Plan Framework

Scan It - Learn It

Explain

Explain that the *Scan It – Learn It* sections of the Power Practice III have now been combined and include all three categorizations of practice strategy: Element Elimination, Thoughtful Repetition, and Make it Musical. Discuss why the strategies under scan it- learn it belong in these categories. Review and reiterate the importance of following the Rules of the Road or the Self-monitoring guidelines of always slowing down, and when taking elements out, it is important to put them back one at a time increasing the tempo gradually. Make It Musical is a new category of strategy and careful demonstration of this expectation should take place through out this Power Practice Lesson Plan.

Lead

Using one of the Unison Etudes #1-#4, or the 4 measure excerpts that correspond to the metro-rhythm study sheets, lead students through the Scan It – Learn It sections of the Power Practice III Check List. Students should have a strong understanding of these sections after completing these tasks in the two previous Power Practice Lesson Plans, however, now the tasks are categorized.

Engage

Engage students in a group collaborative activity using the MPPA # 5 The Scan It – Learn It section followed by MPPA# 3. This activity should be followed by the Student Modeling MPPA #3, as this engagement will provide substantial reinforcement of these strategies, the respective categories they are in and the appropriate use and application of each.

Practice and Perfect

Explain

Facilitate a discussion concerning the use and appropriateness of applying practice strategies of element elimination, thoughtful repetition, and make it musical. More time should be spent on Make It Musical, as this category is new. Give students the opportunity to express their thoughts about what it means to be musical and discuss the various Make It Musical strategies and ask them to think of their own as well. It is also important to continue to review and reiterate whenever possible the “Rules of the Road” or guide to self monitoring in music practice throughout the lesson and within the group activities.

Lead

Lead students through playing demonstrations that model a creative use of articulation, dynamics, tone color and phrasing. Using sections of wind literature may be the most practical and effective way of demonstrating the importance and appropriate use of the make it musical strategies.

Engage

Engage students in cooperative group activities MPPA #10, #8 and #4.

Collaborative Group Activities for Power Practice III

Verbal Mediation (MPPA # 4)

In groups of two, students will set a practice goal together and decide on appropriate practice strategies to use. While one student practices, the other will interject periodically with the following prompts requiring the student practicing to stop and answer before continuing on. Students should switch roles during the session. The prompts that are suggested are:

- a. What are you thinking and focusing on?
 - b. Is the strategy you are using working? If not let’s think of another strategy you could use.
- If yes, the strategy you are using is working, then decide what to do next for instance
- c. Put the adjusted rhythm back into context
 - d. Put the adjusted articulation back into context
 - e. Gradually speed up the tempo now
 - f. If you singled out one measure, try starting from the measure before that and then the one after.
 - g. If you played it backwards, now play it forward

Scan It - Learn It – Practice and Perfect (MPPA #5)

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, students will announce each task on the *Scan It* and *Learn It Practice and Perfect It three* sections. Students will check off each task on the hand-out The Power Practice III Check List as they accomplish each task together.

Plan – Practice – Reflect (MPPA #7)

Pair students in groups of two. Students will complete a “Plan - Practice –Reflect” Sheet. Students will choose several measures to focus on, right a practice goal, and choose a practice strategy from the ones they have learned thus far. Each student will take turns practicing while the other student observes for 5 minutes then they must write discuss together how effective the practice was and complete in a few sentences the reflection. Students will then switch roles giving both students an opportunity to pick a new goal, pick strategy/s, practice and reflect together afterwards.

Self-Monitoring or “Five Rules of the Road (MPPA 8)

In groups of two, assign each group a different aspect of the Self-monitoring “5 Rules of the Road” processes to present in real time by modeling for the class. Give them an etude or excerpt from their wind literature, ample time to work it out and then ask them to demonstrate for the class. Students will need to explain the process. For example, use 3.a, “play slowly then gradually faster in tempo.” Students will pick a spot in the music and play their instrument, demonstrating this process.

Practice and Perfect It by Category (3Categories) (MPPA #10)

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, one student will announce each Practice and Perfect it by category on the Practice and Perfect It by Category Work Sheet for *Element Elimination, Thoughtful Repetition, and Make It Musical*. Students will check off on the hand-out each step as they accomplish each task together or students can trade off by switching roles, every other task to save time.

Assessment Celebration of Knowledge Quiz #3

This assessment will celebrate student knowledge of practice strategies in the categories of Element Elimination and Thoughtful Repetition, and Make It Musical

Lesson Plan Narrative

The Power Practice III Lesson plan framework brings together all of the 22 practice strategies in the three categories of Element Elimination, Thoughtful Repetition, and Make It Musical. The guidelines for self-monitoring or the “Rules of the Road” should be consistently working alongside the strategy usage both in the instructional delivery and the student collaborative activities.

MPPA # 7 should be used throughout the lesson plan frameworks and developing student competency in recognizing challenges, setting goals, selecting strategies to meet those goals, practicing and then self-reflecting on the progress made is essential to the development of Self-Regulation in Music Practice. MPPA # 4 is essential for developing the higher level thinking skills that are needed in order to self-regulate in music practice. This group activity is suggested for the last Power Practice Lesson so that all of the strategies, categories and Rules of the Road are well established and students may then focus on the self-monitoring and self-adjusting techniques that are essential for productive and effective music practice.

Power Practice III Check List

Scan It – Learn It

- ___ Point to the Title and Composer, Style, Tempo, Time and Key Signatures
- ___ Circle all of the sharps, flats, and accidentals that you must remember
- ___ Scan the entire piece for Special Endings, Repeats etc. This is the “Road Map”
- ___ Using a pencil, mark a straight line below every down beat of each measure

Element Elimination

- ___ Tap your toe in a steady slow tempo while Scanning and verbalize the rhythm
- ___ Experience the KEY by closing your eyes, visualize the notes on the page and Finger and Recite the respective major or minor scale ascending and descending
- ___ Play the respective major or minor scale ascending and descending eyes closed focus on your breath support, pitch, and tone.

Make It Musical

- ___ Scan the entire piece for Dynamics – Consider adding your own dynamics and decide how this might create greater musical expression in the piece.
- ___ Scan the entire piece for Articulations – Be clear about what kind of articulation is notated and consider deciding on your own articulation when possible in an effort to create greater musical expression.

Practice and Perfect

Element Elimination

- ___ Tap Toe while verbalizing the rhythm (Tap and Count)
- ___ Tap your toe while clapping and verbalizing the rhythm (Clap and Count)
- ___ Play each note like a quarter note, eliminating the rhythm, articulations and dynamics.
(This is to focus on correct pitch) SLOWLY!
- ___ Sizzle and finger the notes on your instrument (include articulations and dynamics)
- ___ Sing and Finger the notes on your instrument and without the instrument

- (use the syllable dah as you sing and do your best to reference pitches accurately)
- ___ Speak the notes names and finger. This may be done in a steady quarter note pulse as well
 - ___ Now each element (dynamics, articulation, rhythm, and pitch) that you have taken out must be put back in one at a time. Each time you add an element back in, read the entire piece from beginning to end slowly without stopping. To ensure that the starting pitch is correct, reference the appropriate guide notes
 - ___ Skip Directly to a challenging spot and then select either element elimination or repetition
 - ___ Find a challenging measure or section to apply the strategy Play It Backwards
 - ___ Find a challenging measure or section to apply the strategy Make the rhythm more difficult

Practice and Perfect

Thoughtful Repetition

Identify the challenging spots in the musical selection and circling those areas with a pencil and consider why these areas are a challenge.

- ___ Repeat a Single measure, and Small Section or large section
Always repeat with thoughtfulness. Verbally state the purpose for the repetition
- ___ Pick a challenging spot in the music to practice the strategy CHAINING. Practice a small section slowly, perfecting it, then LINK what has been learned prior to that spot
- ___ Pick a challenging spot in the music, Play the entire selection up to that spot, work on that spot to perfect it slowly and then Play the entire selection including the spot you wanted to fix. This is WHOLE-PART-WHOLE
- ___ Pick a technically challenging spot in the music and use the WOODSHEDDING Practice Strategy to conduct a technical note by note repetitious cleaning and perfecting and then increase tempo gradually

Make It Musical

- ___ Decide on phrasing. Consider where to take a breath and decide the number of measures in a phrase/s throughout the different sections of the musical selection
- ___ Explore numerous ways to speak a particular musical thought or sequence of measures
- ___ Make careful consideration of dynamics to create greater musical expression
- ___ Make careful consideration of articulation to create greater musical expression
- ___ Experiment with different styles and tones for greater musical expression. Consider using rubato or a slight vibrato to color of the tone and create musical expression

Practice and Perfect by Category Work Sheet for Element Elimination and Thoughtful Repetition

Element Elimination

- _____ Skip Directly to a problem spot
- _____ Sizzle and Finger instrument
- _____ Sing and Finger instrument
- _____ Speak Note names and Finger instrument
- _____ Sing the Pitches with or without Instrument
- _____ Audiate the Rhythm with or without Instrument
- _____ Clap and Count or Toe Tap the Pulse and clap and county
- _____ Play it Backwards
- _____ Take out Articulation
- _____ Take out the Rhythm / Just play the notes with a straight beat
- _____ Make the Rhythmic passage more difficult (eg. Dotted notes or triplets)
- _____ Mental Practice

Thoughtful Repletion

- _____ Repeat a small series of notes or short passage
- _____ Repeat a Single Measure
- _____ Repeat a Large Section of Music
- _____ Repeat the entire work from beginning to end
- _____ Chaining
- _____ Whole Part Whole
- _____ Woodshedding

Practice and Perfect by Category Work Sheet for Element Elimination /Thoughtful Repetition/ Make It Musical

Element Elimination

- _____ Skip Directly to a problem spot
- _____ Sizzle and Finger instrument
- _____ Sing and Finger instrument
- _____ Speak Note names and Finger instrument
- _____ Sing the Pitches with or without Instrument
- _____ Audiate the Rhythm with or without Instrument
- _____ Clap and Count or Toe Tap the Pulse and clap and county
- _____ Play it Backwards
- _____ Take out Articulation
- _____ Take out the Rhythm / Just play the notes with a straight beat
- _____ Make the Rhythmic passage more difficult (eg. Dotted notes or triplets)
- _____ Mental Practice

Thoughtful Repletion

- _____ Repeat a small series of notes or short passage
- _____ Repeat a Single Measure
- _____ Repeat a Large Section of Music
- _____ Repeat the entire work from beginning to end
- _____ Chaining
- _____ Whole Part Whole
- _____ Woodshedding

Make It Musical

- _____ Decide on phrasing. Consider where to take a breath and decide the number of measures in a phrase/s throughout the different sections of the musical selection
- _____ Explore numerous ways to speak a particular musical thought or sequence of measures
- _____ Make careful consideration of dynamics to create greater musical expression
- _____ Make careful consideration of articulation

Practice and Perfect by Category Work Sheet for Element Elimination /Thoughtful Repetition/ Make It Musical

Element Elimination

- _____ Skip Directly to a problem spot
- _____ Sizzle and Finger instrument
- _____ Sing and Finger instrument
- _____ Speak Note names and Finger instrument
- _____ Sing the Pitches with or without Instrument
- _____ Audiate the Rhythm with or without Instrument
- _____ Clap and Count or Toe Tap the Pulse and clap and count
- _____ Play it Backwards
- _____ Take out Articulation
- _____ Take out the Rhythm / Just play the notes with a straight beat
- _____ Make the Rhythmic passage more difficult (eg. Dotted notes or triplets)
- _____ Mental Practice

Thoughtful Repletion

- _____ Repeat a small series of notes or short passage
- _____ Repeat a Single Measure
- _____ Repeat a Large Section of Music
- _____ Repeat the entire work from beginning to end
- _____ Chaining
- _____ Whole Part Whole
- _____ Woodshedding

Make It Musical

- _____ Decide on phrasing. Consider where to take a breath and decide the number of measures in a phrase/s throughout the different sections of the musical selection
- _____ Explore numerous ways to speak a particular musical thought or sequence of measures
- _____ Make careful consideration of dynamics to create greater musical expression
- _____ Make careful consideration of articulation

Guide Notes Excercise

	Range	Guides	Starting notes	3	4	5	6
Flute							
Oboe							
Bassoon							
Clarinet in B \flat							
Alto Sax							
Tenor Sax							
Bari Sax							
Trumpet in B \flat							
Horn in F							
Trombone							
Baritone (B.C.)							
Tuba							

©

Music Practice Processes Activities (MPPA)

I Practice Behavior Observation

With a stand partner, one student practices while the other student simply checks off the number of times each practice strategy is demonstrated. Remember that you can use more than one strategy at a time. Students should switch roles half way through the session.

II Verbalization and Observation

With a stand partner, one student will verbalize what they are doing as they attempt to practice. They should also give a reason for why they are using a particular strategy. The other student will simply check off the number of times each practice strategy is demonstrated keeping in mind that you can use more than one strategy at a time. Students should switch roles half way through the session.

III Student Modeling

Students will be given an opportunity to teach and model for the class by sharing their practice goal, strategies used and give a short demonstration of the application of that strategy.

IV Verbal Mediation

In groups of two, students will set a practice goal together and decide on appropriate practice strategies to use. While one student practices, the other will interject periodically with the following prompts requiring the student practicing to stop and answer before continuing on. Students should switch roles during the session.

- a. What are you thinking and focusing on?
- b. Is the strategy you are using working? If not let's think of another strategy you could use.

If yes, the strategy you are using is working, great Then decide what to do next for instance

- c. Put the adjusted rhythm back into context
- d. Put the adjusted articulation back into context
- e. Gradually speed up the tempo now
- f. If you singled out one measure, try starting from the measure before that and then the one after.
- g. If you played it backwards, now play it forward

V Scan It - Learn It – Practice and Perfect

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, students will announce each task on the *Scan It* and *Learn it Practice and Perfect It three* sections. Students will check off each task on the hand-out for The Power Practice I , II or III Check List as they accomplish each task together.

VI Learning to Use Guide Notes

Pair students in groups of two. Using the “Guide Note Exercise” Work Sheet. Students will complete starting notes #3,4,5,6 as a team. Instruct students to work together to first attempt to play the starting notes, then identify which guide note is closest and play chromatically or diatonically from the chosen guide note to the starting note.

VII Plan – Practice – Reflect

Pair students in groups of two. Students will complete a “Plan - Practice –Reflect” Sheet. Students will choose several measures to focus on, right a practice goal, and choose a practice strategy from the ones they have learned thus far. Each student will take turns practicing while the other student observes for 5 minutes then they must write discuss together how effective the practice was and complete in a few sentences the reflection. Students will then switch roles giving both students an opportunity to pick a new goal, pick strategy/s, practice and reflect together afterwards.

VIII Self-Monitoring or “Five Rules of the Road

In groups of two, assign each group a different aspect of the Self-monitoring “5 Rules of the Road” processes to present in real time by modeling for the class. Give them an etude or excerpt from their wind literature, ample time to work it out and then ask them to demonstrate for the class. Students will need to explain the process. For example, use 3.a, “play slowly then gradually faster in tempo.” Students will pick a spot in the music and play their instrument, demonstrating this process.

IX Practice and Perfect It by Category (2 categories)

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, one student will announce each Practice and Perfect it by category on the Practice and Perfect It by Category Work Sheet for *Element Elimination and Thoughtful Repetition*. Students will check off on the hand-out each step as they accomplish each task together or students can trade off by switching roles, every other task to save time.

X Practice and Perfect It by Category (3 Categories)

Pair student in groups of two either by stand partners or allowing them to choose. Using the unison etudes/ short excerpts, or band literature, one student will announce each task on the Practice and Perfect It Work Sheet for *Element Elimination, Thoughtful Repetition, and Make It Musical*. (The Practice Power III Check List) Students will check off on the hand-out each step as they accomplish each task together or students can trade off by switching roles, every other task to save time.

PLAN – PRACTICE – REFLECT

Plan

STATE PRACTICE GOAL/S: In two or more short sentences describe the musical challenges you would like to address in this session. Try to consider small passages of four to eight measures.

CHOOSE A PRACTICE STRATEGY/S: Consider the goal/s you have set and choose a few practice strategies that you feel will support your goal/s. Include a simple explanation for why you feel these strategy or strategies are appropriate for the goal/s you have set.

Practice

Play through your selected measures or sections using repetition thoughtfully. Keep a moderate tempo so you can assess things like pitch, rhythmic accuracy, articulation and dynamics. Remember to reference “Guide” notes if you are unsure of a pitch. As you apply the strategies you have chosen to reach your practice goals, do so slowly and if an increase in tempo is required, do so gradually. If you take something out of context, put it back slowly and gradually.

Reflect

After your practice session, immediately ask yourself the following questions:

1. Was my practice session productive? Explain why it was or wasn't.
-
-

2. Did I meet my goal sufficiently? _____

3. What could I have done differently to be even more productive?
-

4. What goals should I set for the next session?

ASSESSMENTS

Celebration of Knowledge Quiz #1

This Quiz will help students celebrate their knowledge of the procedures for sight-reading, and processes and strategies for learning, practicing and perfecting music. Circle the letter that you feel best answers the question.

1. The term *Scan It* is best defined as:
 - a. physically pointing to the music and running your finger through each measure from the beginning of the piece to the end.
 - b. Pinpointing certain spots in a piece of music
 - c. Cleaning your music
2. When we Scan a piece of music, one might locate:
 - a. The composer, tempo and style indication
 - b. An explanation of the History of the work
 - c. Directions for how to practice it
3. Guide Notes are best defined as:
 - a. Helpers
 - b. Notes that you can easily find on your instrument in order to reference other notes
 - c. A rule for playing correct notes
4. Playing every note like a quarter note slowly in order to focus just on pitch, dynamics and articulation is an example of what practice strategy
 - a. Element Elimination
 - b. Chaining
 - c. Wood-Shedding
5. A Sensible plan for practice might be to:
 - a. Set a Goal, Select some strategies, Work in small sections
 - b. Always practice with a partner
 - c. Just repeat a piece from beginning to end until it improves
6. Chaining is a Practice Strategy best described as:
 - a. Linking what you have learned and practiced
 - b. Drawing a circle around the difficult spots in your music
 - c. Memorizing what you have practiced
7. Whole-Part Whole is a Practice Strategy best described as:
 - a. Playing the whole piece only part of the time
 - b. Practice one whole section then add a small practiced part then the entire whole part again and continue in this fashion.
 - c. Select different parts randomly and then put them together
8. Wood-Shedding is a Practice Strategy best described as:
 - a. Shredding the music and starting over
 - b. Technical note by note repetitious cleaning /increase tempo gradually
 - c. Constant Repetition at a fast tempo

Celebration of Knowledge #2
Music Practice Strategies Category Matching
Indicate either Category A, or B next to each practice strategy listed

A

Repetition
With thoughtful Intent

B

Element Elimination

- _____ Repeat a small series of notes
- _____ Skip directly to a problem spot
- _____ Repeat one measure
- _____ Sizzle/Sing and Finger
- _____ Repeat from the beginning
- _____ Sing the Music/Rhythm without the instrument
- _____ Clap/ Tap and Count
- _____ Chaining
- _____ Whole Part Whole
- _____ Wood-Shedding
- _____ Mental Practice
- _____ Play it Backwards
- _____ Take out Articulation/ Rhythm
- _____ Make the Rhythm more difficult

Celebration of Knowledge # 3
Music Practice Strategies Category Matching
Indicate either Category A, B, or C next to each practice strategy listed

A

Repetition
With thoughtful Intent

B

Element Elimination

C

Make It Musical

- _____ Repeat a small series of notes
- _____ Create Musical Phrasing
- _____ Skip directly to a problem spot
- _____ Repeat a measure or section
- _____ Sizzle/Sing and Finger
- _____ Think about how to “Speak” a musical thought or sequence of measures
- _____ Repeat from the beginning
- _____ Sing the Music/Rhythm without the instrument
- _____ Clap and Count
- _____ Chaining
- _____ Whole Part Whole
- _____ Explore different dynamics, and tone color for greater expression
- _____ Wood-Shedding
- _____ Decide on Phrasing
- _____ Mental Practice
- _____ Play it Backwards
- _____ Take out Articulation/ Rhythm
- _____ Make the Rhythm more difficult

Appendix F: Etudes, Metro Rhythms and Excerpts

The SRL-MPSC

Unison Etudes

*Metro-Rhythms
and
Corresponding Unison Excerpts*



**KEEP
CALM
AND
PRACTICE
YOUR MUSIC**

Trumpet in B \flat

Research Etude #1

Kim Mieder

Allegro $\text{♩} = 98$

mf *sfz* *cresc...*

6 *f* *p* **A**

10 *mf* **Rit.**

14 **Fine**

20 1. 2. **D.C. al Fine**

Research Etude # 2

Trumpet

Kim Mieder

Allegro ♩ = 98

8

17 *mf* *3p* *mf* **Fine**

25

36 *cantabile* *mp* *f* **D.C. al Fine**

Research Etude # 3

Kim Mieder

The musical score for "Research Etude # 3" is written in 6/8 time and consists of six staves of music. The key signature has one flat (B-flat). The score includes dynamic markings and section labels:

- Staff 1: *mp*, *mf*, *mp*
- Staff 2: *mf*, *f*. Section label **A** is placed above the staff.
- Staff 3: *mf*. Section label **B** is placed above the staff.
- Staff 4: *mf*. Section label **C** is placed above the staff.
- Staff 5: *mf*. Section label **C** is placed above the staff.
- Staff 6: *mf*. Section label **C** is placed above the staff.

©

Research Etude # 4

Trumpet

Kim Mieder

$\text{♩} = 120$

mf

5

To Coda

Expressive *mp*

9

13

D.S. al Coda

17

©

METRO - RHYTHM SHEET # 1

POWER PRACTICE I

USE WITH UNISON EXCERPT #1

Three staves of musical notation in 4/4 time. The first staff starts with a treble clef and a 4/4 time signature. The notation consists of quarter notes, eighth notes, and sixteenth notes with beams. The second and third staves continue the rhythm with similar note values and beams. The third staff ends with a double bar line.

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS USING SUBDIVISION

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF YOUR CHOICE & ADD ARTICULATIONS FOR ADDED CONCEPTS TO TEACH

SUBDIVIDED THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY ON CONCERT PITCH

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

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Unison Excerpt #1

Score March Like ♩ = 120 Use with Metro - Rhythm #1

The musical score is written for ten instruments: Flute/Oboe, B♭ Clarinet, Alto Saxophone, Tenor Saxophone, B♭ Trumpet, F Horn, Trombone/Baritone B.C./Bassoon, Tuba, Bells, and Percussion. The key signature is one flat (Bb) and the time signature is 4/4. The tempo is marked 'March Like' with a quarter note equal to 120 beats per minute. The score consists of a unison melody with a rhythmic pattern of quarter notes and eighth notes, followed by a repeat sign and a final cadence.

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
"FIVE RULES OF THE ROAD"

ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

USE REPETITION AND PAUSES THOUGHTFULLY

©

METRO- RHYTHM # 2

Power Practice I

USE WITH UNISON EXCERPT #2

The musical notation consists of three staves of music in 4/4 time. The first staff contains 16 measures of eighth-note patterns. The second staff contains 16 measures of eighth-note patterns with rests. The third staff contains 16 measures of eighth-note patterns, ending with a 2/4 time signature change.

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

Unison Excerpt #2

Score

$\text{♩} = 96$

Use with Metro-Rhythm #2

Flute
Oboe

B♭ Clarinet

Alto Saxophone

Tenor Saxophone

B♭ Trumpet

F Horn

Trombone
Baritone B.C.
Bassoon

Tuba

Bells

Percussion

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE I - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
"FIVE RULES OF THE ROAD"

ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

USE REPETITION AND PAUSES THOUGHTFULLY

©

METRO-RHYTHM # 3

POWER PRACTICE I

USE WITH UNISON EXCERPT # 3

$\text{♩} = 96$

6

11

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

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Unison Excerpt #3

Power Practice I

$\text{♩} = 96$

Use with Metro-Rhythm #3

The musical score is a unison excerpt for ten instruments. It is written in a key signature of two flats (B♭ and E♭) and a 4/4 time signature. The piece is divided into four measures. The first measure is in 4/4 time, the second in 3/4, and the third and fourth in 2/4. The instruments listed are Flute/Oboe, B♭ Clarinet, Alto Saxophone, Tenor Saxophone, B♭ Trumpet, F Horn, Trombone/Baritone B.C./Bassoon, Tuba, Bells, and Percussion. The score shows a melodic line for each instrument, with some instruments having rests in certain measures.

SCAN IT - LEARN IT - PRACTICE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
"FIVE RULES OF THE ROAD"

ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

USE REPETITION AND PAUSES THOUGHTFULLY

©

METRO- RHYTHM #4

PRACTICE POWER I

USE WITH UNISON EXCERPT #4

5

11

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

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Unison Excerpt #4

Power Practice I

♩ = 96

Use with Metro-Rythm #4

The musical score is for a unison excerpt in 4/4 time, marked with a tempo of 96 beats per minute. It features ten staves for different instruments: Flute/Oboe, B♭ Clarinet, Alto Saxophone, Tenor Saxophone, B♭ Trumpet, F Horn, Trombone/Baritone B.C./Bassoon, Tuba, Bells, and Percussion. The key signature has two flats (B♭ and E♭). The Flute/Oboe, B♭ Clarinet, Alto Saxophone, and Tenor Saxophone parts play a melodic line starting on G4. The B♭ Trumpet and F Horn parts play a rhythmic pattern of eighth notes. The Trombone/Baritone B.C./Bassoon and Tuba parts play a bass line of quarter notes. The Bells and Percussion parts are marked with a minus sign, indicating they are silent.

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
"FIVE RULES OF THE ROAD"

ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

USE REPETITION AND PAUSES THOUGHTFULLY

©

METRO - RHYTHM #5

$\text{♩} = 96$

5

10

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

Unison Excerpt #5

Score

$\text{♩} = 96$

Use with Metro Rhythm # 5

The musical score is for a unison excerpt in 4/4 time, marked with a tempo of 96 beats per minute. It features ten staves for different instruments: Flute/Oboe, B♭ Clarinet, Alto Saxophone, Tenor Saxophone, B♭ Trumpet, F Horn, Trombone/Baritone B.C./Bassoon, Tuba, Bells, and Percussion. The key signature has two flats (B♭ and E♭). The score consists of four measures. The first two measures contain complex rhythmic patterns for most instruments, while the last two measures are simpler, often consisting of single notes or rests. The Bells and Percussion staves are empty throughout the piece.

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
"FIVE RULES OF THE ROAD"

ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

USE REPETITION AND PAUSES THOUGHTFULLY

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METRO-RHYTHMS # 6

PRACTICE POWER II

USE WITH UNISON EXCERPT # 6

$\text{♩} = 96$

The musical notation consists of four staves of music in 4/4 time with a key signature of one flat (Bb). The tempo is marked as quarter note = 96. The notation includes various rhythmic patterns such as eighth notes, quarter notes, and rests, with measure numbers 5, 9, and 14 indicated at the start of their respective staves.

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

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Unison Etude # 6

Score

$\text{♩} = 96$

Use with Unison Excerpt 6

The musical score is for a unison etude in 4/4 time, marked with a tempo of quarter note = 96. The key signature has two flats (B-flat and E-flat). The score includes parts for Flute/Oboe, B-flat Clarinet, Alto Saxophone, Tenor Saxophone, B-flat Trumpet, F Horn, Trombone/Baritone/Bassoon, Tuba, Bells, and Percussion. The percussion part is marked with a double bar line and a rest, indicating it is silent throughout the piece. The woodwind and brass parts play a complex, rhythmic melody with many sixteenth and thirty-second notes.

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
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ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

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METRO-RHYTHM # 7

PRACTICE POWER II

USE WITH UNISON EXCERPT # 7

♩ = 96

The musical notation consists of three staves in treble clef, 4/4 time. The first staff contains 12 measures of music with eighth and sixteenth notes and rests. The second staff contains 12 measures, including a triplet of eighth notes in the first measure and a triplet of eighth notes in the eighth measure. The third staff contains 12 measures, including a triplet of eighth notes in the first measure and a triplet of eighth notes in the eighth measure. The piece concludes with a double bar line.

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH AND 16TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

GRADUALLY INCREASE THE TEMPO FOR AN ADDED CHALLENGE

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Unison Excerpt # 7

Power Practice II $\text{♩} = 96$

Use with Metro-Rhythm #7

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

FOR ALL PRACTICE STRATEGIES REMEMBER TO USE THE
"FIVE RULES OF THE ROAD"

ALWAYS SLOW THINGS DOWN

IF YOU TAKE IT OUT PUT IT BACK GRADUALLY ONE BY ONE

SLOWLY INCREASE THE TEMPO AFTER PUTTING THINGS BACK

WHEN WOODSHEDDING, VARY THE STARTING SPOT

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METRO RHYTHM # 8

POWER PRACTICE II

USE WITH UNISON EXCERPT # 8

♩ = 96

The musical notation consists of three staves of music in 4/4 time. The first staff contains 8 measures: measures 1-4 are eighth-note patterns, measure 5 has a triplet of eighth notes, measure 6 has a quarter note, and measures 7-8 are eighth-note patterns. The second staff contains 8 measures: measures 1-2 are eighth-note patterns, measure 3 has a triplet of eighth notes, measure 4 has a quarter note, measure 5 has a quarter note, measure 6 has a quarter note, measure 7 has a quarter note, and measure 8 has a quarter note. The third staff contains 5 measures: measure 1 has a quarter note, measure 2 has a quarter note, measure 3 has a quarter note, measure 4 has a quarter note, and measure 5 has a quarter note.

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH OR 16TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

SUBDIVIDE THE PULSE BY THE SMALLEST VALUE NOTE AND REPEAT THE CLAP AND COUNT AND PLAY

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Unison Excerpt # 8

Score

♩ = 96

Use with Metro Rhythm #8

The musical score is for a unison excerpt in 4/4 time, marked with a tempo of 96 beats per minute. It features ten staves for the following instruments: Flute/Oboe, B♭ Clarinet, Alto Saxophone, Tenor Saxophone, B♭ Trumpet, F Horn, Trombone/Baritone B.C./Bassoon, Tuba, Bells, and Percussion. The key signature has two flats (B♭ and E♭). The music consists of a rhythmic pattern of eighth and sixteenth notes, with some triplets indicated by a '3' over the notes. The Bells and Percussion staves are empty, indicating they are not used in this excerpt.

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

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WHEN WOODSHEDDING, VARY THE STARTING SPOT

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METRO RHYTHM # 9

PRACITCE POWER II

USE WITH UNISON EXCERPT #9

♩ = 96



INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH OR 16TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

PLAY ON A CONCERT PITCH OF OUR CHOICE & ADD ARTICULATION FOR ADDED CONCEPTS TO TEACH

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Unison Excerpt # 9

Power Practice II

Use with Metro Rythm # 9

$\text{♩} = 96$

Flute
Oboe

B♭ Clarinet

Alto Saxophone

Tenor Saxophone

B♭ Trumpet

F Horn

Trombone
Baritone B.C.
Bassoon

Tuba

Bells

Percussion

SCAN IT - LEARN IT - PRACITCE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

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METRO RHYTHM # 10

POWER PRACTICE II

USE WITH UNISON EXCERPT # 10

♩ = 96

The musical notation consists of three staves in 6/8 time. The first staff has 8 measures: 1. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 2. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 3. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 4. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 5. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 6. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 7. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 8. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter. The second staff has 8 measures: 1. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 2. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 3. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 4. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 5. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 6. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 7. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 8. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter. The third staff has 3 measures: 1. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 2. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter; 3. quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter. A '14' is written below the first measure of the third staff.

INDICATE THE DOWN BEATS AND OR WRITE IN THE COUNTS SUBDIVIDING IN 8TH OR 16TH NOTES

SET THE METRONOME OR DOCTOR BEAT TO QUARTER NOTE PULSE = 96

TAP TOES TO THE QUARTER NOTE PULSE AND CLAP AND COUNT THE RHYTHM

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Unison Excerpt # 10

Score

$\text{♩} = 84$

Use with Metro Rhythm # 10

The musical score is for a unison excerpt in 6/8 time, marked with a tempo of quarter note = 84. The key signature has three flats (B-flat, E-flat, A-flat). The score is arranged for the following instruments: Flute/Oboe, B♭ Clarinet, Alto Saxophone, Tenor Saxophone, B♭ Trumpet, F Horn, Trombone/Baritone B.C./Bassoon, Tuba, Bells, and Percussion. The Flute/Oboe part has a melodic line with eighth and quarter notes. The woodwinds and brass parts provide harmonic support with similar rhythmic patterns. The Bells and Percussion parts are marked with a minus sign, indicating they are silent for this excerpt.

SCAN IT - LEARN IT - PRACTICE AND PERFECT

POWER PRACTICE 1 - USE POWER PRACTICE I CHECK LIST

POWER PRACTICE 2 - USE POWER PRACTICE II CHECK LIST

POWER PRACTICE 3 - USE POWER PRACTICE III CHECK LIST

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