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Performance-Based Music Ensembles' Effect on Academic Achievement: A Correlational Study

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PERFORMANCE-BASED MUSIC ENSEMBLES' EFFECTS ON ACADEMIC
ACHIEVEMENT: A CORRELATIONAL STUDY

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Timothy Francis Stevenson

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May 2013

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As increasing student achievement levels for all learners continues to drive the focus of education, identifying strategies and opportunities to accomplish this goal becomes progressively more important. This study explored the concepts of self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement in conjunction with participation in performance-based music ensembles. The research focused on the potential correlations between ensemble participation and self-efficacy constructs, as they pertained to increases in overall academic achievement. Additionally, the study examined whether academic achievement was affected by the frequency at which an individual participated in performance-based ensembles as well as the difficulty levels associated with particular ensemble groups.

Numerous claims have been made suggesting that participation in the Arts leads to academic gains for students. However, upon examination of the available literature, no evidence clearly demonstrates this assertion. Data from this study does show that performance-based ensemble participants tend to exhibit high levels of academic achievement, as demonstrated through self-reported GPA scores. However, defining whether these high levels of achievement are a result of performance-based ensemble participation remains to be seen.

Although this study does not validate the claim that participation in performance-based ensembles is a sure path to raising academic achievement, it does demonstrate some of the significant connections between participation in these groups and existing academic trends. While the results of this study are not conclusive, it does produce new questions creating potential avenues for continued research pertaining to the connection between performance-based ensemble participation and heightened levels of academic achievement. By examining some of the prevailing relationships present between perceived efficacy levels, methods for increasing academic achievement, and performance-based ensemble participation, this study attempts to bring to light some of the potential academic benefits for all student learners.

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CHAPTER I

DESCRIPTION OF THE STUDY

Increasing student achievement is the goal of most educators. Though it is indisputable that students learn in a myriad of ways, trying to discover strategies to help students meet their individual learning goals continues to challenge educators.

Frequently, educators comment that students are not motivated to learn, thus placing the blame directly on the students (Intrator, 2005; Kohl, 1994; Zimmerman, 2002a).

However, there are students who seem to have developed their own strategies for success (Betoret & Artiga, 2011). These students do not shy away from difficult academic tasks which sometimes diminish the success of others. On the contrary, these students regularly grapple with these tasks until they can successfully accomplish them.

What inspires students to tackle problems on their own? Discovering additional methods to promote students' innate nature of curiosity, self-discovery, and intrinsic motivation would be a positive step toward helping children learn. During the early years of children's education they are content to come to school to interact with their peers and teachers alike (Kanter, 2002). Generally, during these developmental years, students' learning tends to run on a steadily increasing incline (Usher & Pajares, 2006). However, at some point, learning seems to plateau or is halted altogether (Kanter, 2002). What is the cause for such a change to occur?

At this point students divide into two distinct groups. One group tends to rely on teacher driven instruction as its sole means for learning (Bell & Kozlowski, 2002; Black, Harrison, Lee, Marshall, & Wiliam, 2004; Ferla, Valcke, & Cai, 2009; Goddard, Hoy, & Hoy, 2000). These students must have specific direction provided by their instructors for

learning to take place. According to Kohl (1994), students that do not initially internalize content from their instructors often adopt an attitude of indifference. In this sense, learning is halted and the direct involvement of some other entity, perhaps a teacher, administrator, or parent, is needed for learning to resume. Unfortunately, while this remediation is occurring, students are often missing the new learning that is taking place as the class proceeds.

The other type of students that are found in classrooms are those that have a longing to learn. Though this group of students may not always gain full understanding of particular aspects of content initially, they are willing and compelled to find methods and solutions to make up for their deficiencies. These students possess an internal drive and curiosity not only to gather and internalize knowledge but also a belief that they can accomplish any task they undertake. These types of students often function under the label of self-sufficient. Teachers are often more apt to allow these types of students to learn at a more casual pace understanding that these students will learn the prescribed content. Students possessing this internal drive and confidence have been described by Albert Bandura (1977a; 1986) as having high levels of self-efficacy.

Self-efficacy as discussed in Albert Bandura's social cognitive theory provides insight into why some students are more willing to confront a difficult task rather than avoid it. Self-efficacy is an individual's belief that he can achieve certain outcomes by applying specific behaviors to given situations (Bandura, 1997; Pajares, 1996; Zimmerman, 2000). Often students experiencing high levels of self-efficacy towards academics tend to exhibit high academic achievement (Tschannen-Moran & Barr, 2004). Zimmerman (2009) points out that though these students do not always accomplish their

goals initially, they frequently continue trying until they succeed. High levels of self-efficacy often lead to an increase in resiliency when grappling with difficult subject areas.

Efficacy permeates all aspects of people's lives. Perceived abilities to accomplish goals vary significantly between individuals (Pajares & Urdan, 2006). Often these beliefs center on the success rates associated with the completion of past goals as well as the ease with which these tasks were accomplished. A particular area of interest concerning efficacy beliefs is found within the Arts curriculum focusing on the skill of learning a musical instrument (White, 2010). Largely, in the public school setting, students generally do not begin learning to play an instrument until between the ages of nine and eleven, generally around their fourth and fifth grade year of schooling. Since learning to play a musical instrument is often unlike any type of previous learning the students have experienced, everyone is literally beginning from a common point. This differs from other forms of school learning, such as reading, where students may have significantly different background knowledge based on the levels of reading they have experienced outside the school environment (Crawford & Zygouris-Coe, 2006).

The process of learning to play an instrument requires students to become resilient when confronting failure. Often, students have to find creative alternatives to successfully perform on an instrument; a "one size fits" all teaching method is rarely an effective method of instruction. This ability to be reflective and creative in finding alternative learning methods for successful performance most likely is combined with high levels of efficacy beliefs (Shively, 2011; Zimmerman, 2009). Fundamental problems often associated with playing an instrument at the earliest stages of learning include the production of pitch and the reading of notation (Gudmundsdottir, 2010;

Jacobi, 2012). Students exhibiting low levels of efficacy often struggle when learning an instrument, unless they have a natural affinity for playing. However, levels of efficacy may increase over time due to the positive experiences of success associated with their performance levels. Students demonstrating high levels of efficacy tend to advance in performance ability. Winner and Hetland (2008) attribute this advancement to students' willingness to make mistakes and consequently learn and improve from their errors. Arguably, this willingness to make and learn from mistakes spills over into multiple aspects of the students' lives including academics (Agrell, 2007; Fairchild, 2010).

Pasiali (2012) contributes that students studying music also tend to exhibit increased levels of resiliency. As students progress on their chosen instrument, the level of difficulty also increases. Challenges often manifest in the form of instrumental range, how high or low the notes are written, or in the form of faster, more complex rhythms. Challenges such as these present themselves for developing and seasoned performers alike. Encountering these challenges can be highly frustrating to young performers. However, in many cases, musicians continue to develop their skills in an effort to master their abilities and achieve successful performances. In these cases, musicians are demonstrating high levels of self-efficacy and resilience.

The impression that participation in music ensembles has the ability to raise intelligence quotient (IQ) levels has long been discussed (Schellenberg, 2004). Research conducted by Ho, Cheung, and Chan (2003) demonstrated that individuals with musical training exhibited stronger skills in verbal memory than those with no musical training. This was in part attributed to the higher interactive nature that performance-based music provides (Schellenberg, 2004). Other benefits of participation in performance-based

ensembles include increases in critical listening and aural skills, which often transfers into other classroom settings (Agrell, 2007). As these ensembles are often quite large, cooperation and team building skills are enhanced as well. Frequently, leadership abilities are also developed in these kinds of ensemble settings (Kokotsaki & Hallam, 2007). With so many strategies which have been found to promote the academic abilities of students being learned and reinforced in performance-based classrooms, it is assumed that these lessons will translate to other fields of study (Rickard, Vasquez, Murphy, Gill, & Toukhsati, 2010). This, in turn, may lead to increases in the academic achievement and overall self-efficacy of the participants.

Given performing student musicians' familiarity with grappling with difficult subjects, not only mentally, but often physically and emotionally, it may also stand to reason that they might exhibit those same qualities in other aspects of their daily lives. Applying multiple strategies to solve a problem in performance-based music is commonplace for performers. More often than not, initial attempts meet with failure. Student musicians must make a choice when confronted with a difficult passage in music: 1) either to give up, in which case the performer will not be able to successfully or adequately execute the musical passage or 2) to continue trying until they are successful in their performance practice. Competent musicians continuously build resiliency skills to better aid in their prolonged performance success (Agrell, 2007; Johnson, 2002). Throughout this process, past strategies are employed to aid in the accomplishment of their goal. Likewise, new strategies may be devised to realize their goal. These strategies may be utilized later to aid in other areas of deficiency.

The same types of efficacy used to learn and become competent while playing an instrument may also be utilized in the areas of academic achievement (Zimmerman, 2002; 2000). Certainly critical thinking and problem solving strategies must be employed when learning new material. Also, encouraging students to grapple with problems until they realize methods by which to draw solutions is a skill that should be stimulated by all educators for 21st Century learning (Gardner, 2009). In this case, students who utilize these critical thinking skills in their musical work may inadvertently use these same skills for their academic endeavors, and vice versa. If this is true, a relationship may exist between levels of academic achievement and students who study instruments.

In the instance of university students who participate in performance-based ensembles, most of whom are majoring in the study of music, self-efficacy beliefs tend to increase as they progress through school (Kokotsaki & Hallam, 2007). As self-efficacy beliefs increase, new strategies are added and old ones are developed to more effectively confront problems that are encountered. With this in mind, do individuals who participate in performance-based ensembles tend to display higher levels of academic achievement? If this is the case, these individuals likely exhibit higher levels of academic self-efficacy as well. Therefore, high quality student musicians found performing in what are often highly competitive university ensembles are likely to demonstrate high levels of self-efficacy, resiliency, and increases in academic achievement.

Theoretical Position

For the purpose of this study, Albert Bandura's theories regarding self-efficacy were utilized. Self-efficacy, as described in Albert Bandura's social cognitive model, was used to define levels of student motivation (Bandura, 1977a). Also, the studies pertaining to self-efficacy beliefs and goal setting as they relate to academic achievement, conducted by Barry Zimmerman, were examined during the course of this study (Zimmerman, Bandura, & Martinez-Pons, 1992). Bandura (1986) expanded his social learning theory to include self-efficacy. Bandura believed that self-efficacy was the essential piece missing from his theory. Upon this addition, he changed the name from social learning theory to social cognitive theory to separate it from other learning theory models.

The concept of reciprocal determinism entails the view that (a) personal factors in the form of cognition, affect, and biological events, (b) behavior, and (c) environmental influences create interactions that result in a *triadic reciprocity* (Bandura, 1978). This framework allows for more specific individual treatment when attempting to improve emotional states, correct faulty self-perception, improve academic skills, and reorganize classroom structure (Pajares, 2011; Bandura, 1986).

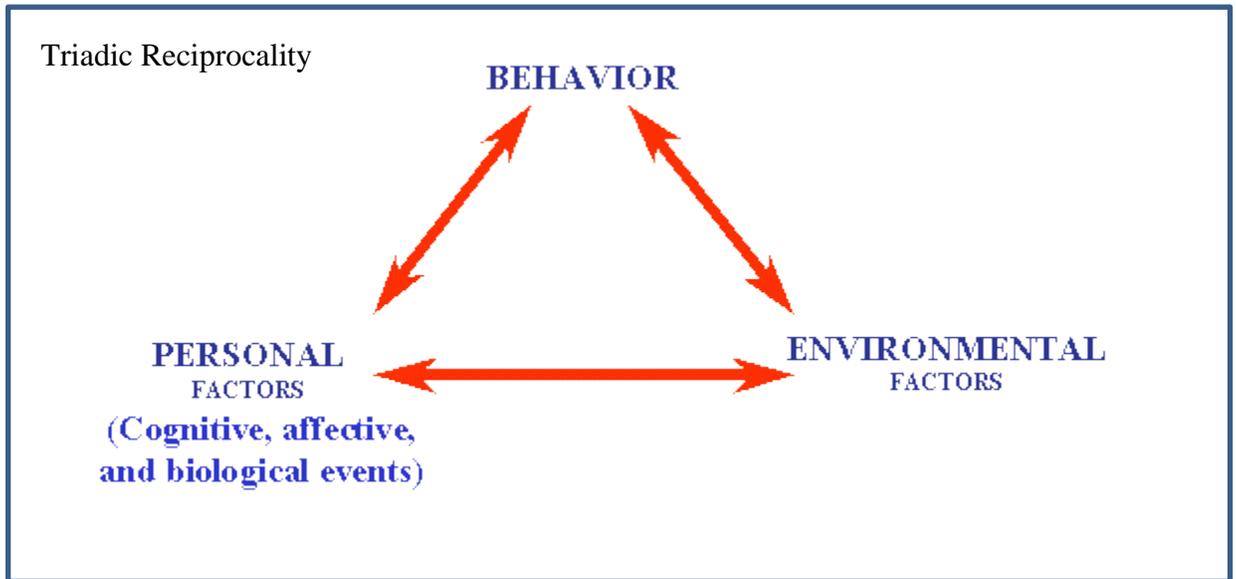


Figure 1. Conceptualizes the interactions between the constructs which attribute to varying levels of self-efficacy.

As it relates to this study, triadic reciprocity can be used to determine why particular strategies are successful as they pertain to practice habits of student musicians. Methods used to improve performance on an instrument could also be translated to other areas of study, namely academics. Pajares (2011) states that improving and defining these methods can lead to increased levels of cognitive and emotional well-being. Also, levels of motivation tend to increase through the successful use of methods which bring about a desired outcome, such as increases in performance abilities or increases in academic achievement.

Statement of the Problem

Arts programs continue to be reduced or removed from public school programs (Zimmerman, 2009). This is largely due to decreases in school budget allocations (Winner & Hetland, 2008). The downplaying of the importance of these programs stems largely from a significant misconception of the role arts programs play in the education of children (Rushlow & National Art Education Association, 2005). Shively (2011) asserts

that the Arts are essential in cultivating the creativity skills of children. Creativity encompasses critical thinking skills as well as the ability to synthesize information. This skill is often cited as an invaluable 21st Century skill (Gardner, 2009). Additionally, Arts programs stimulate and motivate students, often through hands-on learning. Another key aspect of Arts education is the focus on student failure as a means to inspiring deeper learning (Nelson, 2009; Shively, 2011; Zimmerman E. , 2009).

The Arts create situations whereby students must assess their mistakes and determine reasons why they were not successful in completing a task, as well as to determine methods by which they may reach a solution. According to Intrator (2005), this type of learning format should be utilized in all classroom environments. A “one size fits all” learning model proves to be most unsuccessful for many types of learners. In many cases, students who are forced into a particular type of learning style may become disinterested, discouraged, or disengaged to learn material (Kohl, 1994). Increasing levels of resilience through participation in the Arts curriculum may inspire increased levels of student self-efficacy and thereby contribute to increases in overall levels of academic achievement.

Purpose of the Study

The purpose of this study was to focus on one aspect of participation in the Arts curriculum by investigating the effects of university students' participation in school performance-based ensembles and their demonstrated levels of self-efficacy for academic achievement. Information resulting from this study could be significant in influencing the perceived importance of Arts programs in the public school setting (Hess & Downs, 2010). Though the Arts are often regarded as unnecessary components of schools’

curricula, many aspects associated with their instruction are highly beneficial to student learning and higher order thinking (Gullatt, 2007; Shively, 2011).

Significance of the Study

With the current educational budget crisis gripping the United States, “non-tested” subjects within the school curriculum are falling under increasing fire and scrutiny (Winner & Hetland, 2008). If music programs are to continue to have a place in the public school setting, advocating for these programs will become more critical than ever (Gullatt, 2007). Students participating in performance-based ensembles often develop increased skills in organization, discipline, and informational processing skills (Kokotsaki & Hallam, 2007). If these skills transfer from the performance classroom and are used in the regular academic classroom, the potential for increased academic achievement may exist. This study will help to determine if students participating in performance-based ensembles 1) exhibit higher quantities of perceived self-efficacy and 2) demonstrate increased amounts of academic achievement.

Research Questions

The purpose of this study was to identify what relationship, if any, exists between the efficacy levels of students who participate in performance-based ensembles such as band, choir, and/or orchestra and the levels of academic achievement exhibited by those individuals. In order to achieve the purposes of this study, the following questions will be investigated:

1. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy as reported by using the General Self-Efficacy scale?

2. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-regulated learning as reported by using the Self-Efficacy for Self-Regulated Learning scale?
3. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy for academic achievement as reported by using the Self-Efficacy for Academic Achievement scale?
4. Does a correlation exist between the frequency of participation in university ensembles and levels of academic achievement as indicated by self-reported grade point average (GPA)?
5. Does a correlation exist between the difficulty levels of ensembles participated in and levels of academic achievement as indicated by self-reported grade point average (GPA)?
6. Do differences in levels of academic achievement exist among the various sub-groups based on such demographics as age, gender, or participation in particular musical ensembles?

Delimitations of the Study

This research study will only include students who are currently active members of performing ensembles at the university level majoring in Music Education, Music Performance, and Theory/Composition. For the purpose of this study, students from one university will be examined.

Limitations of the Study

Membership in university performance-based ensembles is limited to students who have achieved an advanced level of proficiency and experience in their chosen

medium of music (e.g. instrumental and/or vocal). When students are asked to self-evaluate their levels of ability, there is a high likelihood that the results will lack integrity, especially when students are involved in studies which may lead to future advocacy of an area for which they hold a vested interest. Participants, often with the best of intents, manipulate answers in an attempt to create a preferred image for the outcome of the study. Every effort will be made to remind participants to answer survey questions honestly, without notions of fashioning a predetermined end result.

Another potential limitation might be that Freshman grade point averages (GPAs), from high school, may not be equivalent to university grade point averages (GPAs).

Assumptions of the Study

This study assumed that all study participants' self-reported information was accurate and complete thus making the data valid. It was also assumed that results are representative of the target population. Therefore, it was also assumed that the results of this study are representative of the overall population of performing musicians.

The instruments used in this study were standardized and normed, and it was assumed that they were administered according to standardized procedures. Information regarding reliability and validity for the survey instruments was examined by the principal investigator and found to be appropriate for this study.

Hypothesis

The primary hypothesis for this study was that students' participation in performance-based ensembles is highly correlated to high levels of perceived self-efficacy, self-efficacy for self-regulated learning, high levels of self-efficacy for academic achievement, and higher academic achievement. It was further hypothesized that students would attribute aspects of their academic success to skills they have learned as performing musicians. These include higher levels of confidence when approaching a difficult task and increased levels of resilience when confronted with a task they are unable to complete successfully during an initial attempt.

Definition of Terms

Affective state: – Levels of stress or excitement that adds or detracts to the level of self-efficacy (Bandura, 1977a; Pajares & Urdan, 2006).

Efficacy: - A person's perceived expectation of succeeding at a task or obtaining a valued outcome through personal effort (Lee, Dedrick, & Smith, 1991).

Efficacy Expectancy: - An individuals' conviction in their ability to carry out and complete a given task (Bandura, 1986).

Generality: – The transferability of self-efficacy beliefs across activities (Pajares, 2011; Pajares & Urdan, 2006).

Locus of control: – refers to the extent to which individuals believe that they can control events that affect them (Rotter, 1966).

Mastery experience: – The idea that success will build self-efficacy beliefs while failure will weaken beliefs (Bandura, 1994).

Metacognition: – The awareness of and knowledge about one’s own thinking (Wiles & Bondi, 2007).

Motivation: - A situation that gives an individual a reason to act in a certain way. This includes the amount of effort an individual exerts to accomplish a task (Alivernini & Lucidi, 2011).

Outcome Expectancy: - An individual’s ability to accomplish a given task at a satisfactory level of completion (Bandura, 1986).

Perceived control: – reflects the degree to which an individual believes that a situation is controllable and that he or she has the skills necessary to bring about a desired (or avoid an undesired) outcome (Bandura, 1994).

Perceived self-efficacy: – Personal judgments of one’s capabilities to organize and execute courses of action to attain designated goals (Pajares & Urdan, 2006).

Performance-based ensemble: – Music ensembles whose purpose is to perform music literature. These groups include bands, choirs, orchestras, jazz ensembles, etc. (Reimer, 2009).

Performance capabilities: – The level of musical expertise exhibited by a performing musician (Reimer, 2009).

Reciprocal determinism: - the view that (a) personal factors in the form of cognition, affect, and biological events, (b) behavior, and (c) environmental influences create interactions that result in a triadic reciprocity (Bandura, 1978).

Resiliency: – ability to recover from and successfully adapt to adversity or obstacles (Masten, 2009).

Self-concept: – Often referred to as self-identity, a multi-dimensional construct that refers to an individual's perception of "self" in relation to any number of characteristics, such as academics, gender roles and sexuality, racial identity, and others (Ferla, Valcke, & Cai, 2009).

Self-directed learning: The process whereby an individual takes it upon themselves to learn (Knowles, 1975).

Self-efficacy: – A person's motivation as determined by a belief that a certain behavior can be performed and the realization that the behavior will lead to a desired outcome (Bandura, 1977a; 1986; 1994; 1997).

Self-regulated learner: – Learners that are cognizant of their academic strengths and weaknesses and employ a variety of strategies to succeed at difficult academic tasks (Zimmerman, 1989; 1990).

Social Learning Theory: - Social learning theory focuses on the learning that occurs within a social context. It considers that people learn from one another, including such concepts as observational learning, imitation, and modeling (Bandura, 1986; Zimmerman, 1989).

Vicarious experience: - Viewing the example set by others as a means of learning a given trait (Bandura, 1986).

Summary

Performance-based ensembles such as band, choir, orchestra, and the like, provide participants with a multitude of strategies that have been found to increase academic performance (Ponter, 1999). As music performance often requires much practice, one can assume that participants must grapple with many obstacles on their way to successful

performance. In this way, self-efficacy plays a major role in this process. Most musicians reach an understanding of what is necessary to facilitate quality music making. With this in mind, they set goals and methods by which to accomplish those goals. Self-efficacy, which is an individual's belief that he can succeed at a task, influences the level of effort put toward these goals. Therefore, it may be true that self-efficacy, as it is applied to music, can and will be applied to other situations by those same individuals. Strategies for overcoming goals, coupled with high levels of self-efficacy, may lead to increased academic achievement for those individuals who participate in performance-based ensembles.

As Arts programs continue to face the threat of reduction or elimination due to decreasing budget allocations granted to schools, it remains important to demonstrate the positive role the Arts play in student academic achievement (Winner & Hetland, 2008). Focusing on the multiple strategies of learning that are employed while learning a musical instrument establishes a few of the successful learning techniques that can be used universally by students (Zimmerman, 2009). It is hypothesized that students' participation in performance-based ensembles is highly correlated with increases in perceived self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement. Also, it is hypothesized that students who participate in performance-based ensembles will attribute aspects of their academic achievements to skills obtained through performing music.

Chapter II presents a review of literature related to the relationships found between perceived self-efficacy levels, levels of self-regulated and self-directed learning skills, and self-efficacy levels as they pertain to academic achievement. Connections between each of these constructs will be linked to learning strategies used by performing musicians.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

The purpose of Chapter II is to provide relevant information derived from theoretical and empirical literature to promote clearer understanding of the study. Although research in the area of academic achievement as it relates to individuals participating in performing music ensembles is limited, research in the areas of efficacy beliefs, academic achievement, and self-directed learning provide adequate sources from which to synthesize conclusions. The review of literature includes the concepts which culminate in the theory of self-efficacy; these concepts include locus of control and social cognitive theory. A discussion of factors that influence self-efficacy beliefs and lead to practical goal setting, increases in student achievement, as well as information pertaining to self-directed learning will follow. The above areas will be compared with common practice and performance techniques utilized by developing musicians. The following review of literature is intended to combine these research areas in order to conceptualize an effective means of determining whether a correlation exists between increases in perceived self-efficacy and levels of self-regulated learning skills that translate into high degrees of academic self-efficacy for academic achievement as well as high academic achievement by students who participate in performance-based ensembles at the university level.

Locus of Control

Efficacy beliefs are the perceived notions that individuals have about their own abilities to successfully accomplish tasks (Bandura, 1994). Levels of efficacy significantly affect the academic achievement of individuals (Zimmerman, Bandura, &

Martinez-Pons, 1992). These beliefs have been developed largely through the premises found in the theories of locus of control and the social cognitive theory. A summary of these theories will contribute to the understanding of efficacy and academic achievement beliefs.

The psychological construct of locus of control describes the amount of self-control a person perceives he has over any given situation (Grimes, Millea, & Woodruff, 2004). An individual's locus of control is described as being either internal or external. Hiroto (1974) developed the theory of internal-external locus of control to refer to the amount of emphasis individuals place on outside forces contributing to their control of situational outcomes. Individuals that believe reinforcement is contingent on their own behavior or their own relatively permanent characteristics are said to have an internal locus of control. Inversely, individuals who believe reinforcement is based on outside factors that are entirely out of their control are deemed to have an external locus of control (Rotter, 1966).

Academic achievement is significantly influenced by an individual's locus of control. Students believing that their behaviors directly and positively impact their academic achievement levels will tend to exhibit higher degrees of success on future tasks (Stipek & Weisz, 1981). This parallels the degree to which students will practice in an effort to improve their skills and techniques when performing on an instrument. Students who believe that their efforts will lead to higher degrees of musical success show marked progress in their performance capabilities (Burwell & Shipton, 2011). Students exhibiting a high internal locus of control tend to confront stressful situations with problem solving strategies, whereas students exhibiting a low internal locus of

control attempt to distance themselves from the situation (Wiebe, 1991). Value placed on tasks, often in the form of a grade in the school setting, triggers emotional responses in students that expose their internal-external locus of control (Cassidy & Eachus, 2000).

Expectancy Value Theory

Though often associated with each other, locus of control and the social cognitive theory are not the same concept (Goddard, Hoy, & Hoy, 2000). Locus of control is grounded in the theory of expectancy value. Expectancy value theory states that an individual's actions are not solely based on reinforcements received during an activity (Conley, 2012). In conjunction with the receipt of reinforcement, the likelihood of obtaining the reinforcement also becomes a factor (Neill, 2006). This differs from self-efficacy in that locus of control focuses on the perception that outside factors contribute to the ultimate outcome of a given situation, whereas self-efficacy is a person's belief in his ability to control outcomes by employing certain actions (Bandura, 1977a).

Locus of control plays a large part in the development of a person's perceived self-efficacy beliefs. Self-efficacy beliefs are chiefly attributed to vicarious and mastery experiences, which in turn are directly related to locus of control. Vicarious experience is the act of an individual viewing the demonstration of a trait or action, by another, as a means of learning the given action or trait (Bandura, 1986). Mastery experience is an individual's belief of accomplishing or failing at a task based on past successes or failures (Usher & Pajares, 2006).

Motivation

According to Bandura (1997), individuals exhibit various levels of motivation based on the needs associated with a task. Higher levels of motivation are often

associated with task completions that yield a specific benefit to the individual. Benefits may include the acquisition of a tangible item or may include the gaining of more indepth knowledge in a give area of study. According to Petri and Govern (2004), motivation is often reinforced by outside forces. These include the perceived values placed on the outcome of tasks.

According to Bandura (1988), individuals' self-motivation is derived from the combination of individuals' perceived self-efficacy beliefs as well as specific goals set by the individual. Generally, the higher the level of perceived self-efficacy coupled with challenging, specific goals, tends to yield higher levels of motivation (Conley, 2012). Barron and Harackiewicz (2001) state that motivational beliefs are different for all individuals. Therefore, determining the motivational components of large groups can be difficult. According to Brophy (2005), using a pattern-centered analysis of achievement goals is more likely to determine the motivations exhibited by large groups of individuals. Determining motivational patterns allows researchers to view the adaptive pattern shifts that occur amongst individuals as they work toward the completion of a task (Conley, 2012).

Social Cognitive Theory

Bandura (1986) states in his social cognitive theory that the combination of personal factors, behavior, and environmental influences work together to develop a person's beliefs. This combination of factors is referred to as triadic reciprocity (Pajares, 2011; Bandura, 1986). Triadic reciprocity can be used to determine why particular actions are successful when employed by one individual but may be unsuccessful when used by another. Attempting to determine why one person gains

success achieving a goal using a particular set of strategies, while another fails using the same strategies, is particularly important when attempting to determine various levels of perceived self-efficacy between populations. Pajares (2011) states that determining and improving these strategies can lead to increases in achievement levels as well as increased emotional well-being. Employing strategies that lead to success, in turn, may also lead to individuals' raised levels of mastery experience, raising their perception of their ability to perform a task successfully (Usher & Pajares, 2006).

Bandura (1994; 1986) suggests that the social cognitive theory provides a basis for human understanding into why individuals react in specific ways to various situations, including the academic environment in which students are exposed to a myriad of methods used to test their knowledge acquisition skills. By recognizing the reactions to various stimuli, one may gain a glimpse of why certain strategies motivate individuals to learn, while the same strategies may cause others to steer away from learning (Conley, 2012).

According to Tschannen-Moran and Woolfolk Hoy (2001), the social cognitive theory allows for two expectancies: efficacy expectancy and outcome expectancy. Bandura (1986) defines an efficacy expectancy and an outcome expectancy respectively. An efficacy expectancy is defined as a person's conviction in his ability to carry out and complete a given task. An individual's outcome expectancy would include the individual's ability to accomplish a given task at a satisfactory level of completion. Both expectancies are needed to define the social cognitive theory; however, Bandura (1986) gives more weight to efficacy expectancy. He does so because efficacy expectancy is based on individuals' conviction in their ability to complete a given task.

This supposition is central to the level of perceived self-efficacy exhibited by an individual. Efficacy expectancy is of particular importance to student musicians as it serves as a primary motivator to continue to refine musical skills in the pursuit of increased levels of consistent performance (Burwell & Shipton, 2011).

Though the social cognitive theory is highly complex, two constructs of the social cognitive theory are paramount in their relevance to this study. These areas include the strengthening of individuals' beliefs in their abilities to take on and complete a task successfully (efficacy beliefs) and the use of goals as a way to enhance individuals' self-motivation (See Figure 2) (Bandura, 1988).

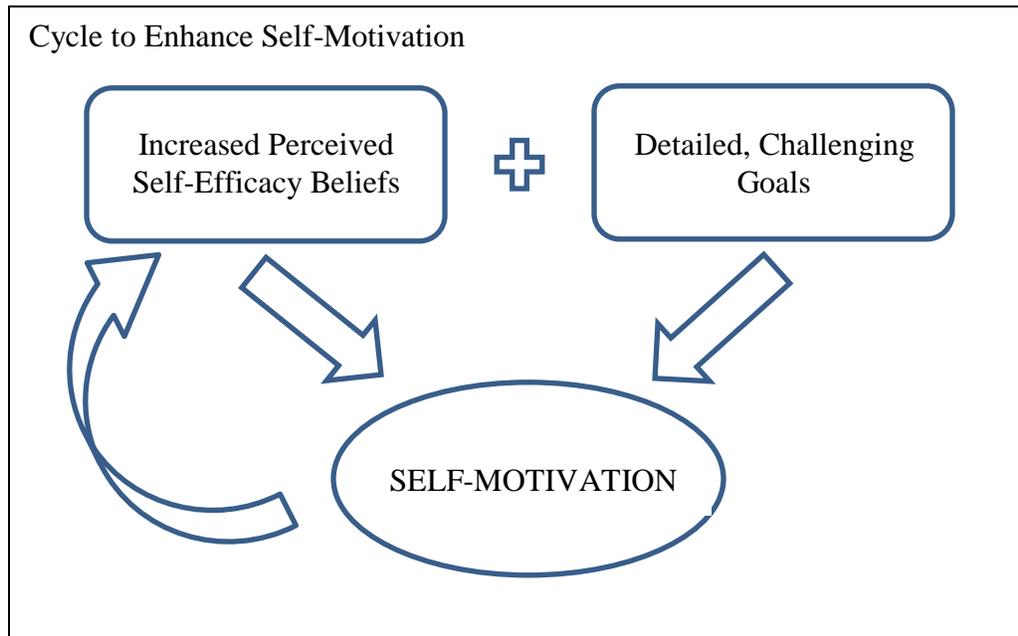


Figure 2. Conceptualizes the cyclic properties found between the concepts of self-efficacy and goal setting as they relate to levels of self-motivation which, in turn, raises or lowers perceived levels of self-efficacy.

Bandura (1994; 1988; 1977a) defines efficacy beliefs as individuals' beliefs in their ability to exercise control over events as a method to accomplish a goal. Social cognitive theory addresses motivation as means to accomplish goals. However, individuals must first harbor the belief that they can accomplish a goal before motivation is generated. Without efficacious beliefs predisposing the individual's ability to accomplish a task, motivation will, most likely, not be generated resulting in the inability for the individual to accomplish the given task. Efficacy beliefs will be discussed in greater detail in the next section.

Goals are a powerful force in the creation of efficacy beliefs (van Horen, Pohlmann, Koeppen, & Hannover, 2008). Pertaining to the social cognitive theory, goals contribute to motivation levels and increased efficacy levels. Goals provide a focus for individuals,

as well as a level of effort needed when attempting to complete a task (Bandura, 1988). Detailed, challenging goals often lead to better individual performances than unspecific goals or no goals (Daniels, et al., 2009). According to Bandura (1986; 1988), accomplished goals tend to promote one's beliefs in his abilities to accomplish tasks, leading to raised levels of perceived self-efficacy.

Efficacy Beliefs

Bandura (1997) states that efficacy beliefs are the perceptions of an individual's (self-efficacy) or a group's (collective efficacy) ability to complete a task successfully. This differs slightly from efficacy judgments which are the beliefs of individuals or a group's capability to complete a task. Efficacy judgements do not include an appraisal of the actual task to be completed (Goddard, Hoy, & Hoy, 2004). Positive and negative perceptions pertaining to the ability to realize goals can have an equal effect on efficacy beliefs. Bandura (1977a; 1997) emphasizes that while positive perceptions promote the successful completion of tasks, self-doubt can potentially reverse gains made by the individual towards goal completion. The literature relating to self-efficacy and academic achievement will now be examined.

Self-Efficacy

Self-efficacy theory is a component of Albert Bandura's social cognitive theory. Perceived self-efficacy is an individual's belief in his own ability to achieve a desired goal or outcome (Bandura, 1977a; 1977b). In addition to the desire to perform a task, self-efficacy takes into consideration the individuals' perception of how well they will perform the task in given situations. Pajares (1996) states that individuals' perceptions of their ability to accomplish a task is formed based on their interpretations of the results of

past performances. Past performances alter their environments and influence their self-beliefs. These self-beliefs become the basis for motivation to attempt future tasks of the same type. Self-efficacy perceptions are based solely on individuals' beliefs about themselves, not as they may relate to others' performance levels (Zimmerman, 2000). Efficacy beliefs determine the effort individuals exert and the level of determination they will commit to when confronting obstacles. Bandura (1977a; 1994; 1997) states that individuals' belief in their abilities significantly affects behavior, motivation, and success or failure rates when confronted with a given task. Self-efficacy, as it relates to musical performance, is a key component regarding the potential level of success attainable by an individual. Increased beliefs in self-efficacy increase the likelihood that an individual will consistently practice their instrument, which in turn leads to increased levels of performance (Christensen, 2010).

Self-efficacy beliefs determine the amount of effort an individual will exert in a given situation, based on their levels of beliefs associated with the successful completion of the task. Self-efficacy beliefs can also govern how resilient people are when faced with unfavorable circumstances or obstacles (Pajares, 1992). Levels of exerted effort are adjusted based on the degree to which an individual believes they can manipulate the circumstances of a situation toward their expected outcome (Bandura, 1986). Desire to accomplish a goal also plays an active part in the development of self-efficacy beliefs.

Bandura (1977a) describes four major sources of information used by individuals to form their self-efficacy beliefs. These information sources pertaining to self-efficacy beliefs include 1) mastery experience, 2) vicarious experience, 3) social persuasion, and the 4) affective state. Each element will now be discussed in greater detail.

1. Mastery experience involves the beliefs that past successes will build higher levels of self-efficacy beliefs, while past failures will diminish self-efficacy beliefs (Bandura, 1994). Goddard, Hoy, and Hoy (2004) emphasize that efficacy has its strongest foundations in mastery experience primarily attributing to the direct feedback garnered from an individual's capabilities. An individual believing that past efforts have brought about a desired outcome will pursue similar avenues when confronted with a comparable situation in the future. If success is linked to particular methods used to accomplish a task, levels of confidence will rise. Contrarily, if individuals experience failure utilizing a particular method to realize a task, their levels of confidence using that particular method will diminish (Usher & Pajares, 2006). Therefore, even though mastery experience can be considered an avenue to raising self-efficacy beliefs, it could also be viewed as a process by which to decrease efficacy beliefs relating to unsuccessful strategies. Unfortunately, not all successes are achieved using the same strategies. If individuals' self-efficacy beliefs decrease due to an unsuccessful strategy, they may be hesitant to employ that strategy in the future, perhaps limiting an individuals' potential in completing future tasks, thus leading to lower levels of self-efficacy (Zimmerman, 2000).
2. Bandura (1986) explains vicarious experience as the process by which an individual observes the methods leading to the successes and failures of others as a means to learn strategies for successfully completing tasks. Learning vicariously removes the individual from the potential to fail at a given task which may ultimately lead to lower levels of self-efficacy. Often, individuals utilize

vicarious learning when they are unsure of their own capabilities when confronted with a task (Bandura, 1986; Pajares, 1997). Modeling is one method of learning through vicarious experience. In the case of learning a musical instrument, which will be discussed in detail later in this study, modeling often serves as a primary means of instruction (Christensen, 2010). Individuals that have become successful at a particular task, for example, the virtuostic performance of an instrument, can serve as a model. Observing the success of another individual as a model can raise levels of motivation as well as self-efficacy (Bandura, 1986).

3. Social persuasion, also referred to as verbal persuasion, is the process by which feedback from outside sources, such as instructors, parents, or peers, contributes to the achievement and efficacy levels of individuals (Goddard, Hoy, & Hoy, 2004). Usher and Pajares (2006) state that social persuasion from teachers and parents is an effective tool in raising the academic achievement levels of students. Social persuasion is a component leading to the development of self-efficacy. However, according to Bandura (1986), social persuasion is often credited with causing diminished levels of self-efficacy as opposed to raising it. As is the case with most tools used to raise achievement levels in individuals, whether for social or academic reasons, the method by which the tool is used can create positive or negative perceptions. Social persuasion used in a positive, appropriate manner is an advantageous method for raising self-efficacy beliefs in individuals (Usher & Pajares, 2006).
4. The affective state component, attributing to self-efficacy beliefs, refers to the emotional well-being of an individual (Bandura, 1977a; 1986). Stress and

excitement contribute to the overall efficacy levels of an individual (Usher & Pajares, 2006). Similarly, students perceive their affective state as an indicator of their academic capabilities. According to Daniels *et al* (2009), as excitement has the potential to raise one's affective state, anxiety and negative stresses tend to lessen levels of self-efficacy and, furthermore, reduce the levels of perceived academic capabilities.

Mastery experience, vicarious experience, social persuasion, and the affective state all function as means to develop self-efficacy beliefs, in addition to instilling the human element as a vehicle to raise or lower these beliefs (Bautista, 2011). Self-efficacy beliefs are strong predictors in determining whether an individual will successfully complete a task. In fact, strong efficacious beliefs are often more important than levels of ability when embarking on a new task, in regards to its positive completion (Bandura, 1977a; Pajares, 1996). The effects of self-efficacy beliefs on performance are proportionally as strong as the effect of an individual's abilities.

According to Pajares (1996), a person's levels of self-efficacy are best measured when confronted with a specific task, as opposed to measuring self-efficacy beliefs in general. This does not suppose that an individual will be able to accomplish a goal simply because they believe they can. Self-efficacy beliefs regulate the amount of perseverance and effort an individual will exert in an attempt to complete a task. In determining self-efficacy beliefs as they relate to academic achievement, it is important to view not only the successful accomplishments of students, but also their repeated failed attempts as well. Students demonstrating high self-efficacy beliefs towards

academics show a tendency to be more resilient in nature when it comes to successfully completing an academic task (Pajares & Schunk, 2005).

High self-efficacy beliefs in students play a prominent role in their motivation, learning, and achievement. For example, Ozgen and Bindaka (2011) state that self-efficacy beliefs towards mathematics has a more significant direct effect on students' problem solving abilities than students' prior mathematics experiences. Similarly, Duijnhouwer, Prins, and Stokking (2010) affirm that students' positive self-efficacy beliefs pertaining to writing tend to result in increased skill in writing performance. Karaarslan and Sungar (2011) agree that comparable beliefs also contribute to student success in the science fields as well.

With such strong evidence confirming the role that self-efficacy beliefs play in the positive achievement of students academically, it is conceivable that these beliefs transcend into every facet of individuals' lives. Additionally, Garvis and Pendergast (2011) confirm that self-efficacy beliefs play a large role in the success students find in Art related fields. Positive efficacy beliefs, coupled with systematic goal setting can lead to higher levels of academic achievement (Zimmerman, Bandura, & Martinez-Pons, 1992). The constructs of goal setting and academic achievement will be discussed next.

Goal Setting and Academic Achievement

Perceived self-efficacy beliefs of students influence the goals they set for themselves when confronted with an academic problem. High levels of self-efficacy combined with goals often lead to increases in academic achievement (Zimmerman, Bandura, & Martinez-Pons, 1992). Unfortunately, negative perceptions can lead to decreases in academic achievement and failure may take place regardless of students'

ability levels. Setting personal goals, employing successful strategies to accomplish those goals, and self-assessing an individual's work are the keys to effective learning, and educators must expose learners to these objectives (See Figure 3) (McTighe & O'Connor, 2005). These constructs of the goal setting cycle will be expanded in the following section.

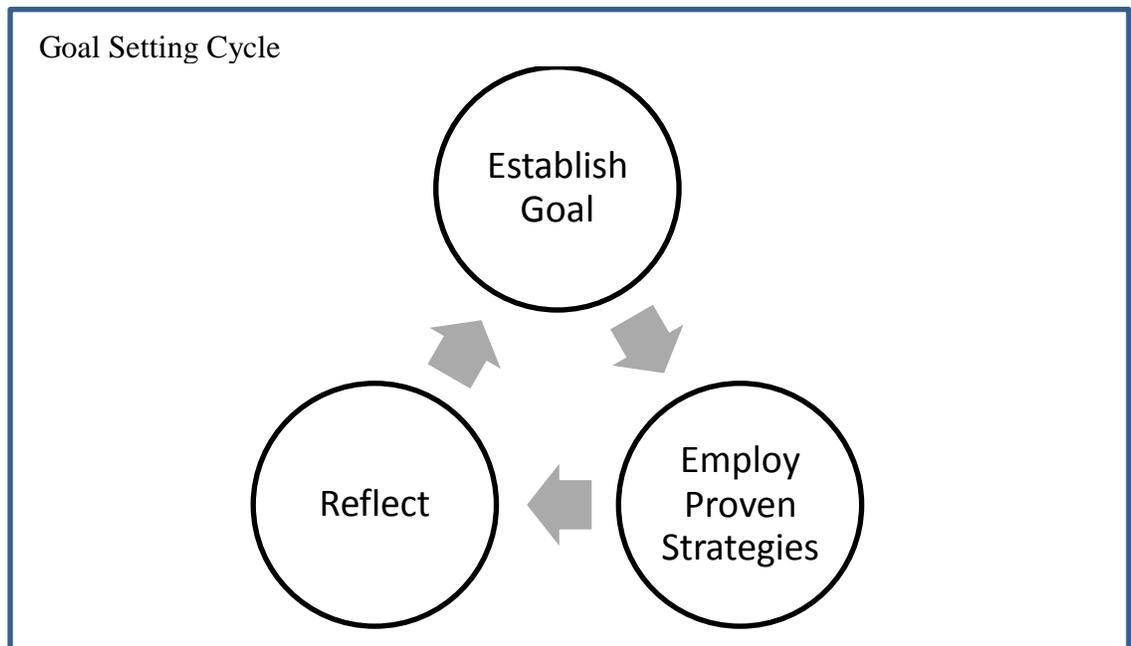


Figure 3. Demonstrates the cyclic process of 1) establishing goals, 2) employing proven strategies for successful completion, and 3) the process of reflecting on the success of the process as it pertains to goal setting.

1. According to Bransford, Brown, and Cocking (1999) setting personal goals is the initial step when striving for successful achievement. Strongly established goals serve to motivate and focus an individual (Daniels *et al*, 2009). Locke and Latham (2006; 1990) point out that setting more difficult, specific goals will result in higher levels of desired achievement as opposed to setting ambiguous, simple goals. Having a specific end result to strive for also produces higher product results as opposed to instructing an individual to simply do their best. In

a recent study conducted by Kleingeld, van Mierlo, and Arends (2011), comprehensive quantitative testing demonstrated that specific, difficult goals tend to raise individual performance levels. In addition to goal setting, goal commitment, task complexity, and feedback also contribute to the success outcome at the completion of a task (Latham, Locke, & Fassin, 2002).

2. Employing proven strategies is an essential starting point for accomplishing goals set by individuals (McTighe & O'Connor, 2005). Usher and Pajares (2006) contend that the application of proven strategies is largely connected to the concept of mastery experience, which was discussed earlier. Strategies become proven based on their successful use in past situations. As an individual continues to effectively utilize these strategies, efficacy beliefs increase regarding their ability to accomplish the specified task or any task of a similar nature (Black, Harrison, Lee, Marshall, & Wiliam, 2004).
3. Reflection is the third component of goal setting. Reflection, or self-assessment, allows individuals to determine which strategies will work most effectively to accomplish their prescribed task (McTighe & O'Connor, 2005). According to Zimmerman (2002a), goal achievement can be enhanced if individuals practice self-reflection more readily. Self-reflection provides the individual the opportunity to determine which actions may bring about the desired result both in regard to timeliness and accuracy. By reflecting on potential courses of action, prior to implementation, an individual can best judge which actions will provide initial success, thereby precluding them from using strategies that may produce less desirable results. Self-assessing requires an individual to draw on past

successes and failures alike. This, in turn, steers the individuals to set a new course of action to complete an intended goal, hopefully increasing the potential for academic achievement. Goal setting, employing proven strategies, and self-assessment are essential qualities to develop self-regulated learners.

Self-Regulated Learners

As described by Zimmerman (1989; 1990), self-regulated learners are those students who are cognizant of their academic strengths and weaknesses and employ a variety of strategies to succeed at various academic tasks. Zimmerman (1990) goes on to state that self-regulated learners proactively seek out information when needed and continue with this process until they have mastered the required skills needed to accomplish their goal. Self-regulated learners develop strategies to circumvent obstacles such as confusing instructors, poor study conditions, or inadequate class materials (e.g. texts, technology) (Zimmerman, Bandura, & Martinez-Pons, 1992).

According to McTighe and O'Connor (2005), goal setting plays an important role for the self-regulated learner and specific, difficult goals often produce higher levels of achievement. Self-regulated learners who set specific goals are more likely to reach their intended goals due to their effective study strategies, persistent nature, and their ability to determine which strategies will work best to enable them to complete their goals (Schunk, 2005). Goal setting, employing proven strategies, and self-assessment are utilized frequently by self-regulated learners. An inherent difference between the self-regulated learner and other learners is the level of organization and self-monitoring employed during a task (Zimmerman, 1990). As opposed to assessing a task at its onset and conclusion, the self-regulated learner assesses throughout the entire process of

acquisition of knowledge and skills. Additionally, they adapt their prescribed course of action to produce the best outcome results as they proceed through a task. Conley (2012) states that self-regulated learners often exhibit higher degrees of motivation when approaching a task.

According to Zimmerman (1998), self-regulated learners view the acquisition of knowledge as something that they do for themselves. They do not believe that education is something that is done to or for them but rather a vehicle by which to gain understanding of multiple topics. Musicians often view the acquisition of musical skill sets as a means to improve their performing abilities and to increase their levels of consistency (Johnson, 2002). Knowledge acquisition is gained through regulatory processes (Bednail & Kehoe, 2011). According to Calkins and Fox (2002) regulatory processes include any methods employed to accomplish a task. Zimmerman (1990) adds that all learners employ regulatory processes to achieve goals. However, self-regulated learners demonstrate two specific qualities that enhance their abilities to learn and process information. These include an awareness of strategic relationships between regulatory processes or responses and the abilities to strategically select and use those regulatory processes that will enable them to achieve their goals.

As previously stated, regulatory processes include strategies that enable individuals to accomplish goals (Calkins & Fox, 2002). However, these strategies are not always employed without coaching from an outside source such as an educator, employer, or parent (Sitzmann & Ely, 2010). Zimmerman (1998) contends that self-regulators are proactive in the process of using regulatory skills. They are self-motivated to seek out methods by which to accomplish goals that are set before them, either from an outside

source or themselves. In the case of academic achievement, self-regulated learners focus on learning for their own benefit, not simply because they are required to for a particular assignment. By focusing on the prospect of learning for their own improvement, these learners have a greater stake in the ownership of their own learning (Schunk, 2005).

In addition to the desire to learn for one's own improvement combined with the ability to self-motivate, self-regulated learners are also adept at setting outcome goals as well as selecting or developing strategies that will best enable them to accomplish their tasks (Kitsantas, Reiser, & Doster, 2004). Not only do self-regulated learners possess the ability to select successful, efficient methods for accomplishing goals, they are also able to assess which strategies may provide unsatisfactory results. Because they employ ongoing self-reflective techniques while they learn, self-regulated learners are able to employ a variety of strategies while completing a task. This allows them to discontinue use of strategies that may prove less effective for reaching the desired goal. Through the process of learning, these learners also develop new strategies if their current tactics prove unsuccessful which aids them with future tasks (Kleingeld, van Mierlo, & Arends, 2011).

Self-Regulated Learning Cycle Phases

Zimmerman (1989; 1998) discussed the process cycle employed by self-regulated learners. Self-fulfilling cycles of academic regulation describe the continuous process experienced by self-regulated learners as they grapple with task acquisition (Zimmerman, 1998). According to Zimmerman the cyclic phases include: 1) Forethought, 2) performance or volition control, and 3) self-reflection (see Figure 4).

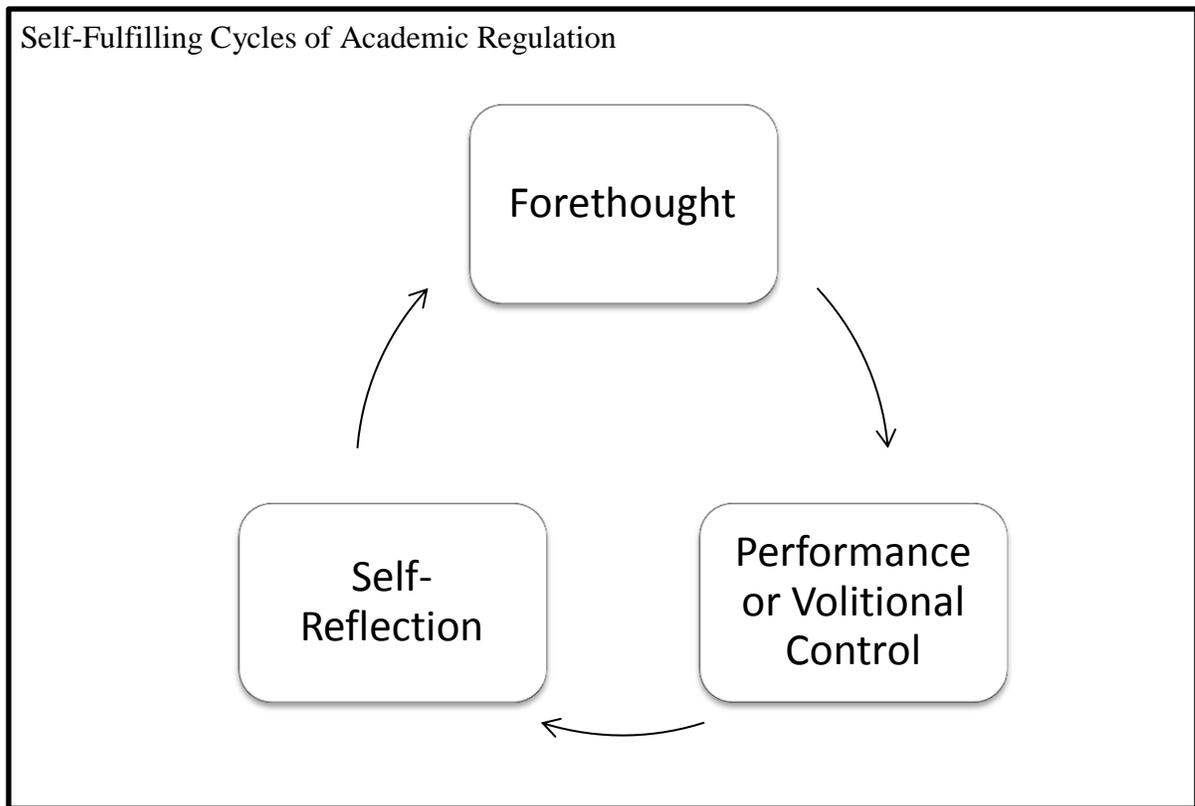


Figure 4. Represents the cyclic process of academic regulation demonstrated through the concepts of forethought, performance, and self-reflection.

1. As the word implies, forethought is the process by which an individual assesses the initial task and includes the complexity of task as well as the potential skills required to complete the task successfully (Zimmerman, 1989). Forethought entails multiple thought processes focusing on the following areas: (a) goal setting, (b) strategic planning, (c) self-efficacy beliefs, (d) goal orientation, and (e) intrinsic interest (see Table 1). *Goal setting* refers to the individual's desired outcome at culmination of the task (Locke & Latham, 1990). *Strategic planning* involves the decision of what types of methods will be employed to achieve the desired outcome goal (Zimmerman, Bandura, & Martinez-Pons, 1992). Goal setting and strategic planning are highly affected by the personal beliefs and

intrinsic value ascribed to the task. *Self-efficacy beliefs* include the perception held by the individual as to the degree to which they will be able to perform the task successfully (Bandura, 1986). Self-efficacy beliefs play a pivotal role in the amount of effort an individual will contribute to any given task. Tasks perceived to have a high degree of successful completion will be given greater focus as opposed to tasks with a low perceived degree of success. *Goal orientation* refers to the results that the completed task will produce (Bell & Kozlowski, 2002).

Learning goals tend to focus on the gradual acquisition of knowledge and insight gained throughout the process. Learning goals demonstrate a stronger lasting effect than performance goals which tend to be more competitive in nature.

According to Bulus (2011), performance goals tend to focus primarily on the end result with little regard to the methods that lead to the completion of the goal.

Intrinsic interest surmises that the learner will continue learning in the subject area even after the completion of the task with no motivation from outside rewards (Zimmerman, 1998).

2. Performance or volition control focuses on three areas which include a) attention focusing, b) self-instruction/imagery, and c) self-monitoring (see Table 1)

Attention focusing behavior primarily deals with an individual's ability to remain attentive to a task without allowing outside distractions to hinder progress (Zhou, et al., 2007). Individuals that are easily distracted tend to show low achievement levels with regards to task completion (Zimmerman, 1998). *Self-instruction* refers to the learner's ability to devise a plan of goal completion. Furthermore, they are capable of self-adjusting their approaches throughout the process as needed

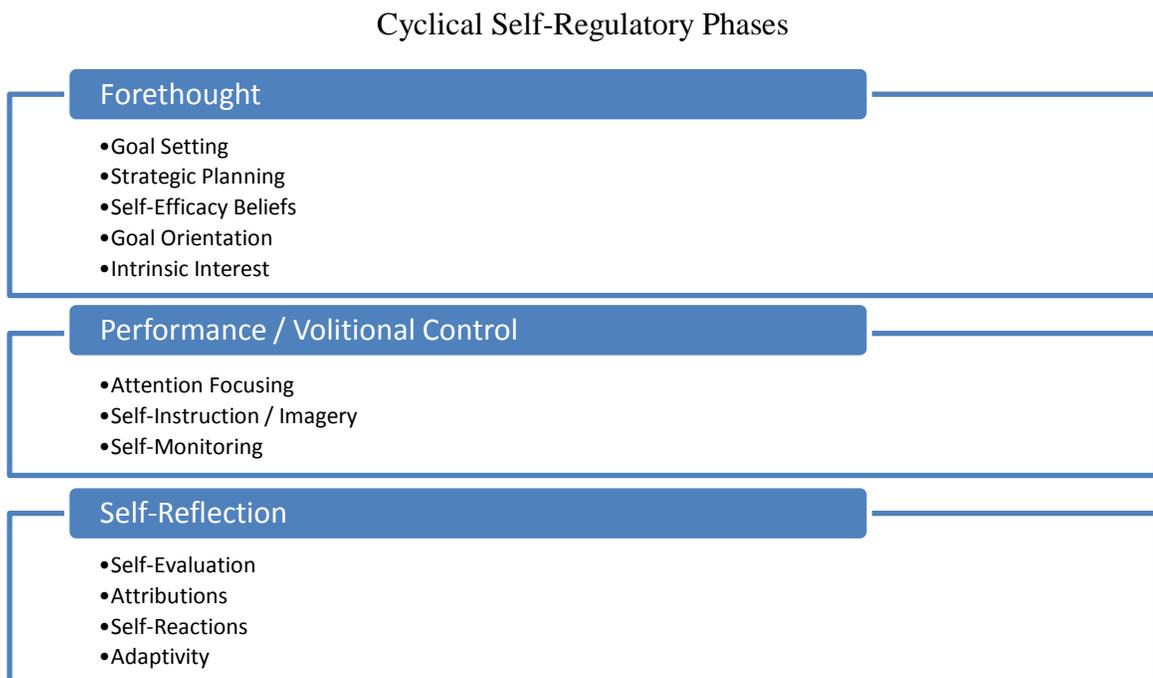
(Schukajlow, et al., 2010). Additionally, *imagery* is used by the learner to enhance learning and to recall information. Imagery allows the learner to create mental pictures which has been shown to promote deeper understanding of complex content (Ainsworth, Prain, & Tytler, 2011). *Self-monitoring* is the process by which the learner reflects on the progress of their learning. Unlike self-assessment, which is a more global assessment of one's abilities, self-monitoring is a moment by moment assessment of the learning process that focuses on the rate at which successful learning is taking place (Eva & Regehr, 2011). The need to employ learning strategies not previously used by the individual to complete a task creates an increase in self-monitoring. Inversely, skills that have been used successfully on multiple past occasions tend to exhibit a reduction in self-monitoring practices.

3. The last stage of the cycle of academic regulation is self-reflection. The self-reflection component focuses on four areas a) self-evaluation, b) attributions, c) self-reactions, and d) adaptivity (see Table 1). According to Zimmerman (1998), *self-evaluation* is the initial step in the self-reflection stage and involves the learners comparing their work against a pre-existing work or format. Such comparison provides the learners with a benchmark to determine whether their work has been completed successfully or if further effort is needed. *Attributions* are the determined causes for why a task was not completed at an acceptable level. Soric and Palekcic (2009) state that attributions are often the cause for learners to discontinue the pursuit of a goal, ascribing to failure. However, self-regulated learners view attributions as correctable causes that require further

perseverance. *Self-reactions* occur in response to attributed reasons for unsuccessful completion of a task. Students determine why the original course of action did not produce desired results and devise a new approach to the problem. This leads to the last component of the self-regulation cycle. *Adaptivity* is the self-regulated learner's ability to reorient their learning strategy to produce the desired result. According to Soric and Palekcic (2009), once the self-regulated learner has reached the final stage of the self-regulation cycle the learner will either accomplish their intended goal or begin the cycle again until their initial goal is accomplished. Zimmerman (1998) adds that upon the successful conclusion of the self-regulation cycle, the learner's ability to achieve mastery over their subject area will be raised.

Table 1

Cyclical Phases and Sub Processes of Self-Regulation



A multitude of evidence supports the benefits of instilling self-regulatory learning techniques in students. However, Zimmerman (2002b) asserts that often teachers do not prepare students to be self-regulated learners. Frequently, educators dictate what students should be learning as well as how to learn it. This type of didactic teaching is very limiting in its ability to promote varied learning processes. Additionally, this practice does not promote self-efficacy or positive academic achievement.

Students who have learned how to self-regulate their learning, in response to their self-efficacy beliefs, often develop increased academic, social, and self-management skills (Zhou, et al., 2007). These increases in skill are largely due in part to their ability to self-motivate, develop strategies for success, and self-reflect on their successes and failures. Most importantly, students are able to draw on their past experiences to determine the best strategies for continued success. These skills, in turn, lead to higher levels of academic achievement (Brigman, Webb, & Campbell, 2007). As students assume greater responsibility for their own learning they develop more reliable strategies for accomplishing their academic goals (Biggs, 2012). Allowing students to grapple with problems, as independently as possible, can enable them to develop strategies for deeper learning. This takes place through a gradual release of responsibility from their instructors (McTighe & O'Connor, 2005).

Self-Directed Learning

Not only is it important to study how children learn as they progress through their school years into higher education and beyond, but it is also necessary to examine how those processes will transfer into adulthood. Self-directed learning is the process whereby individuals take it upon themselves to learn (Knowles, 1975). This is

commonly defined as widespread learning that takes place in an individual's everyday life. Widespread learning is systematic but does not necessarily depend on a formal instructor.

The focus of the research on self-directed learning has been, in large part, on the individual learner at the adult age level. Such a focus would make sense as this concept is a primary force behind adult learning theory (Douglass, 2010). However, the research conducted on self-directed learning has fallen short on determining what factors, prior to adulthood, contribute to the organizational, strategic, and self-efficacy traits that make self-directed learners successful (Merriam, 2001). Garrison (1997) discussed the self-directed learning model as it relates to adult learning (see Figure 5).

The self-directed learning model consists of the following three components: 1) self-management, 2) self-monitoring, and 3) motivation. These components work together to create self-directed learning. Though these three constructs work simultaneously, as opposed to sequentially, they will be discussed in the listed order (Garrison, 1997). The components of this learning model will now be discussed.

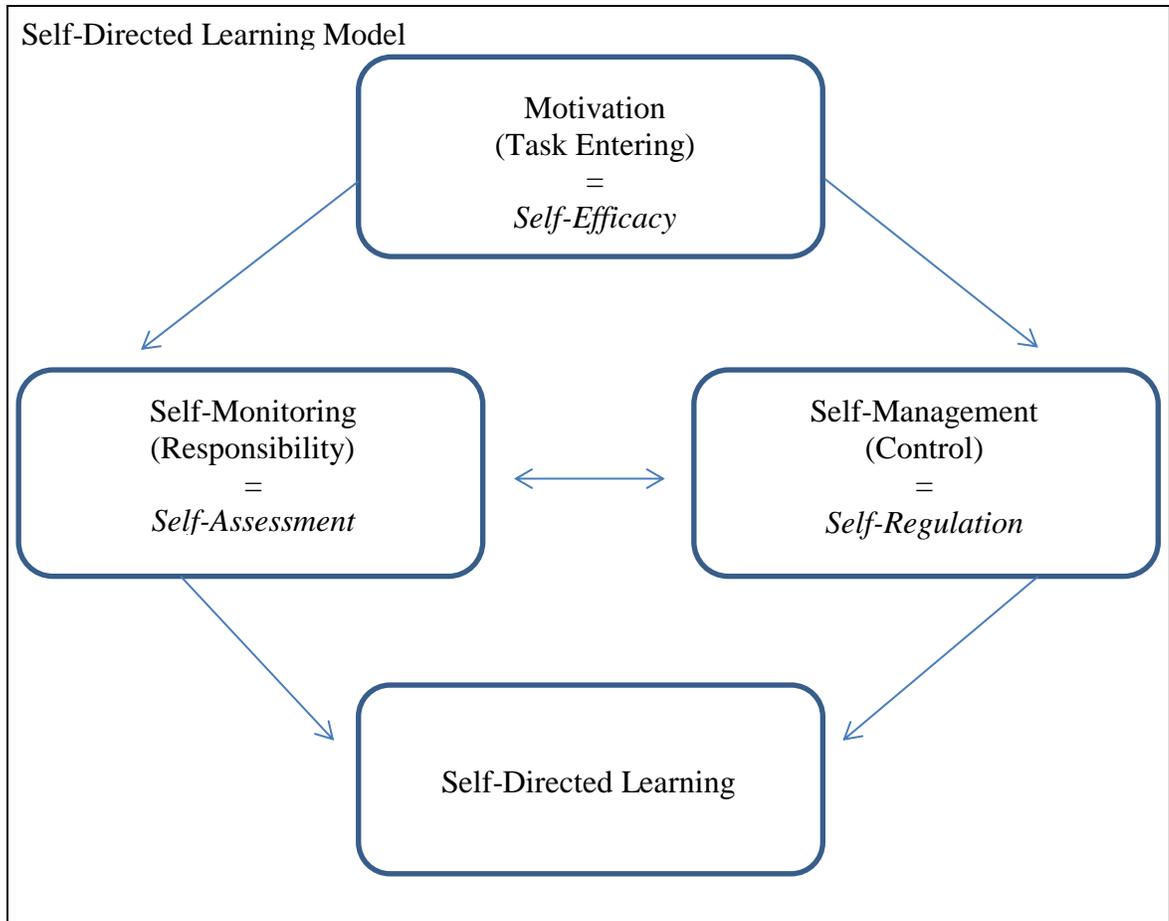


Figure 5. Conceptualizes the components of the self-directed learning model as they relate to the components which lead to increases in academic achievement.

1. *Self-management* is the process by which learners determine how they intend to proceed in the attempt to accomplish a task or goal. Learners generally use past experiences, including successes and failures, to define the best techniques to utilize (Omisakin & Ncama, 2011). According to Garrison (1997), self-management is not meant to cast the learner into an isolated mind set. On the contrary, during the self-management stage learners will not only focus on their past experiences but seek out strategies employed by others. This provides the

learner with a larger venue of resources from which to develop goals and strategies for task completion.

2. *Self-monitoring* is the process of monitoring learning strategies and thinking about one's thinking. As discussed in the Self-Regulation Cycle earlier, self-monitoring differs from self-assessment in that self-monitoring does not focus primarily on the outcome goal but rather focuses on the process of arriving there. During self-monitoring, the learner evaluates one's own thinking and is able to make changes as necessary to maximize learning efficiency. As self-monitoring can focus on past learning systems, it also has the potential to create new modes of thinking in order to arrive at a desired end result (Eva & Regehr, 2011).
3. *Motivation* is the third component that contributes to self-directed learning. As discussed earlier, motivation deals with the perceived usefulness of a task as well as the anticipated degree of successful task completion (Loyens, Magda, & Rikers, 2008). Motivation exists in two forms, entering motivation and task motivation. Entering motivation refers to the learner's decision to undertake a task, often because of a high degree of perceived usefulness (Garrison, 1997; Zimmerman, Bandura, & Martinez-Pons, 1992). Task motivation is the effort required to stay on task until its completion (Garrison, 1997; Zimmerman, Bandura, & Martinez-Pons, 1992). Both entering motivation and task motivation contribute to the degree of effort exerted throughout the learning process. As stated previously, perceived usefulness of the task plays a significant role in the levels of entering and task motivation.

By understanding the aspects that contribute to increased levels of perceived self-efficacy and academic achievement, one can begin to determine strategies to promote these attributes in students. As stated in the literature, the components associated with academic achievement as well as those associated with self-regulated and self-directed learning demonstrate a strong correlation (Zimmerman, Bandura, & Martinez-Pons, 1992). By recognizing these attributes in students as well as isolating and cultivating them, it is conceivable that students' levels of academic achievement can be raised.

The dimensions discussed in this model correlate, almost directly, with the components necessary for academic achievement (Brigman, Webb, & Campbell, 2007; McTighe & O'Connor, 2005; Zimmerman, 2000; 2002b; Zimmerman, Bandura, & Martinez-Pons, 1992). Self-monitoring (Responsibility) relates to self-assessment, as both are used to determine the quality of effort and success being attributed to a given task. The dimension of Motivation (Entering/Task) corresponds to beliefs of self-efficacy. Both determine the willingness of individuals to undertake a task due to a perceived outcome in their ability to successfully accomplish it.

Though self-assessment focuses on the final outcome of the task or goal, self-monitoring concentrates on the evaluation of the thought processes contributing to the goal's success (Garrison, 1997). However, both contribute to maintain high degrees of motivation due to their focus on completing tasks at the highest possible levels. Self-management (Control) parallels self-regulation in that the learner utilizes known strategies to best accomplish a task. The processes of adaptability heighten an individual's potential to successfully complete tasks. Both self-regulated learning and

self-directed learning are effective methods to raise students' levels of academic achievement.

Drawing Connections to Music Techniques

The Arts curricula have long been cited as a vehicle to raise student achievement (Liu & Noppe-Branden, 2009; Nelson, 2009). Curriculum experts such as Wiggins and McTighe (2005) discuss, at length, methods of instructional planning that will lead to increased student achievement. Many pedagogical techniques that have gained significant attention in the past few decades such as student centered learning, backward design, and higher levels of teacher and student accountability, had already been part of the standard Arts educator's teaching philosophy (Nelson, 2009; Zimmerman E. , 2009). The Arts have always placed the student-learner at the center of the educational process. As performance-based curricula, the Arts require conceptualization of the end product before a teaching sequence can be designed to accomplish that goal (Winner & Hetland, 2008). Because art programs, most often, are highly visible to the public, they receive a higher degree of scrutiny when discussing degrees of teacher and student accountability. Though the Arts cover a variety of performance areas, for the purpose of this study the area of instrumental music will be the focus. The following section will focus on the literature pertaining to learning strategies and concepts surrounding techniques and performance practices attributed to the education of instrumental music performance.

Backwards Design

According to Wiggins and McTighe (2005), the concept of backward design is far from new. The idea of conceptualizing the desired end result of a lesson should always be taken into account when lesson planning. Graff (2011) points out that starting with the

end goal aids in determining the most appropriate methods for a successful realization of the specified goal. Utilizing this method of planning often leads to increased student achievement rates, largely in part to the well laid out sequencing that results from this method of design (Childre, Sands, & Pope, 2009). Though backward design has proven successful as a tool for successful lesson planning, many educators are still resistant to using it regularly (Graff, 2011). Wiggins and McTighe (2005) point out that the largely held misconception by current educators is that the backward design planning process is too time consuming to be used frequently. However, music educators have been employing the technique of backward design since before the phrase was coined (Schmidt & Robbins, 2011).

A simple example of backward design planning would come from the planning of any performance. Music directors must assess the ability of their students and, consequently, select the appropriate level repertoire, similar to selecting reading level appropriate texts for a classroom setting. Once selected, the director must then determine what the outcome goals for the piece would be. Selection of these goals is particularly important as they will determine the final performance product of the ensemble. Once these goals have been determined, the director must sequentially plan in reverse, determining the types of activities that will help to develop specific student skill sets needed for successful execution of the chosen repertoire (Blocher, Cramer, Corporon, Lautzenheiser, & Lisk, 2010). Backward design permeates all facets of music education and performance. Music educators and performers alike must know where they are going before they can get there.

Processes and Procedures Associated with Instrumental Music

The works previously covered in this literature review have focused on processes that lead to raised levels of academic achievement. Perceived levels of self-efficacy, self-regulated learning, and self-directed learning have demonstrated significant effects on students' academic achievement levels (Zimmerman, Bandura, & Martinez-Pons, 1992; Zimmerman, 1998; 2000). This section will review the literature pertaining to skill sets utilized by student musicians as they grapple with the process of learning and mastering a musical instrument. Perceived self-efficacy plays a pivotal role in the process of learning a musical instrument as it does in students' other academic pursuits. Similarly, characteristics demonstrated by self-regulated and self-directed learners are also found in a large number of student musicians (Miksza, 2012). Each area will be discussed as it relates to performance-based instrumental music practice.

Self-Efficacy Beliefs and Music Performance

As stated earlier, perceived self-efficacy beliefs correspond to an individual's belief in his own ability to accomplish a desired goal or outcome (Bandura, 1977a; 1977b). According to Creech and Hallam (2011) self-efficacy beliefs play a significant role when learning a musical instrument. As Pajares (1996) points out, not only are perceived self-efficacy beliefs based on one's belief in his ability to achieve a goal but also the consideration of how well he will perform is taken into account. As it pertains to the practice of music, each time a student plays his instrument, or sings, could be considered a performance (Godlovitch, 1998). Therefore, perceived self-efficacy levels may change frequently throughout the earlier stages of learning. For the purpose of this study, only students currently performing music at the college level will be examined.

Green (2012) states that after several years of instrumental study, perceived self-efficacy levels seem to be prone to fewer fluctuations.

An individual's level of perceived self-efficacy is highly influential over the behavior, motivation, and success or failure rates when confronted with a given musical task (Bandura, 1977a; 1994; 1997). Miksza (2012) asserts that the learning of a musical instrument, at any level, requires consistent goal oriented practicing. Perceived self-efficacy plays a major role in this process. Since levels of self-efficacy determine the amount of effort concentrated on a particular problem, students who experience lower levels of perceived self-efficacy are more likely to focus their efforts on practicing strategies and, consequently, not refine their performance skills in challenging areas of musical learning. According to Bandura (1986), levels of effort are adjusted based on individuals' beliefs that they can manipulate the circumstances of a situation toward the desired outcome. As aspiring musicians successfully grapple with difficult musical concepts and techniques, their levels of perceived self-efficacy are raised.

Bandura (1977a) describes the four major sources of information that are used by individuals to form their self-efficacy beliefs. The areas of 1) mastery experience, 2) vicarious experience, 3) social persuasion, and the 4) affective state will now be discussed as they relate to the area of instrumental music performance.

1. Bandura (1994) states that mastery experience involves an individual's beliefs that past successes will build higher levels of perceived self-efficacy. Mastery experience, as it relates to performance practices in music, comes largely from individual and group practicing (Ritchie & Williamon, 2011). Practicing a musical instrument is the process by which an individual can improve upon

difficult technical skills related to his chosen instrument (Johnson, 2002). Burwell and Shipton (2011) contend that practicing often occurs in small groups or individually without the assistance of a formal instructor. During the practicing process, instrumentalists can immediately assess areas that are difficult for them. This type of direct feedback leads to the formulation of efficacy beliefs (Goddard, Hoy, & Hoy, 2000). The student's ability to utilize or create strategies to ameliorate these issues will determine whether his perceived self-efficacy increases or diminishes. Johnson (2002) points out that when approaching a musical problem there are many strategies that can contribute to helpful practice.

Students often need guidance from private instructors or music educators, especially in the early years of learning an instrument, to increase their efficacy levels (Ritchie & Williamon, 2011). Usher and Pajares (2006) point out that increases in perceived self-efficacy beliefs do not come only from an individual's success when pursuing a task. Mastery experience includes learning from strategies that do not produce positive results as well as learning from those that do. This provides an individual with the ability to determine what types of strategies may prove most effective in completing a particular task.

Unfortunately, without the guidance of a music professional, students who experience difficulty with individual practice, in terms of success rates, may become unmotivated to continue practicing on their own. This may lead to lower degrees of perceived self-efficacy causing them to discontinue their pursuit of learning an instrument (Christensen, 2010).

2. Vicarious experience defines the process in which an individual observes the successes and failures of others as a means to learn strategies to accomplish similar goals successfully (Bandura, 1986). Modeling serves as a vital means for beginning musicians to gain confidence and competence (Christensen, 2010). According to Kostka (2004), music educators that actively utilize instrumental modeling as a means to instruct their students experience higher levels of student performance success. Having the music instructor play along with the students lowers the perception of student failure, which may ultimately lead to higher levels of self-efficacy (Pajares, 2011). Another successful method of learning vicariously, in the instrumental music setting, is by having the students listen to professional recordings. This can be accomplished through compact disc recordings or through online media. Gamso (2011) comments that listening to professional recordings can enable young musicians to gain a better understanding of some of the more abstract concepts of music performance, including tone quality, style, and musicality.
3. Social persuasion plays an immense role in the perceived self-efficacy of musicians. This comes from a variety of sources including music educators, private instructors, peers, and family. Goddard, Hoy, and Hoy (2004) state that direct feedback from outside sources often influences self-efficacy beliefs more so than personal beliefs of the individuals themselves. According to Creech and Hallam (2009), the feedback from parents remains one of the most influential sources on self-efficacy levels as students learn to play an instrument. If parents are actively involved and nurture their children with positive support throughout

the learning process, children are more likely to achieve higher levels of performance (Mixon, 2005). Parents that exhibit notions of dislike when their children practice are apt to create lower levels of perceived self-efficacy within the children, in many cases leading to the discontinuation of performance on the instrument (Creech, 2010).

4. The affective state of performance-based music learning often depends on the anticipated performance outcome. Different levels of anxiety exist for student musicians based on where and for whom they must perform (Droe, 2008). Often students feel heightened levels of anxiety and nervousness when they have to perform in a formal concert setting, as opposed to participating in a daily rehearsal. According to Pulman (2010), this heightened sense of anxiety manifests due to students' low levels of performance self-efficacy. In rehearsals, ensembles are able to make mistakes and, consequently, correct them. In a performance setting, perfection is strived for but often not achieved. Mistakes must remain unattended to until subsequent performances or student musicians must learn to accept mistakes as part of standard performance practice.

Self-efficacy is an important component of the process of learning to play a musical instrument. Students' perceived levels of self-efficacy are direct contributors to the success, or lack thereof, that they will experience throughout the learning process. Students who progress to more advanced levels of musical proficiency tend to display higher levels of self-efficacious behavior (Ritchie & Williamon, 2011).

Goal Setting and Music

As high self-efficacy beliefs aid students in the accomplishing of their musical goals, goal setting also plays an integral role. According to Holzman (2011) clear performance goals must be created before aspiring musicians can become more musically competent. Zimmerman (2002a) states that goal achievement can be enhanced if individuals practice self-reflective behaviors more readily. Multiple components are attributed to good music making (Hayghe, 2009). These include musical aspects such as dynamics, articulation, tempo, and style. Because of the complexity of intertwining these skills into a single, coherent form, careful preparation must be undertaken. Skilled musicians clearly plan the outcome goals of each practice session in an effort to create greater consistency in their anticipated performances (Burwell & Shipton, 2011). By doing so, musicians can determine the most appropriate practice sequences, as well as which methods will best help them to accomplish successful results (Johnson, 2002). According to Montgomery and Martinson (2006), performing musicians tend to exhibit good goal setting habits in areas outside of music.

Locke and Latham (2006) look at goal setting from the standpoint of accomplishing goals based on the attainment of skills. Striving to reach a goal should not always be the primary focus of individuals. In fact, it is often the case that several new skills might need to be attained before the ultimate goal can be reached. Regulatory processes help individuals judge what methods need to be utilized to achieve their goals (Zimmerman, 2002b; 2000). For example, when confronted with a difficult musical passage, performing musicians must 1) assess the area of difficulty, 2) self-assess their own ability, 3) plan an approach to confront the problem, 4) learn and use new skill sets

to ameliorate the problem, and 5) re-assess their new performance position (Johnson, 2002). This type of carefully structured practice is essential for performing musicians to increase their playing ability. It is likely these skills transcend from the practice room into the classroom. It is probable that the quality of structured practicing would correlate to the quality of structured studying, which would be predictive of a student's level of learning skill (Zimmerman B. J., 2002b).

Self-Regulated Learning and Music

Successful performing musicians exhibit many of the qualities that define a self-regulated learner (Leon-Guerrero, 2008). Zimmerman (1989; 1990) concludes that self-regulated learners are those individuals who exhibit high recognition of their academic strengths and weaknesses and are able to apply a variety of strategies to accomplish pre-determined goals. As stated earlier, a variety of technical problems are presented to the emerging musician. Student musicians employ a variety of skills to gain higher levels of musical performance achievement (Creech & Hallam, 2011). Students employ the strategies of forethought, performance, and reflection with each practice session.

According to Nielsen (2001), in order to gain consistency on one's instrument, the learner must identify problematic areas of his performing abilities and devise procedures by which to overcome these shortcomings. Zimmerman (1990) notes that self-regulated learners are comfortable with seeking out strategies and resources which enable them to successfully accomplish a goal. In the case of the performing musician, this may include seeking assistance from an instructor or other peer musicians. Additionally, performing musicians often seek out musical exercises which help them to develop fundamental skills which may be necessary for them to accomplish their current task (Toner, 2010).

McTighe and O'Connor (2005) state that specific, difficult goals often yield higher levels of achievement as opposed to generic, easy goals. This statement holds true for the practice goals determined by student musicians. Nielson (2008) asserts that when student musicians select detailed sections of their music with specific reasons for choosing the section (e.g. technical issues, range problems, pitch problems), the students' practice becomes more focused. Therefore, the student is more likely to ameliorate the problem and increase his performance skill. Students who simply play through musical passages from beginning to end, with few or no direct goals, are likely to accomplish little in the way of raising performance consistency skills (Leon-Guerrero, 2008).

Schunk (2005) postulates that self-regulated learners focus on learning for their own benefits, not simply to accomplish an assigned task. Because of this increased sense of ownership, students tend to exert more effort towards their outcome goals. Musicians, in particular, practice to increase their technical and musical competency on their chosen instrument. This is done in an effort to facilitate their performances with more ease. Musicians are adept at discovering and utilizing techniques that increase their technical capacities. This includes analyzing techniques that are not helpful to them. According to DeBezenac and Swindells (2009), music students quickly discard unsuccessful practice techniques which may hamper their progress and seek out new strategies to propel their musical learning forward.

Instrumental music educators promote self-assessment in an effort to promote independent practicing outside the school setting (Kostka, 2004). As instrumentalists gain success on their own, their self-efficacy increases. The setting of appropriate goals, coupled with increased levels of self-efficacy, allows students to develop consistent

strategies that improve their success rates (Bandura, 2006). These strategies not only can be used for the study of music, but also for other academic subjects. Zimmerman (2002b) states that students who are able to set their own goals often exhibit superior levels of academic achievement and beliefs regarding self-efficacy.

Self-Directed Learning and Music

The literature related to self-directed learning, as it relates to performing musicians, is somewhat limited. Many of the constructs pertaining to self-regulated music learners hold true for self-directed learning as well. Knowles (1975) states that self-directed learning concerns itself with the process by which individuals decide to continue their learning. In the case of instrumental music, once an individual leaves a formal education setting such as secondary or post-secondary school, instrumental music learning becomes completely self-directed. The lack of formal instruction is often experienced by the musical learner when practicing individually (Green, 2012). The same practice techniques that were discussed earlier will still be utilized. Motivation largely drives the desire to practice based on individuals' need for musical advancement (Kim, 2008; Pearce, 2004).

The constructs of self-directed learning, which were discussed earlier, are comprised of self-management, self-monitoring, and motivation (Garrison, 1997). Leon-Guerrero (2008) asserts that these constructs fit the profile of all practicing musicians. Once a particular problem is determined, musicians determine what approaches they will undertake to increase their technique in an effort to ameliorate the problem. Strategies include the selection of appropriate texts where potentially useful exercises can be drawn

from, in addition to setting up an initial practice routine. During this process, the learner (musician) defines their global and specific outcome goals (Holzman, 2011).

According to Nielson (2001), as musicians proceed through their practice routine, they continuously assess their strategies to determine whether they are meeting their initial goals. The process of self-monitoring, as described by Garrison (1997), does not concern itself with the end result of the outcome goal but rather with the process that is undertaken to arrive at that goal. The learner continuously monitors their learning and makes adjustments along the way in an effort to maximize learning efficiency. Eva and Regehr (2011) state that past learning experiences are drawn upon to arrive at an end goal; however, often during the self-monitoring process new strategies and modes of thinking are developed to arrive at the desired end result.

Motivation is the final component of self-directed learning. As was stated earlier, self-directed learning revolves around individuals' desires to continue learning for their own benefit. In the case of the performing musician, motivation stems from the desire to provide consistent and quality performances. According to Hruska (2011), student motivation is often derived from an individual's desire to gain mastery over one's instrument or some specific facet of music.

Summary

Chapter II summarizes the literature that pertains to this study. The premise of this study is to identify whether a correlation exists between students who are members of performance-based ensembles and high levels of perceived self-efficacy, self-efficacy toward academic achievement, and self-regulated learning. In determining these relationships, the researcher attempted to identify whether these levels of perceived self-

efficacy, self-regulated learning, and self-directed learning transfer into other areas of academics.

Self-efficacy, self-regulated learning, and self-directed learning are constructs that many performing musicians utilize and grapple with as they work to improve as performing artists (Burwell & Shipton, 2011). Although the ideal of obtaining perfection in music performance tantalizes all musicians, it is highly unlikely that it can ever be achieved (Fellows, 2004). With that in mind, one would be led to believe that the motivation of practicing to attain perfection would be lost. However, musicians continue to persevere in this ultimate pursuit. The premise of self-efficacy, in regard to the belief that an individual can succeed when pursuing a goal, is what continues to drive aspiring musicians to the next level of musical ability (Ritchie & Williamon, 2011).

Numerous strategies are employed by university level musicians participating in performance-based ensembles in an effort to improve themselves and their groups (Burwell & Shipton, 2011). Goal setting is utilized frequently when working on difficult passages. As McTighe and O'Connor (2005) state, specific, challenging goals often lead to higher levels of achievement. Often the desired end result cannot be obtained without employing new strategies or techniques along the way. This same concept of specific goal setting can and should be readily applied to the regular classroom where students are confronted with academic problems that require them to utilize multiple thought processes and strategies to successfully grapple with academic challenges. The strategies put forth by many academics as the best ways in which students can learn and succeed are utilized in the performance-based classroom and music practice room daily (Wiggins & McTighe, 2005). Because of the innate self-regulatory and self-directed learning

concepts frequently encountered in the performance-based classroom, participation in performance-based musical ensembles may provide its members with an academic advantage not available to those who do not participate in the same types of ensembles. According to Rammsayer and Brandler (2003), musicians exhibit higher levels of resiliency when dealing with difficulties associated with academics in addition to a greater willingness to attempt multiple strategies when confronting problems.

The literature supports the notion that high degrees of perceived self-efficacy coupled with self-regulated and self-directed learning practices have the potential to raise students' academic achievement levels. The literature is insufficient to determine whether students' involvement in performance-based ensembles increases the likelihood of increased levels of self-efficacy or self-regulated and self-directed learning styles. There is little information regarding whether the frequency of participation in performance-based music ensembles has an effect on academic achievement gains. Additionally, the literature does not demonstrate whether performance-based music ensemble difficulty levels contribute to varying levels of academic achievement. The literature points out several parallels between these areas of learning and strategies commonly exhibited by student musicians. The information from the literature review forms the basis for the following chapter which describes the design and research methodologies, including the sampling procedure, research instruments, and procedures used to conduct this study.

CHAPTER III

METHODOLOGY

Chapter III describes the research methodology used to collect and analyze the data in this study. The first section describes the purpose and research questions; the next section describes the population examined as well as the survey instruments for general self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement. Finally, this chapter will summarize how the data will be analyzed.

Purpose of the Study and Research Questions

The purpose of this study was to investigate the effects of university students' current participation in school performance-based ensembles as it correlates to perceived self-efficacy levels, levels of self-efficacy for self-regulated and self-directed learning, and self-efficacy for academic achievement. By determining whether participation in performance-based ensembles increases the likelihood of elevated levels of perceived self-efficacy, as well as self-regulatory and self-directed learning processes, this study was designed to determine if those students exhibited higher levels of academic achievement as well. As described in Chapter II, high levels of perceived self-efficacy, in addition to self-regulatory and self-directed learning processes has demonstrated raised levels of goal achievement. With standardized testing driving most school curricula, the need to raise students' academic achievement remains a paramount goal of school districts (Dee & Jacob, 2011). It is important for schools to recognize the importance the performing arts play in the school curriculum, especially if they can be shown to raise student achievement levels.

The research questions for this study were quantitative in nature and were answered using survey instruments.

This study was guided by six research questions:

1. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy as reported by using the General Self-Efficacy scale?
2. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-regulated learning as reported by using the Self-Efficacy for Self-Regulated Learning scale?
3. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy for academic achievement as reported by using the Self-Efficacy for Academic Achievement scale?
4. Does a correlation exist between the frequency of participation in university ensembles and levels of academic achievement as indicated by self-reported grade point average (GPA)?
5. Does a correlation exist between the difficulty levels of ensembles participated in and levels of academic achievement as indicated by self-reported grade point average (GPA)?
6. Do differences in levels of academic achievement exist among the various sub-groups based on such demographics as age, gender, or participation in particular musical ensembles?

The significance of this study is directly related to the goal of increasing student academic achievement. The literature suggests that students who exhibit high levels of

perceived self-efficacy, coupled with self-regulated and self-directed learning strategies, often meet achievement goals with an increased level of success, so it is important to examine potential methods to cultivate those skills in students. It is important for school leaders in basic K-12 education to recognize the potential benefits of the Arts curricula as they relate to the raising of student achievement levels. The results of this study may help articulate the importance of retaining and supporting these types of programs in the school curriculum, as well as influence the creation of professional development opportunities by which educators can more readily promote these types of learning styles to raise student achievement.

Design of Study

The research design was a quantitative study examining university students' participation in performance-based ensembles as it relates to perceived general self-efficacy levels, self-regulated learning levels, and academic achievement self-efficacy levels. Quantitative data was collected through the General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995), the Self-Efficacy for Self-Regulated Learning Scale (SESRLS), and the Self-Efficacy for Academic Achievement Scale (SEAAS). Both the self-efficacy for self-regulated learning and self-efficacy for academic achievement scales are subscales from Bandura's (1989) *Children's Multidimensional Self-Efficacy Scales*. The data was triangulated and analyzed. According to Mertler and Charles (2011), the purpose of correlational research is to explore the degree of correlation found between two or more variables.

The phenomenon of believing that students who participate in performance-based ensembles exhibit higher degrees of academic achievement comes from examining the

skills employed through practicing and performance procedures. This led the researcher to examine the areas of perceived self-efficacy, as well as self-regulated and self-directed learning constructs. In order to determine whether a correlation exists, student musicians' levels of perceived self-efficacy, self-regulated learning, and academic achievement self-efficacy levels were measured by quantitative scales. Thomas (2003) states that when deciding which method to use in a research study, the researcher must consider which methods will best answer the research questions. The correlational research method fit the design of this study because it allows the researcher to explore correlations found between multiple variables. According to Gay (1996), correlational research is used to establish a relationship, or lack thereof, between variables in an effort to make an accurate prediction.

Target Population

This study took place in a large, rural university in the northeastern United States. The music department at the university serves a student body of approximately 300 music majors currently working toward undergraduate degrees in Music Education, Music Performance, Music Theory and Composition, and Fine Arts who will constitute the target population. Additionally, included in the target population were graduate students who were working toward Masters degrees in Music Education and Music Performance. The target population consisted of music majors who are required by their degree programs to participate in various ensembles. There were a total of approximately 220 students invited to complete the survey for this study. The target population of freshman, sophomore, junior, senior, and graduate level students were invited to participate. The researcher held a brief informational meeting to invite students to participate in the study.

Because self-efficacy levels vary greatly between individuals due to various background influences, it was important to use a large sample to ensure the validity of results.

The age range of the population included individuals from 18-26 years old. Of the 117 individuals who participated in this study, 59% were female and 41% were male. Additionally, the survey sample consisted of 92% Caucasian, 2% African-American, 1% Asian, 1% Hispanic, 1% Pacific Islander and 3% of mixed decent. No university professors were included in the data sample. Convenience sampling was employed in obtaining the sample for this study. Convenience sampling is simply using available subjects (Gay, 1996). For the purposes of this study the sample only included students currently enrolled in performance-based music ensembles. This survey gathered perceived information regarding self-efficacy levels, levels of self-regulated learning self-efficacy, and levels of self-efficacy towards academic achievement.

Instrumentation

General demographic information was collected, via a Qualtrics® online survey created by the researcher, from the subjects prior to the survey instrument questions (Appendix C). The survey was comprised of questions to determine the sex, age, current year in school (e.g. freshman, sophomore, junior, senior, graduate), degree program (e.g. Music Education, Music Performance, Fine Arts), ethnicity, years of private music instruction, primary instrument, and self-report Grade Point Average (GPA) of the sample. For freshman students, Grade Point Averages (GPA) from their last year in high school was used. Demographic information was used to create sub-groups during the analysis component of this study. Differences found between these sub-groups,

pertaining to but not limited to aspects such as age, gender, major course of study, race, and participation in particular ensembles, was categorized and viewed by the researcher.

The major performing ensembles in the Department of Music were ranked by level of difficulty. Ensemble difficulty levels were calculated by examining the music literature typically performed by the various ensembles included in the study as well as rehearsal length and the frequency at which rehearsals occur were also taken into account. This allowed for the examination of potential correlations between difficulty of ensembles and their impact on academic achievement. Each participant's total number of ensembles participated in for the semester received a difficulty score based on the Ensemble Ranking sheet (Appendix A). Total ensemble difficulty scores (ENS_DIFF) were calculated and used to determine if correlations were present with other variables.

Three data sources were used to complete this study. They included the General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995), the Self-Efficacy for Self-Regulated Learning Scale (SESRLS), and the Self-Efficacy for Academic Achievement Scale (SEAAS) (Bandura, 1989). These surveys have been used to gauge individuals' levels of self-efficacy in regards to a general perception of themselves, their perceptions toward self-regulated learning practices, and their perceptions towards their ability to achieve academically. The scores range from low perceived degrees of self-efficacy to high degrees of self-efficacy in these areas. Data collected from these surveys demonstrated the perceived self-efficacy tendencies pertaining to perceived general self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement as demonstrated by individuals who are currently active in performance-based ensembles.

The ten item General Self-Efficacy scale (GSE) developed by Schwarzer and Jerusalem (1995) was used to determine each individual's general self-efficacy score. The scale was designed for the general adult population, including adolescents. Subjects under the age of twelve should not be tested using this instrument (Schwarzer & Jerusalem, 1995). In order to indicate the level of agreement that the surveyed population has with each statement, the scale consists of ten Likert-items that range from 1 (Not at all true) to 4 (Exactly true). Each item assesses an individual's perceived self-efficacy regarding a specific situation (e.g. "I can always manage to solve difficult problems if I try hard enough.") The composite score is calculated by deriving a sum based on the numerical responses from the subjects. A range of 10 to 40 is possible. The General Self-Efficacy Scale (GSE) has been used in numerous studies and has been adapted to 26 languages. According to Schwarzer and Jerusalem (1995), Cronbach's alphas generally ranged from .75 to .91, with the majority in the high .80s. Additionally, reliability of the general self-efficacy instrument has been proven across 22 cultures (Schwarzer & Scholz, 2000).

The Self-Efficacy for Academic Achievement (SEAAS) and Self-Efficacy for Self-Regulated Learning (SESRLS) scales are subscales from Bandura's (1989) *Children's Multidimensional Self-Efficacy Scales*. These instruments were designed to determine areas of student difficulty when viewing how students learn (Zimmerman, Bandura, & Martinez-Pons, 1992). The Self-Efficacy for Self-Regulated Learning scale (SESRLS) is comprised of eleven Likert-items that range from 1 (Not well at all) to 7 (Very Well). Each item assesses an individual's perceived self-efficacy in their ability to accomplish a task in given situations (e.g. "How well can you finish homework

assignments by a deadline?”). The composite score is calculated by deriving a sum based on the numerical responses from the subjects. A range of 11 to 77 is possible.

Researchers have reported that the reliability of the Self-Efficacy for Self-Regulated Learning scale (SESRLS) has surpassed the Cronbach’s coefficient $\alpha = .80$ expected in educational research (Henson, 2001). Additionally, a recent study conducted by Cleary, Platten, and Nelson (2008) reported a Cronbach’s coefficient alpha of .82 on this instrument.

The Self-Efficacy for Academic Achievement scale (SEAAS) is composed of nine Likert-items that range from 1 (Not well at all) to 7 (Very Well). Each item assesses individuals’ perceived self-efficacy regarding their ability to learn pertaining to various areas of academics (e.g. mathematics, science, computers, etc.). The composite score is calculated by deriving a sum based on the numerical responses from the subjects. A range of 9 to 63 is possible. Cronbach alpha reliability tests conducted on the Self-Efficacy for Academic Achievement scale (SEAAS) produced $\alpha = .70$ showing the scale to be of moderately high reliability (Zimmerman, Bandura, & Martinez-Pons, 1992).

Data Collection Procedures

After securing approval to conduct this research study by the Institutional Review Board (IRB), chairpersons from the Music Department were contacted and permission was granted to conduct the study within the Music Department. A cover letter introducing the study and survey completion information (Appendix B), a Survey of Demographics (Appendix C), a General Self-Efficacy scale (GSE) (Appendix D), a Self-Efficacy for Self-Regulated Learning scale (SESRLS) (Appendix E), and a Self-Efficacy

for Academic Achievement scale (SEAAS) (Appendix F) were provided to each chairperson, and a detailed plan for the collection of the data was submitted.

At the beginning of the Fall 2012 semester, the researcher conducted a brief overview of the study with all students currently enrolled in the Department of Music. This overview was given during the mandatory departmental meeting conducted by the Music Department at the beginning of the semester. The meeting took place in a small auditorium with the entire Music Department student body present. Following the meeting, the General Self-Efficacy, Self-Efficacy for Self-Regulated Learning, and Self-Efficacy for Academic Achievement instruments were e-mailed to all students in the Music Department using the online survey tool, Qualtrics®. The researcher included a statement attached to the survey link, again explaining the nature of the study and to make clear that participation in the study was completely voluntary (Appendix B). The surveys that were completed were then used to determine each individual's perceived levels of self-efficacy, levels of self-efficacy pertaining to self-regulated learning, and self-efficacy regarding academic achievement constructs.

Data Analysis Procedures

The methodological design for this study was correlational research. Data from three surveys were triangulated to provide descriptive analysis of mean, standard deviation, and correlations. The analysis of the research design involved identifying the direction and magnitude of the relationships found between an individual's perceived self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement. The Pearson r correlation coefficient (r), a parametric test, was used to analyze results where continuous variables were present. The Spearman rho correlation

coefficient (r_s), the nonparametric alternative to the Pearson r , was used to analyze data where ranked, ordinal data was present. Additionally, independent samples t -test and one-way ANOVA was used to examine data. The Statistical Package for Social Sciences (SPSS) was used to conduct and generate all statistical analysis. Themes such as goal setting, expectations of achievement, and perceived ability to accomplish a task were used to triangulate the quantitative data. Tables were created to provide pictorial representations of the data collected. These tables were also used to analyze survey results.

Protecting Human Subjects and Permissions

To protect the human subjects of this research study, an anonymous descriptor (e.g. collected in the demographic section) was used in place of participants' names. All participation in this research study was completely voluntary. Anyone who participated in this research study could withdraw from any part of the study at any time, without penalty, by leaving survey questions blank or by simply closing their browser window during the survey component. Participants were notified that there was no known risk for participating in this survey. The surveys, including the General Self-Efficacy scale (GES), Self-Efficacy for Self-Regulated Learning scale (SESRLS), and the Self-Efficacy for Academic Achievement scale (SEAAS) will be kept in a locked cabinet in the researcher's home for the required three years and then destroyed.

Permission to use Schwarzer and Jerusalem's (1995) General Self-Efficacy scale (GSE) was granted to the researcher by Dr. Ralf Schwarzer (Appendix G). Permission to use the Self-Efficacy for Academic Achievement and Self-Efficacy for Self-Regulated Learning was granted by Dr. Barry J. Zimmerman (Appendix H).

Summary

The purpose of this study was to investigate the effects of university students' participation in school performance-based ensembles as it correlated to perceived general self-efficacy levels, perceived levels of self-regulatory learning skills, and perceived self-efficacy for academic achievement levels. Chapter III identified the methodology used to collect and analyze the data used in this research study.

The total sample included approximately 220 music majors in the College of Fine Arts at a large, rural university in the northeastern United States. The sample was derived from those students who currently participate in the performance-based ensembles in the School of Music. Three surveys, the General Self-Efficacy scale (GSE), the Self-Efficacy for Self-Regulated Learning scale (SESRLS), and the Self-Efficacy for Academic Achievement scale (SEAAS) were used to gather quantitative data.

The study employed the correlational research method to analyze and derive relationships from the collected data. Quantitative data collected from the survey instruments were analyzed using the Pearson product-moment correlation coefficient (r), the Spearman rho correlation coefficient (r_s), independent samples t -test, and one-way ANOVA. The results of this study may be used as an advocacy tool in the public school system where performance-based music programs run the risk of being eliminated due to budgetary cutbacks.

CHAPTER IV

RESULTS

The purpose of this study was to examine the correlations found between university students' participation in school performance-based ensembles and their demonstrated levels of academic achievement. This chapter presents the results of the quantitative analyses of the six research questions that were discussed in Chapter III.

The study explored the correlation found between student participation in university ensembles and levels of perceived self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement. Also examined was the correlation between the frequency of ensemble participation, as well as the difficulty level of the ensembles, and self-reported student grade point average (GPA) as they related to academic achievement. Finally, differences in academic achievement found between various sub-groups, including age, gender, or participation in particular musical ensembles, were explored. Chapter IV explains the data analysis techniques used in this study and presents the findings for each research question. The following research questions created the foundation for this study:

1. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy as reported by using the General Self-Efficacy scale?
2. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-regulated learning as reported by using the Self-Efficacy for Self-Regulated Learning scale?

3. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy for academic achievement as reported by using the Self-Efficacy for Academic Achievement scale?
4. Does a correlation exist between the frequency of participation in university ensembles and levels of academic achievement as indicated by self-reported grade point average (GPA)?
5. Does a correlation exist between the difficulty levels of ensembles participated in and levels of academic achievement as indicated by self-reported grade point average (GPA)?
6. Do differences in levels of academic achievement exist among the various sub-groups based on such demographics as age, gender, or participation in particular musical ensembles?

This study was quantitative in nature and employed a variety of statistical tests to address the research questions. For the first three questions, Spearman's rho correlation coefficients (r_s) were used to determine the general self-efficacy, self-efficacy for self-regulated learner, and self-efficacy for academic achievement scores as they relate to participation in university performance-based ensembles. For questions four and five, Pearson product-moment correlation coefficients (r) were used to calculate and determine correlations found between the frequency of ensemble participation as well as the effects of the difficulty level of the ensembles on academic achievement. Question six used independent samples *t-test* as well as one-way ANOVA to determine if differences existed among the various sub-groups surveyed as they related to academic achievement.

The Statistical Package for the Social Sciences (SPSS) version 20.0 for Windows was used for the statistical analysis.

This chapter describes the data analysis used to answer the above research questions and shares the results. Figure 6 provides an overview of the research questions utilized for this study as well as the type of analysis conducted to answer each question.

Summary of Research Questions and Analysis Techniques

Research Questions	Data Collection	Analysis
1. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy as reported by using the General Self-Efficacy scale?	Surveyed Demographic Information + General Self-Efficacy (GSE) scale (Appendix C).	Spearman's rho Correlation Coefficient (r_s).
2. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-regulated learning as reported by using the Self-Efficacy for Self-Regulated Learning scale?	Surveyed Demographic Information + Self-Efficacy for Self-Regulated Learning scale (SESRLS) (Appendix E).	Spearman's rho Correlation Coefficient (r_s).
3. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy for academic achievement as reported by using the Self-Efficacy for Academic Achievement scale?	Surveyed Demographic Information + Self-Efficacy for Academic Achievement scale (SEAAS) (Appendix F).	Spearman's rho Correlation Coefficient (r_s).
4. Does a correlation exist between the frequency of participation in university ensembles and levels of academic achievement as indicated by self-reported grade point average (GPA)?	Surveyed Demographic Information + Self-Reported Grade Point Average (GPA).	Pearson Product-Moment Correlation Coefficient (r).
5. Does a correlation exist between the difficulty levels of ensembles participated in and levels of academic achievement as indicated by self-reported grade point average (GPA)?	Survey Demographic Information + Ensemble Ranking (See Appendix A) + Self-Reported Grade Point Average (GPA).	Pearson Product-Moment Correlation Coefficient (r).
6. Do differences in levels of academic achievement exist among the various sub-groups based on such demographics as age, gender, or participation in particular musical ensembles?	Surveyed Demographic Information + Self-Reported Grade Point Average (GPA).	Independent Samples t-test / one-way ANOVA.

Figure 6. Summary of research questions and analysis techniques.

Demographics of the Sample

Undergraduate students majoring in music at a large, rural university in the northeastern United States were surveyed. A total of 229 participants were invited to take part in this study, and a total of N=114 surveys were returned completed. Online surveys yielded a response indicating that 59% of the participants were female and 41% were male (See Table 2). The sample was comprised of 17.9% Freshmen (N=21), 33.3% Sophomores (N=39), 26.5% Juniors (N=31), and 22.2% Senior (N=26) undergraduate music majors (See Table 3). The age range of the sample was between 18 and 22. One age of 26 was reported and will be considered as an outlier for this study (See Table 4). No graduate level music students participated in this study. The demographics of gender, class rank, and age, of the target population, were normally distributed.

Table 2

Descriptive Statistics for the Sample by Gender and Normal Distribution

	Frequency	Percent
Valid Male	48	41.0
Female	69	59.0
Total	117	100.0

Table 3

Descriptive Statistics for the Sample by Class and Normal Distribution

		Frequency	Percent
Valid	Freshman	21	17.9
	Sophomore	39	33.3
	Junior	31	26.5
	Senior	26	22.2
	Total	117	100.0

Table 4

Descriptive Statistics for the Sample by Age and Normal Distribution

		Frequency	Percent
Valid	18	25	21.4
	19	33	28.2
	20	29	24.8
	21	19	16.2
	22	10	8.5
	26	1	.9
	Total	117	100.0

The General Self-Efficacy scale (GSE) (Appendix D), Self-Efficacy for Self-Regulated Learning scale (SESRLS) (Appendix E), and Self-Efficacy for Academic Achievement scale (SEAAS) (Appendix F) scores were calculated for each study participant. Survey results for each of the efficacy scale instruments indicated that the target population generally exhibits higher levels of efficacy beliefs overall. These data will be expanded upon further in this analysis. The sample was grouped further by gender, age, and participation levels in ensembles to determine whether a correlation between academic achievement and the specific groups reviewed were present for these sub-groups. The findings of this study are grouped by the research questions listed previously in Chapter IV.

Results

Perceived self-efficacy refers to individuals' perceptions of their ability to accomplish a task (Bandura, 1997). Generally, the higher the degree of perceived self-efficacy, the more likely individuals are to employ methods to complete the task. These methods may include the utilization of previously used, successful techniques or the creation of new methods for task completion.

The data that describe the sample with respect to the number of returned surveys (N) and survey totals for General Self-Efficacy (GSE), Self-Efficacy for Self-Regulated Learning (SESRLS), and Self-Efficacy for Academic Achievement (SEAAS) are found in Table 5.

Table 5

Descriptive Statistics Depicting Totals for General Self-Efficacy (GSE) Scale, Self-Efficacy for Self-Regulated Learning Scale (SESRLS), and Self-Efficacy for Academic Achievement Scale (SEAAS)

	Total_GSE	Total_SESRLS	Total_SEAAS
N Valid	116	115	112
Missing	1	2	5
Mean	33.82	58.54	48.61
Median	34.50	59.00	49.50
Standard Deviation	3.85	9.30	7.58

Results from these efficacy scales demonstrate that the sample exhibits high degrees of efficacy beliefs. Schwarzer and Jerusalem's (1995) General Self-Efficacy scale (GSE) is a ten item Likert instrument use to determine an individual's general levels of perceived self-efficacy. The Likert scale ranges from 1 (Not at all true) to 4 (Exactly true) with a potential score ranging from 10 to 40. A higher score corresponds to a higher level of perceived self-efficacy by the individual. Scores for the sample ranged between 25 and 40. A midpoint score on the General Self-Efficacy (GSE) test is 15 which would determine a moderate level of perceived self-efficacy beliefs. Results from this survey indicate that the sample was clustered at the upper end of the general self-efficacy scale with score of $M = 34.50$.

The Self-Efficacy for Self-Regulated Learning scale (SESRLS) is comprised of eleven Likert-items that range from 1 (Not well at all) to 7 (Very Well). Scores for the Self-Efficacy for Self-Regulated Learning scale ranges from 11 (indicating low levels of

self-efficacy for self-regulated learning) to 77 (indicating high levels of self-regulated learning). The target population falls within the upper limit of the survey instrument at $M = 59.00$.

The Self-Efficacy for Academic Achievement scale (SEAAS) is comprised of nine Likert-items that range from 1 (Not well at all) to 7 (Very Well). Scores for the Self-Efficacy for Self-Regulated Learning scale ranges from 9 (indicating low levels of self-efficacy for self-regulated learning) to 63 (indicating high levels of self-regulated learning). The target population falls near the upper limit of the survey instrument at $M = 48.31$.

Scores from all three efficacy instruments indicated trends of moderate-high to high levels of perceived self-efficacy within the sample. This led the researcher to conclude that individuals found within this particular discipline tend to exhibit high levels of confidence in their abilities to accomplish tasks and complete tasks. Additionally, there is a positive correlation found between each of the three survey instruments, indicating that higher levels of perceived self-efficacy lead to higher levels of self-efficacy for self-regulated learning and self-efficacy for academic achievement. As indicated in Table 6, correlations between General Self-Efficacy and Self-Efficacy for Self-Regulated Learning are indicated by $p = .00$ and $r = .51$. Additionally, correlations between General Self-Efficacy and Self-Efficacy for Academic Achievement are indicated by $p = .00$ and $r = .41$. Correlations between Self-Efficacy for Self-Regulated Learning and Self-Efficacy for Academic Achievement yielded results of $p = .00$ and $r = .45$. Correlations between all three instruments were statistically significant at the $p = .01$ level.

Table 6

Results from Pearson Product-Moment Correlation Coefficient (r) Between Efficacy

Scales Used in this Study

		Total_GSE	Total_SESRLS	Total_SEAAS
Total_GSE	Pearson	1	.51**	.41**
Correlation			.00	.00
	Sig. (2-tailed)	116	115	111
	N			
Total_SESRLS	Pearson	.51**	1	.45**
Correlation		.00		.00
	Sig. (2-tailed)	115	115	110
	N			
Total_SEAAS	Pearson	.41**	.45**	1
Correlation		.00	.00	
	Sig. (2-tailed)	111	110	112
	N			

** . Correlation is significant at the 0.01 level (2-tailed).

Scatterplots of the aforementioned data provide a visual representation of the significant correlations found between results from the General Self-Efficacy (GSE) scale, Self-Efficacy for Self-Regulated Learning scale (SESRLS), and Self-Efficacy for Academic Achievement scale (SEAAS) (Figures Table 7 7, 8, and 9).

General Self-Efficacy and Self-Efficacy for Self-Regulated Learning Totals

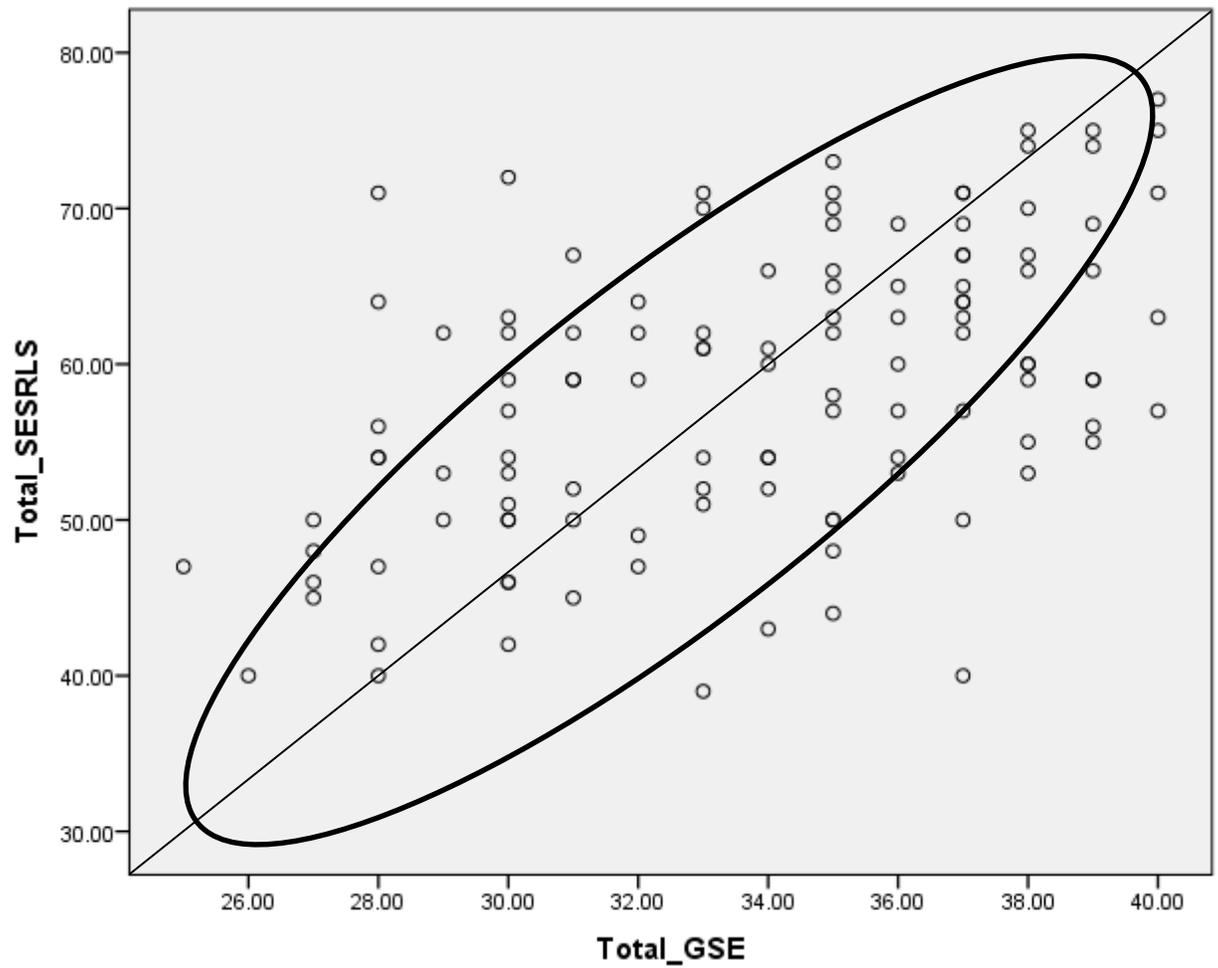


Figure 7. Scatterplot depicting correlation between participant totals for general self-efficacy and self-efficacy for self-regulated learning.

General Self-Efficacy and Self-Efficacy for Academic Achievement Totals

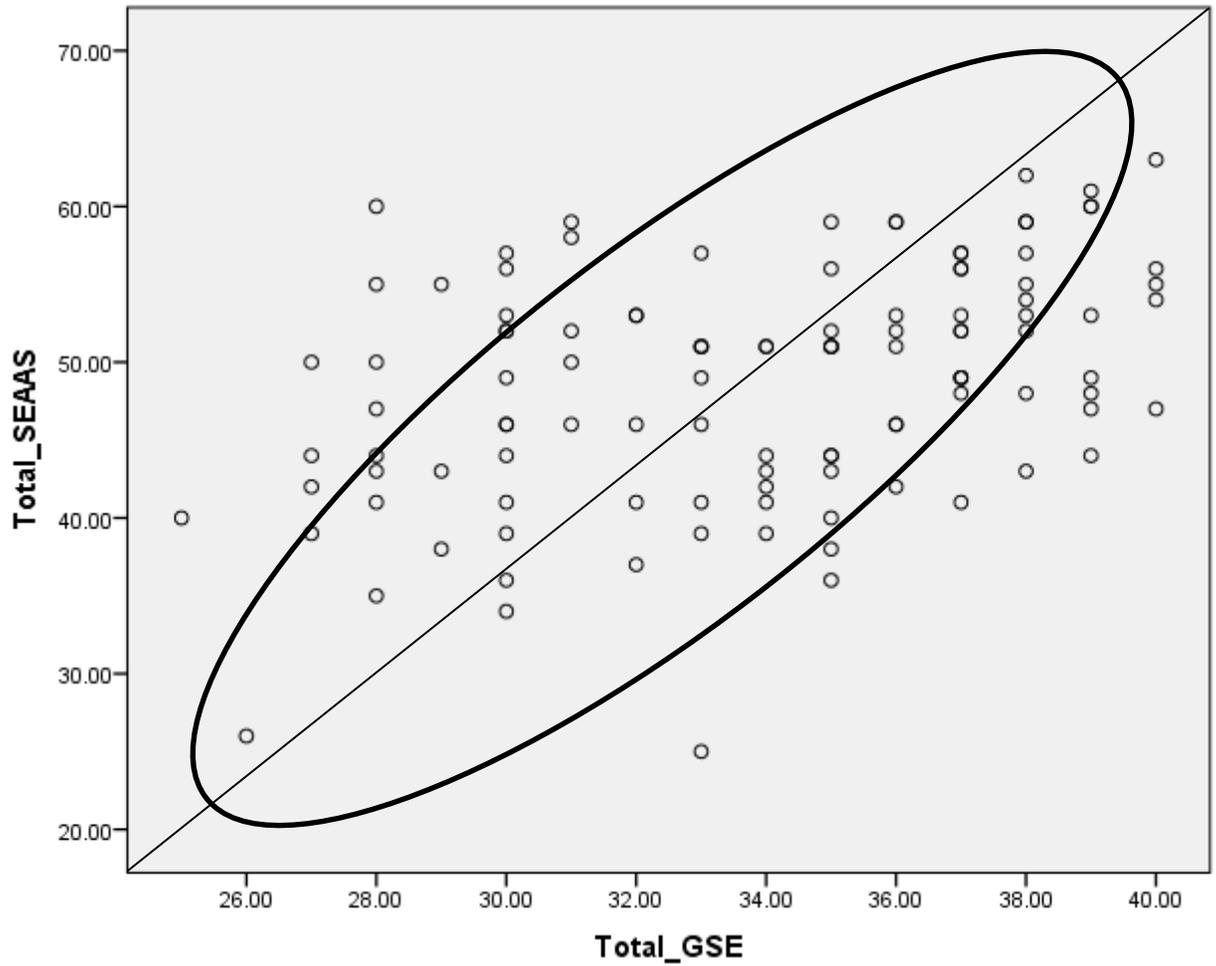


Figure 8. Scatterplot depicting correlation between participant totals for general self-efficacy and self-efficacy for academic achievement.

Self-Efficacy for Self-Regulated Learning and Self-Efficacy for Academic Achievement Totals

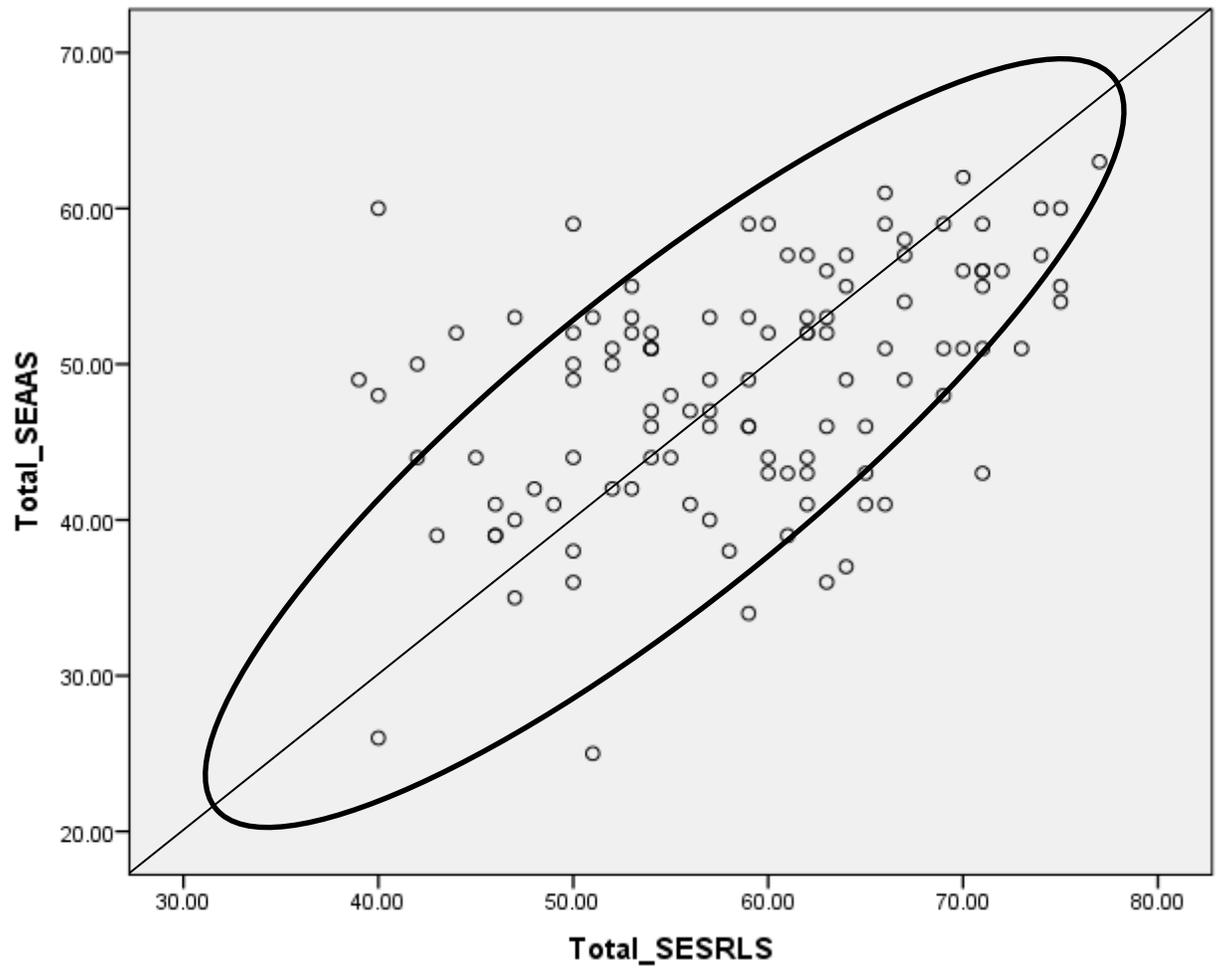


Figure 9. Scatterplot depicting correlation between participant totals for self-efficacy for self-regulated learning and self-efficacy for academic achievement.

The previously discussed statistical data were used to answer research questions 1, 2, and 3, as described below.

Research Question #1: Does a Correlation Exist Between the Frequency of Participation in University Ensembles and Levels of Perceived Self-Efficacy as Reported by Using the General Self-Efficacy Scale?

Data collected from the initial demographic survey pertaining to the number of ensembles performed in each semester and the General Self-Efficacy (GSE) scale were used to answer this question. Results from this test were homogeneous and normally distributed. The researcher used the Spearman rho correlation coefficient (r_s) to determine whether a statistically significant relationship existed between the frequency of participation in university ensembles and levels of perceived self-efficacy. Because levels of participation in university ensembles were ranked, ordinal variables rather than a continuous variable, the Spearman rho correlation coefficient (r_s) was used (Cohen, 1988).

The null hypothesis for this question was that there was no statistically significant correlation between frequency of participation in performance-based ensembles and perceived levels of self-efficacy. Cohen's d (Cohen, 1988) was used to determine the effect size of the sample. Cohen determined that $r_s = .10-.29$ was indicative of a weak correlation, $r_s = .30-.49$ was indicative of a moderate correlation, and $r_s = .50-1.00$ is indicative of a strong correlation. Results from the Spearman, two-tailed, rho test reported that $r_s = .06$ which indicated little or no correlation between levels of participation in performance-based ensembles and perceived levels of self-efficacy. Similarly, the result of $p = .54$ was well above $p < .05$ level which is needed for statistical

significance. These results are illustrated in Table 7. Because of the results from the Spearman’s rho test, the researcher failed to reject the null hypothesis.

Table 7

Spearman’s Rho Correlation Coefficient (r_s) Results Between Ensemble Participation and Perceived Levels of General Self-Efficacy (GSE)

			Number of ensembles participated in during the semester.
Spearman’s rho	Total_GSE	Correlation	.058
Coefficient			.539
		Sig. (2-tailed)	116
		N	

Research Question #2: Does a Correlation Exist Between the Frequency of Participation in University Ensembles and Levels of Perceived Self-Regulated Learning as Reported by Using the Self-Efficacy for Self-Regulated Learning Scale?

Data collected from the initial demographic survey pertaining to the number of ensembles performed in each semester and the Self-Efficacy for Self-Regulated Learning (SESRLS) scale were used to answer this question. Results from this test were homogeneous and normally distributed. As with the previous question, the Spearman rho correlation coefficient (r_s) was used to determine whether a statistically significant relationship existed between levels of participation in university ensembles and levels of perceived self-efficacy for self-regulated learning, due to the ranked, ordinal variables

used. As demonstrated earlier in Table 7, the sample exhibited high levels of self-efficacy for self-regulated learning.

The null hypothesis for this question was that there was no statistically significant correlation between levels of participation in performance-based ensembles and perceived levels of self-efficacy for self-regulated learning. The Spearman, two-tailed, rho test yielded a result of $r_s = .19$ indicating a weak relationship between levels of participation in university performance-based ensembles and perceived levels of self-efficacy for self-regulated learning. Furthermore, $p = .04$ which was below $p = .05$ level demonstrating that there was statistical significance between levels of ensemble participation and perceived levels of self-efficacy for self-regulated learning. These results allowed the researcher to reject the null hypothesis and conclude that there was a statistically significant correlation present. These results are illustrated in Table 8.

Table 8

Spearman's Rho Correlation Coefficient (r_s) Results Between Ensemble Participation and Perceived Levels of Self-Efficacy for Self-Regulated Learning (SESRLS)

			Number of ensembles participated in during the semester.
Spearman's rho	Total_SESRLS	Correlation	-.19*
Coefficient			.043
		Sig. (2-tailed)	115
		N	

*. Correlation is significant at the 0.05 level (2-tailed).

Research Question #3: Does a Correlation Exist Between the Frequency of Participation in University Ensembles and Levels of Perceived Self-Efficacy for Academic Achievement as Reported by Using the Self-Efficacy for Academic Achievement Scale?

Data collected from the initial demographic survey pertaining to the number of ensembles performed in each semester and the Self-Efficacy for Academic Achievement (SEAAS) scale were used to answer this question. As was determined with the General Self-Efficacy (GSE) and Self-Efficacy for Self-Regulated Learning (SESRLS) tests, results from the Self-Efficacy for Academic Achievement (SEAAS) test were homogenous and normally distributed. The Spearman rho correlation coefficient (r_s) was used to determine whether a statistically significant relationship existed between levels of participation in university ensembles and levels of perceived self-efficacy for academic achievement. As demonstrated earlier in Table 9, the sample demonstrated a high level of self-efficacy for self-regulated learning as it related to self-efficacy for academic achievement. According to Pearson product-moment correlational coefficient (r) of $r = .45$, as self-efficacy for self-regulation increases so does self-efficacy for academic achievement. A $p = .00$ was also found to be significant at the $p = .01$ level.

The null hypothesis for this question stated that there was no statistically significant correlation between levels of participation in performance-based ensembles and perceived levels of self-efficacy for academic achievement. The Spearman, two-tailed, rho test produced a value of $r_s = .01$ which is less than the $r_s = .10 - .29$ needed to demonstrate a weak correlation. Additionally, a value of $p = .89$ was calculated which is far above the $p < .05$ threshold which is needed to demonstrate statistical significance.

Therefore, it can be concluded that no correlation exists between levels of participation in performance-based ensembles and self-efficacy for academic achievement causing the researcher to fail to reject the null hypothesis as stated. The results pertaining to this question are illustrated in Table 9.

Table 9

Spearman's Rho Correlation Coefficient (r_s) Results Between Ensemble Participation and Perceived Levels of Self-Efficacy for Academic Achievement (SEAAS)

			Number of ensembles participated in during the semester.
Spearman's rho	Total_SEAAS	Correlation	-.014
Coefficient			.887
		Sig. (2-tailed)	.112
		N	

Research Question #4: Does a Correlation Exist Between the Frequency of Participation in University Ensembles and Levels of Academic Achievement as Indicated by Self-Reported Grade Point Average (GPA)?

Data collected from the demographic portion of the survey instrument were used to determine the frequency at which individuals within the sample participated in university performance-based ensembles. Frequency of participation was determined by computing the total number of ensembles participated in during each semester of study. The ensemble frequency (ENS_FREQ) was then compared to each individual's self-

reported Grade Point Average (GPA). The Pearson product-moment correlation coefficient (r), two-tailed, was used to determine whether there was a significant correlation between the two variables. The Pearson product-moment correlation utilizes a range of -1.00 to +1.00. An $r = -1.00$ indicates a perfect, negative correlation while an $r = +1.00$ indicates a perfect positive correlation. A product of $r = .00$ indicates that no correlation exists (Howell, 2011).

The null hypothesis for this question stated that there was no statistical significance between the frequency of participation in university performance-based ensembles and the cumulative GPA of the participants. Results for the sample of $N = 115$ produced a value of $r = .12$. As this value is close to $r = .00$, little to no correlation exists between the frequency of participation in university performance-based ensembles and cumulative GPA of participants. Additionally, $p = .22$ is greater than $p < .05$ indicating that this correlation is not statistically significant. This data led the researcher to fail to reject the null hypothesis as previously stated. Table 10 provides a visual representation of this data set.

Table 10

Pearson Product-Moment Correlation (r) Between Frequency of Ensemble Participation (ENS_FREQ) and Levels of Academic Achievement as Defined by Self-Reported Grade Point Average (GPA)

		Self-Report GPA
ENS_FREQ	Pearson Correlation	.116
	Sig. (2-tailed)	.216
	N	115

Research Question #5: Does a Correlation Exist Between the Difficulty Levels of Ensembles Participated in and Levels of Academic Achievement as Indicated by Self-Reported Grade Point Average (GPA)?

Data collected from the demographic portion of the survey instrument were used to determine which ensembles students had participated in during their enrollment in the music program. Ensembles in the study were ranked based on difficulty level as indicated by the Ensemble Ranking sheet (Appendix A). Each student’s ensemble difficulty (ENS_DIFF) level was then calculated to determine the overall difficulty level for each participant. Participants’ ensemble difficulty total was then compared to participants’ self-reported GPA to determine if a correlation was present.

The null hypothesis for this research question stated that there would be no statistically significant correlation between ensemble difficulty levels for participants and levels of self-reported GPA. The Pearson product-moment correlation coefficient (r),

two-tailed, was used to determine whether there was a significant correlation between the two variables. Results calculated for the sample of $N = 115$ produced a value of $r = .13$. Since this value is close to $r = .00$, it can be concluded that there is little or no correlation between the variables. Also, a value of $p = .18$ is above the $p < .05$ threshold which maintains that there is little to no statistical significance between difficulty levels of ensembles and levels of self-reported GPA. Therefore, the researcher failed to reject the null hypothesis as stated. Table 11 illustrates the above data.

Table 11

Pearson Product-Moment Correlation (r) Between Difficulty Level of Ensembles (ENS_DIFF) Participated in and Levels of Academic Achievement as Defined by Self-Reported Grade Point Average (GPA)

		Self-Report GPA
ENS_DIFF	Pearson Correlation	.126
	Sig. (2-tailed)	.179
	N	115

Research Question #6: Do Differences in Levels of Academic Achievement Exist Among the Various Sub-Groups Based on Such Demographics as Age, Gender, or Participation in Particular Musical Ensembles?

Demographic information collected from the target population was used to determine whether differences existed between different demographic groups which participated in particular performance-based music ensembles and levels of academic

achievement as determined by self-reported GPA. The researcher used an independent samples *t-test* as well as a one-way ANOVA to conduct this analysis.

To answer the question of whether age had an effect on levels of academic achievement, the researcher first compared the age levels of the sample and determined that the sample was evenly distributed. Descriptive statistics were used to determine the number (N) of participants, mean, and standard deviation of each age level represented. One outlier, age 26, was represented in the sample (See Table 12).

Table 12

Descriptive Statistics of the Sample Reviewing Self-Reported GPA Levels by Age

Age	N	Mean	S.D.	Std. Error	Lower Bound	Upper Bound	Min.	Max.
18	23	3.60	.30	.06	3.46	3.72	3.00	4.00
19	33	3.53	.49	.09	3.36	3.70	2.07	4.00
20	29	3.61	.35	.07	3.47	3.74	2.74	4.00
21	19	3.58	.37	.08	3.41	3.76	2.40	3.97
22	10	3.55	.34	.11	3.31	3.79	2.86	3.91
26	1	3.04	.00	.00	.00	.00	3.04	3.04
Total	115	3.57	.39	.04	3.50	3.64	2.07	4.00

Levene's test of homogeneity demonstrated that the variance between the sample groups were not likely to have occurred based on random sampling, $p = .63$ was above the threshold of $p = .05$. The outlier was ignored because it only included one case (See Table 13). A one-way ANOVA was conducted to determine if there was significant difference between age and self-reported GPA. The ANOVA yielded a value of $p = .77$

was above the $p = .05$ threshold (Table 14). This led the researcher to fail to reject the null hypothesis stating that there are no statistically significant differences present between various age groups and academic achievement found within the sample.

Table 13

Levene's Test of Homogeneity of Variances of Self-Reported GPA of the Sample

Levene Statistic	df1	df2	Sig.
.648 ^a	4	109	.630

a. Groups with only one case were ignored.

Table 14

One-Way ANOVA of Self-Reported GPA of the Sample

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.39	5	.08	.51	.77
Within Groups	16.60	109	.15		
Total	16.99	114			

Next, the subgroup of gender was explored. The researcher utilized an independent samples *t-test* to compare gender as the independent variable and self-reported GPA as the dependent variable. The results of the Levene's test of homogeneity concluded that the sample varied by 2.55 showing that the groups were equal, $p = .11$ was above the value of $p = .05$ (See Table 15). Results of the independent samples *t-test* indicated a value of $t(113) = -1.52$ and $p = .13$. Because the p value was greater than $p =$

.05 there was no statistical significance present. Though females (N=67) showed increased levels of self-reported GPA as compared with males (N=48), results from the *t-test* were not statistically significant. This led the researcher to fail to reject the null hypothesis stating that there was no statistical significance between gender and academic achievement. Results of the independent samples *t-test* are illustrated in Table 16.

Table 15

Levene's Test for Equality of Variances

F	Sig.
2.55	.11

Table 16

Independent Samples t-test Comparing Gender and Self-Reported GPA

	t	df	Sig. (2-tailed)
Self-Reported GPA Equal variances assumed	-1.52	113	.13

The final component of question #6 examined whether participation in particular ensembles demonstrated a correlation with levels of academic achievement. The Pearson product-moment correlation coefficient (*r*), two-tailed, was utilized to determine if a significant correlation existed between these two variables. Results calculated for the sample of N = 115 yielded a value of $r = .13$. Because this result is close to $r = .00$, it was concluded that little to no correlation was present between various ensembles participated in and levels of academic achievement. Additionally, a value of $p = .18$ is

above the $p = .05$ threshold leading the research to conclude that the $r = .13$ was not statistically significant. Therefore, the researcher failed to reject the null hypothesis stating that there was no statistical significance between participation in particular ensembles and levels of academic achievement. Table 17 illustrates these results.

Table 17

Pearson Product-Moment Correlation Coefficient (r) Depicting Particular Ensemble Participation (PAR_ENS) and Academic Achievement as Identified by Self-Reported GPA

		Self-Report GPA
PAR_ENS	Pearson Correlation	.126
	Sig. (2-tailed)	.179
	N	115

Though not tested in this study, the relationship between participation in performance-based ensembles and academic achievement produced positive results indicating that university students participating in performance-based ensembles tend to exhibit high achievement levels as based on their self-reported GPA. Whether these high levels of academic achievement are in some way connected to participation in musical activities is unclear at this time. This is illustrated in the scatterplot analysis in Table 18.

Particular Ensemble Participation and Academic Achievement Correlation

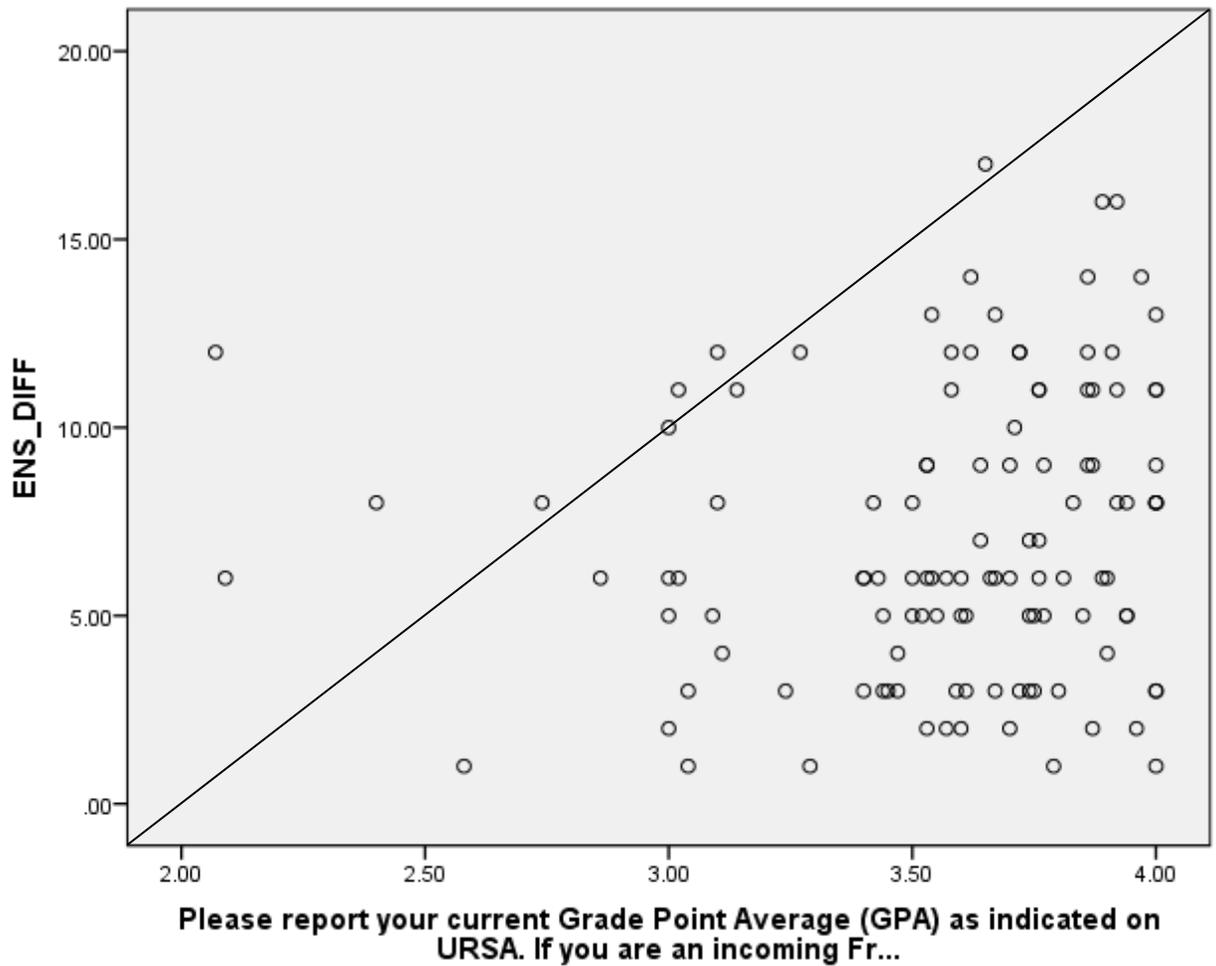


Figure 10. Scatterplot depicting correlation between particular ensemble participation and academic achievement as identified by self-reported gpa.

Conclusion

This chapter reported on the findings of a quantitative study of the correlations found between student participation in university performance-based ensembles and levels of academic achievement. Chapter V will discuss the results of this research study, the implications for educational practice, recommendations for further research, and includes a closing statement.

CHAPTER V

DISCUSSION

Fostering academic growth in student learners is a primary focus of school curricula. Making curriculum relevant to students often serves as a motivator for increasing achievement (Kohl, 1994). Zimmerman (1990) states that by enabling students to become self-regulators and self-directed learners, there are higher likelihoods that they will become successful life-long learners. According to Schellenberg (2004), participation in music ensembles has demonstrated trends in raising student achievement. To date there is little statistical evidence to quantify this phenomenon. This chapter presents the major findings and conclusions of this research study, implications for educational practice, and recommendations for future research.

Findings

This study focused on student participation in performance-based music ensembles and their correlation with levels of academic achievement. As school funding continues to decrease, performance-based programs often come under scrutiny as to their importance within the school curriculum. Connections between participation in music and increased levels of academic achievement, as measured by grade point average (GPA), have been discussed for some time (Zimmerman, 2009). If further connections between participation in performance-based ensembles and academic achievement can be solidified, it is more likely that these programs will have a more secure place in the school curriculum.

This quantitative study sought to view the connections between participation in undergraduate level performance-based ensembles and academic achievement through a

lens focusing on perceived general self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement. In order to achieve the purpose of this study, the following research questions served as a guide for this study:

1. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy as reported by using the General Self-Efficacy scale?
2. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-regulated learning as reported by using the Self-Efficacy for Self-Regulated Learning scale?
3. Does a correlation exist between the frequency of participation in university ensembles and levels of perceived self-efficacy for academic achievement as reported by using the Self-Efficacy for Academic Achievement scale?
4. Does a correlation exist between the frequency of participation in university ensembles and levels of academic achievement as indicated by self-reported grade point average (GPA)?
5. Does a correlation exist between the difficulty levels of ensembles participated in and levels of academic achievement as indicated by self-reported grade point average (GPA)?
6. Do differences in levels of academic achievement exist among the various sub-groups based on such demographics as age, gender, or participation in particular musical ensembles?

Answering these questions helped to suggest some of the relationships found between participation in performance-based ensembles and levels of academic achievement.

Though the results did not provide a clear picture of whether participation in these ensembles led to a causal relationship in regard to academic gains, they did suggest that a relationship does exist between the two variables.

Summary of Research Methodology

This research study employed a quantitative design and sought to focus on correlations between variables. Three Likert-type survey instruments were utilized for this study to gain statistical information from the sample. They included the General Self-Efficacy (GSE) survey (Schwarzer & Jerusalem, 1995), the Self-Efficacy for Self-Regulated Learning scale (SESRLS), and the Self-Efficacy for Academic Achievement scale (SEAAS) (Bandura, 1989). Data from these survey instruments coupled with participant supplied demographic information were used to draw correlations between the question variables. The data were triangulated and analyzed to determine the extent, if any, to which correlations existed between variables. A total of 229 individuals were invited to participate in this study with 117 returning completed surveys.

Spearman's rho correlation coefficient (r_s) was used to determine if correlations were present between ranked, ordinal variables while the Pearson r correlation coefficient (r) was used to determine potential correlations between continuous variables from the study data. Convenience sampling was utilized at a large, rural university in the northwestern United States. Students enrolled in the music program at the university were given the option of participating in the study. The sample was comprised entirely of participants, made apparent by their successful enrollment in a university level music program, who had already made substantial accomplishments in the study of music.

Summary and Analysis of the Findings

The following section will detail the analysis of the findings of this research study. Each research question will be discussed individually.

Research Question #1

The researcher designed this question in order to discover whether a correlation existed between the frequency of participation in university ensembles and levels of perceived self-efficacy as reported by using the General Self-Efficacy scale. The ten item Likert-type General Self-Efficacy (GSE) scale was used to determine the level of perceived self-efficacy demonstrated by the sample. Potential scores on this test range from a minimum of 10 to a maximum of 40. Results from the survey indicated that the sample, as a whole, exhibited high levels of perceived self-efficacy. Scores from the sample ranged from 25 to 40 on the GSE scale. Even the lowest scores were 10 points above the midpoint test score of 15. Though the self-efficacy levels of the group were high, the results of the Spearman rho correlation coefficient (r_s) indicated that there were not statistically significant figures to substantiate a claim that these levels were due to participation in performance-based ensembles. A value of $r_s = .06$ fell below the $r_s = .10$ - $.29$ level needed to indicate a weak correlation. Therefore, the null hypothesis stating that there was no statistically significant correlation between levels of participation in performance-based ensembles and perceived levels of self-efficacy was unable to be rejected.

Scores on the General Self-Efficacy (GSE) scale did yield a high degree of perceived self-efficacy from the sample. If the sample is indicative of the general population, it can be concluded that a majority of musicians may, in fact, demonstrate

high levels of perceived self-efficacy. According to Zimmerman, Bandura, and Martinez-Pons (1992), high levels of perceived self-efficacy have been shown to increase student achievement levels. Therefore, the academic achievement levels exhibited by student musicians may be a direct result of their high self-efficacy levels.

It is possible that these high levels of perceived self-efficacy may be elevated due to the nature of instrumental musical learning. Performing on a musical instrument exposes the learner, often, to various degrees of failure. Therefore, student musicians are forced to grapple with difficult concepts, often multiple times, before realizing success. The process of recognizing failure as a learning experience and as a means to eventual task success promotes an increase in perceived self-efficacy (Agrell, 2007; Betoret & Artiga, 2011; Burwell & Shipton, 2011; Christensen, 2010; Conley, 2012; Diseth, 2011; Kokotsaki & Hallam, 2007; McPherson & McCormick, 2006; Ritchie & Williamon, 2011). According to Nielson (2008), performing musicians continually encounter obstacles to success. However, their ability to recognize these impediments as small hurdles that may lead to long-term success is what sets performing musicians apart from non-musicians. Granted, young performers may not appreciate musical obstacles for their long-term value; however, more seasoned musicians, like those found in this study, perceive these hindrances as commonplace (Fairchild, 2010).

Although perceived self-efficacy scores of the sample were consistently high during this study, the results are insufficient to conclude that participation in performance-based ensembles was the sole cause for these heightened levels.

Research Question #2

This question was designed to determine whether a correlation existed between the frequency of participation in university ensembles and levels of perceived self-regulated learning as reported by using the Self-Efficacy for Self-Regulated Learning scale. The eleven item Likert-type Self-Efficacy for Self-Regulated Learning (SESRLS) scale was used to provide statistical information regarding the sample's levels of self-efficacy for self-regulated learning. Scores on the SESRLS range from a minimum of 11 to a maximum of 77. As was demonstrated with the sample's levels of perceived self-efficacy, levels of self-efficacy for self-regulated learning were also high. Scores from the sample population ranged from a low of 40 to a high of 77. Individuals scoring low on the SESRLS still scored 7 points about the midpoint test score of 33.

Results from the Spearman rho correlation coefficient (r_s) produced a result of $r_s = .19$ indicating a weak correlation. Additionally, a value of $p = .04$ was calculated. Because this value was less than $p < .05$, the results were statistically significant. Therefore, the null hypothesis stating that there was no statistical significance between levels of ensemble participation and perceived levels of self-efficacy for self-regulated learning was rejected.

According to Zimmerman (1989; 1998) individuals who demonstrate high levels of self-regulation often exhibit high levels of academic achievement. Though the correlation demonstrated by the sample is weak, it does begin to account for the high levels of achievement demonstrated by the sample. Self-regulatory processes which include forethought, performance, and self-reflection are skills commonly utilized by performing musicians (Burwell & Shipton, 2011; Cleary, Platten, & Nelson, 2008;

Creech, 2010; DeBezenac & Swindells, 2009; Green, 2012; Hruska, 2011; Kitsantas, Reiser, & Doster, 2004; Kokotsaki & Hallam, 2007; Latham, Locke, & Fassina, 2002; Rammsayer & Brandler, 2003; Schellenberg, 2004; Schunk, 2005; Soric & Palekcic, 2009). As these skills are frequently used and reinforced, individuals' ease of use may also increase and may transfer into other areas of academics (Bell & Kozlowski, 2002; Biggs, 2012; Bransford, Brown, & Cocking, 1999; Bulus, 2011; Cassidy & Eachus, 2000; Diseth, 2011; Ferla, Valcke, & Cai, 2009; Green, 2012; Kitsantas, Reiser, & Doster, 2004; McGuire, 2006; Nelson, 2009; Ponter, 1999; Stipek & Weisz, 1981). Likewise, self-regulatory skills learned in academic areas may transfer to areas of musical practice as well.

It is not surprising that musicians exhibit high levels of self-regulatory processes, considering the discipline and skill involved when practicing and performing on an instrument (Blocher, Cramer, Corporon, Lautzenheiser, & Lisk, 2010; DeBezenac & Swindells, 2009; Fellows, 2004; Godlovitch, 1998; Gullatt, 2007; Kostka, 2004; Leon-Guerrero, 2008; Nielsen, 2001; Pearce, 2004; Rammsayer & Brandler, 2003). What is particularly intriguing is that an overarching trend of high achievement was demonstrated by the sample. Studies have shown repeatedly that as self-regulatory processes increase, so does academic achievement (Calkins & Fox, 2002; Cleary, Platten, & Nelson, 2008; Holzman, 2011; Kitsantas, Reiser, & Doster, 2004; Latham, Locke, & Fassina, 2002; McTighe & O'Connor, 2005; Schunk, 2005; Sitzmann & Ely, 2010; Soric & Palekcic, 2009; Usher & Pajares, 2006; Zimmerman, 1989; 1990; 1998; 2002a; 2002b). Results from this study indicate consistently high levels of self-regulatory learning processes being demonstrated by the sample. This makes a strong case that a connection exists

between instrumental performance practice and increased levels of self-regulatory learning. In turn, as self-regulation increases, so should academic achievement. Though participation in performance-based ensembles has demonstrated a weak correlation with raising self-regulatory processes, the benefits of raising these processes through any means is apparent. If the skills used by performing musicians do, in fact, raise self-regulatory processes, then academic achievement skills should also demonstrate an increase.

Research Question #3

The researcher designed this question to determine whether a correlation existed between the frequency of participation in university ensembles and levels of perceived self-efficacy for academic achievement as reported by using the Self-Efficacy for Academic Achievement scale. The nine item Likert-type Self-Efficacy for Academic Achievement (SEAAS) scale was used to determine the level of perceived self-efficacy for academic achievement demonstrated by the sample. Scores from this survey have a potential range from a minimum of 9 to a maximum of 63. Survey results indicated that the majority of the sample exhibited self-efficacy for academic achievement ranging from scores of 35 – 63. A few responses fell on the midpoint score of 27. The Spearman rho correlation coefficient (r_s) yielded results of $r_s = .01$ which fell well below the $r_s = .10 - .29$ threshold needed to produce even a weak correlation. Similarly, the value of $p = .89$ was well above the $p < .05$ value needed to determine statistical significance.

Statistical results from this question concluded that the null hypothesis stating that no correlation exists between levels of participation in performance-based ensembles and self-efficacy for academic achievement was unable to be rejected. Though results

demonstrate that the sample exhibits high degrees of self-efficacy for academic achievement, there is no conclusive evidence that links those academic beliefs to participation in performance-based ensembles.

The high levels of academic achievement exhibited by the sample are not surprising. Performing musicians, especially those found participating in collegiate level ensembles, employ active learning strategies in an effort to meet their performance goals. The goal setting cycle which includes 1) establishing a clear goal, 2) employing proven strategies to complete the task, and 3) reflecting on the outcomes of the process, is commonly used by musicians as they practice music literature (Bransford, Brown, & Cocking, 1999; Daniels, et al., 2009; Kleingeld, van Mierlo, & Arends, 2011; Locke & Latham, 1990; 2006; McTighe & O'Connor, 2005; Zimmerman, 2002a). Because performing musicians must continuously work to master their performing skills, the component of reflection becomes of great importance. Like any mastery experience, a great deal of failure is involved before accomplishing a predetermined goal. Students who are prepared for failure, or who do not intend to reach their goal on their first attempt, rely on reflection as a means to accomplish their goals on future attempts (Alivernini & Lucidi, 2011; Bandura, 1977a; 1990; Bell & Kozlowski, 2002; Betoret & Artiga, 2011; Brigman, Webb, & Campbell, 2007; Cassidy & Eachus, 2000; Diseth, 2011; Duijnhouwer, Prins, & Stokking, 2010; Ferla, Valcke, & Schuyten, 2010; Knowles, 1975; McTighe & O'Connor, 2005; Schunk, 2005; Stipek & Weisz, 1981). Performing musicians acknowledge that various degrees of failure are expected when attempting to master a musical skill. They rely on reflection to assess problematic areas of their musical technique in an effort to improve their performance for future musical exercises

(Agrell, 2007; Burwell & Shipton, 2011; DeBezenac & Swindells, 2009; Fairchild, 2010; Fellows, 2004; Godlovitch, 1998; Green, 2012; Hayghe, 2009; Johnson, 2002; Kim, 2008; Kokotsaki & Hallam, 2007; Miksza, 2012; Pearce, 2004).

The importance of reflection is equally important when attempting to complete academic tasks at the highest levels possible (Bandura, 1990; Diseth, 2011; Holzman, 2011; Kitsantas, Reiser, & Doster, 2004; Loyens, Magda, & Rikers, 2008; McGuire, 2006; Sitzmann & Ely, 2010; Soric & Palekic, 2009). Students who give up after only one attempt do not often reach their fullest academic potential. As failure is frequently attributed with a negative connotation, students often feel that they lack the capabilities to complete difficult tasks. It is possible that the reason the sample exhibits such high levels of academic achievement is largely due to their acceptance of initial task failures. The sample has become accustomed to reflecting on reasons that they were unable to complete certain musical tasks. They then take this information and approach the task from a variety of angles until they successfully complete the assignment. It is believed that the same processes used to complete musical tasks are carried over into other academic studies (Agrell, 2007; Alivernini & Lucidi, 2011; Bandura, 1990; Bell & Kozlowski, 2002; Betoret & Artiga, 2011; Black, Harrison, Lee, Marshall, & Wiliam, 2004; Bransford, Brown, & Cocking, 1999; Cassidy & Eachus, 2000; Conley, 2012; Creech & Hallam, 2011; Daniels, et al., 2009; Duijnhouwer, Prins, & Stokking, 2010; Eva & Regehr, 2011; Ferla, Valcke, & Schuyten, 2010; Gruenfeld, 2010; Gullatt, 2007; Hayghe, 2009; Knowles, 1975; Locke & Latham, 1990; Locke & Latham, 2006; Nielson, 2008; Schmoker, 2006; Toner, 2010; Winner & Hetland, 2008; Zimmerman, 1998)).

As was stated earlier with questions #1 and #2, the sample data demonstrated high levels of perceived self-efficacy, self-efficacy for self-regulated learning, and self-efficacy for academic achievement. Though these levels cannot be directly correlated with participation in performance-based ensembles, the overarching trend of this sample exhibiting high academic gains still exists.

Research Question #4

The intention of this question was to demonstrate whether a correlation existed between the frequency of participation in university ensembles and levels of academic achievement as indicated by self-reported grade point average (GPA). Participants in this research study were asked to self-report their current GPA levels. GPA scores ranged from a minimum of 2.07 to a maximum of 4.00 with a mean score of 3.57. Self-reported GPA results indicated evidence of an academically high performing group. Participants' self-reported GPA, as a means of determining academic achievement levels, was viewed in conjunction with the number of ensembles they participated in during the semester to determine if a correlation between the two variables was present. Results of the Pearson product-moment correlation (r) yielded a result of $r = .12$. This demonstrates that there is little to no correlation present between the tested variables. Additionally, a value of $p = .22$ is well above the $p < .05$ needed to demonstrate statistical significance. Therefore the null hypothesis stating that there was no statistically significant correlation between self-reported GPA and frequency of ensemble participation was unable to be rejected.

Though the results from this question were not significant, there does appear to be a connection between academic achievement and the frequency of participation in ensembles. The claim that as the frequency of ensemble participation increases so does

academic achievement cannot be substantiated, therefore it seems likely that another variable must come into play. According to Conley (2012), levels of motivation increase as self-efficacy, coupled with specific challenging tasks, increases. As was stated earlier, the sample exhibits high levels of perceived self-efficacy as well as high levels of academic achievement. It can be reasoned that as the populations' levels of self-efficacy and academic achievement continue to increase, so would their motivational levels (Bandura, 1988; 1997; Barron & Harackiewicz, 2001; Burwell & Shipton, 2011; Conley, 2012; Petri & Govern, 2004). This, in turn, could possibly lead to the increase in frequency of participation in the ensembles demonstrated by the results of this study. An examination of the motivation levels of the sample may yield results that could help substantiate the correlation between frequency of participation and academic achievement gains (Brophy, 2005).

There was evidence that as frequency of ensemble participation increased so did GPA levels; however, these results were not consistent. It is probable that participants that demonstrated an increase in GPA and frequency of ensemble participation may demonstrate increased levels of self-motivation. According to Burwell and Shipton (2011), motivation levels play an integral part in the efficacy and achievement beliefs of individuals. Examining the role that motivation plays in these relationships may help to solidify the relationship between the tested variables. Additionally, if performing musicians demonstrate high levels of motivation which, in turn, leads to increase in self-efficacy and academic gains, an examination as to how these motivational levels manifest should be undertaken. The possibility exists to incorporate these methods into other

content areas, in an effort to stimulate higher motivation levels in all students, potentially leading to increases in academic gains.

Research Question #5

This question was designed to identify whether a correlation existed between the difficulty levels of ensembles the students participated in and levels of academic achievement as indicated by self-reported grade point average (GPA). As the difficulty level of ensembles increase, the mental and technical capacity required to perform at a predetermined acceptable level also increases (Agrell, 2007; Blocher, Cramer, Corporon, Lautzenheiser, & Lisk, 2010; Christensen, 2010; DeBezenac & Swindells, 2009; Faber, 2010; Godlovitch, 1998; Green, 2012; Hayghe, 2009; Miksza, 2012; Nielsen, 2001; 2008; White, 2010). Therefore, the question of whether a correlation existed between academic achievement levels and ensemble difficulty levels was examined. An ensemble ranking sheet (Appendix A) was used to determine the cumulative ensemble difficulty of each participant. Ensemble difficulty levels were calculated by examining the music literature typically performed by the various ensembles included in the study. Likewise, rehearsal length and the frequency at which rehearsals occur were also taken into account. As was stated earlier, the GPA information gathered from the sample indicated an academically high performing group. The Pearson product-moment correlation coefficient (r), between self-reported GPA and ensemble difficulty, produced a value of $r = .13$. As this result was close to the $p = .00$ threshold, it was determined that little or no correlation existed. Also, a value of $p = .18$ was greater than $p = .05$ allowing the researcher to determine that the results were not statistically significant. Therefore the researcher failed to reject the

null hypothesis stating that no statistically significant correlation existed between academic achievement levels and levels of ensemble difficulty.

Though a clear connection between academic achievement levels, as they relate to ensemble difficulty levels, could not be demonstrated; trends of the sample do demonstrate that as academic achievement levels increase so does the frequency of participation in more difficult ensembles. This leads the researcher to believe, as with question 4, that motivation plays a large part in the decision to participate in more difficult ensembles (Bandura, 1988; 1997; Barron & Harackiewicz, 2001; Burwell & Shipton, 2011; Conley, 2012; Petri & Govern, 2004).

As ensemble difficulty levels increase, often the time commitments needed to devote sufficient practice time increase as well (Blocher, Cramer, Corporon, Lautzenheiser, & Lisk, 2010; Burwell & Shipton, 2011; Creech, 2010; 2011; Faber, 2010). This is similar to advanced academic coursework relating to the amount of time needed to complete difficult academic tasks or lengthy assignments. Motivation plays a large role in the amount of time students are willing to devote to any given course of study. Levels of motivation are determined largely based on the perceived importance to the individual. As perceived importance increases, so do levels of motivation (Alivernini & Lucidi, 2011; Bell & Kozlowski, 2002; Betoret & Artiga, 2011; Bransford, Brown, & Cocking, 1999; Brigman, Webb, & Campbell, 2007; Conley, 2012; Daniels, et al., 2009; Hruska, 2011; Intrator, 2005; Locke & Latham, 1990; Locke & Latham, 2006; Schukajlow, et al., 2010; Zimmerman, 2002a; Zimmerman, Bandura, & Martinez-Pons, 1992).

Performing musicians, which include music majors, generally place much emphasis on their performance studies. Exposure to multiple genres and styles of musical performance increases their potential as a musician both as a performer and potential instructor. This increases the perceived level of importance to perform well and raises motivation levels (Agrell, 2007; Creech & Hallam, 2011; DeBezenac & Swindells, 2009; Fellows, 2004; Johnson, 2002). Therefore, it is concluded by the researcher that as these participant motivation levels increase, so do participant self-efficacy levels. As stated previously, as perceived self-efficacy increases so does the achievement levels in multiple subject areas (Alivernini & Lucidi, 2011; Bandura, 1977b; Bandura, 1989; Bell & Kozlowski, 2002; Bransford, Brown, & Cocking, 1999; Brigman, Webb, & Campbell, 2007; Bulus, 2011; Cassidy & Eachus, 2000; Conley, 2012; Daniels, et al., 2009; Diseth, 2011; Duijnhouwer, Prins, & Stokking, 2010; Ferla, Valcke, & Cai, 2009; Goddard, Hoy, & Hoy, 2000; Holzman, 2011; Kleingeld, van Mierlo, & Arends, 2011; McGuire, 2006; Pearce, 2004; Schmoker, 2006; Zimmerman, 1989; 1990; Zimmerman, Bandura, & Martinez-Pons, 1992).

Some evidence does seem to exist that as ensemble difficulty rises, so does academic achievement levels. However, these results were not conclusive or significant. Again, the relationship present appears to be more indicative of a relationship with self-motivation as opposed to academic achievement. As previously stated, a more in-depth look into performing musicians' levels of motivation, as they relate to success and performance and other areas of study may help to provide more data to substantiate a claim as to why academic achievement tends to increase as ensemble difficulty increases.

It is important to note that questions 4 and 5 used self-reported GPA as an indicator of overall academic achievement. GPA is only one of many variables that are used to assess student achievement levels. For the purpose of this study, GPA was used to develop baseline data of the sample's academic achievement. Many other factors influence overall student achievement, such as study habits, test performance anxiety levels, and personal habits, to name a few. These outside factors should be taken into account, in future research studies, in a continuous effort to discover methods which can lead to higher levels of student achievement (Alivernini & Lucidi, 2011; Barron & Harackiewicz, 2001; Black, Harrison, Lee, Marshall, & Wiliam, 2004; Bransford, Brown, & Cocking, 1999; Intrator, 2005; Nelson, 2009; van Horen, Pohlmann, Koeppen, & Hannover, 2008).

Research Question #6

The researcher designed this question to examine whether differences in levels of academic achievement existed among the various sub-groups based on such demographics as age, gender, or participation in particular musical ensembles. Levels of academic achievement are influenced by many factors (Usher & Pajares, 2006). Statistical analysis of each variable yielded results that were not statistically significant. A value of $p = .77$ was calculated for the variable of age. When viewing the variable of gender, a value of $p = .13$ was determined. Examination of participation in particular musical ensembles produced a value of $p = .13$. All of these values were above the $p < .05$ value needed to demonstrate statistical significance. These results led the researcher to fail to reject the null hypothesis stating that there was no statistical significance between the variables of age, gender, or participation in particular musical ensembles as

they related to academic achievement as demonstrated by self-reported GPA in this study.

Of the variables studied, age proved to be the least significant determiner of academic achievement. In fact, discrepancies between academic achievement levels and age were almost nonexistent. It can be concluded that once students reach the post-secondary level of education, substantial differences in achievement levels do not manifest based on age alone (Cassidy & Eachus, 2000; Diseth, 2011; Douglass, 2010; Garrison, 1997; Knowles, 1975; Loyens, Magda, & Rikers, 2008; Merriam, 2001; Pearce, 2004). It would be interesting to replicate a similar study using a younger sample, where achievement levels vary greatly, to determine whether ensemble participation does have an influence on academic achievement levels.

With regard to gender, females returned slightly higher academic achievement results than their male counterparts; however, these differences were also not significant. These findings are consistent with results of other studies which compared achievement levels of male and female students (Gurian, 2011; Halpern & LaMay, 2000; Manger & Eikeland, 2000; Mead, 2006; Rivers & Barnett, 2006).

The variable of ensembles participated in proved to have little bearing on the achievement levels of the sample. It is more likely that the difficulty level of the ensemble was a higher indicator of academic achievement than the ensemble itself. As ensemble difficulty increases so does the levels of self-regulation needed to perform at a high level of musicianship. It is likely that students participating in more difficult ensembles demonstrate higher levels of perceived self-efficacy and self-regulation than those students participating in less challenging ensembles. As was indicated earlier, as

goals become more difficult and focused, the higher the likelihood that the participant will employ greater resources to succeed (Black, Harrison, Lee, Marshall, & Wiliam, 2004; Bransford, Brown, & Cocking, 1999; Daniels, et al., 2009; Kleingeld, van Mierlo, & Arends, 2011; Latham, Locke, & Fassina, 2002; McTighe & O'Connor, 2005; Zimmerman, 2002a; Zimmerman, Bandura, & Martinez-Pons, 1992). Therefore, as ensemble difficulty increases, participants give more attention to the amount of time and effort needed to succeed. According to test results, a connection appears to exist between the number of ensembles participated in and levels of achievement as measured by self-reported GPA. As achievement levels increased, so did the number of ensembles in which individuals participated. However, there appears to be no connection in regards to which ensembles (e.g. Wind Ensemble, Concert Band, Chorale, etc.) were selected based on academic achievement outside the music department curriculum.

Implications of this Study

Although the primary focus of this study was to examine the correlations between perceived self-efficacy levels, levels of academic achievement, and participation in performance-based ensembles, other implications have arisen. A clear link between performance-based ensemble participation and increases in student academic achievement was not derived from this study. However, there appears to be an overarching trend of high academic achievement present from the sample. This leads the researcher to believe that a connection does exist between high academic achievement levels and participation in the types of music groups viewed in this study.

According to Creech (2010), a majority of students begin playing an instrument during their elementary years. After several years of instrumental performance, these

same students tend to exhibit higher critical thinking and problem solving skills than their non-instrumental counterparts. Determining the link between participation in performance-based ensembles and student learning remains an important area of educational research.

Though the results of this study were not conclusive, the academic benefits of the Arts curriculum have been indicated by previous research (Blocher, Cramer, Corporon, Lautzenheiser, & Lisk, 2010; Gardner, 2009; Green, 2012; Gruenfeld, 2010; Gullatt, 2007; Nelson, 2009; Rushlow & National Art Education Association, 2005; Shively, 2011; Winner & Hetland, 2008). As school budgets become more reliant on standardized test results, the need to increase student academic performance, as measured by testing and GPA, has become increasingly prevalent. Continuing research directed at the academic benefits that the performing Arts curriculum hold for students is very important. The performance-based curriculum provides a clear set of performance goals and actively engages student learners. As performance-based programs are cut from the curricula, these opportunities for student engagement are lessened. By providing research driven data to school administrators and officials regarding the importance and value of the performance-based curriculum, it may be possible to retain these programs in the school curricula.

Suggestions for Further Research

This research study was unable to establish direct links between participation in performance-based ensembles and attaining increased levels of academic achievement as measured by GPA. However, the analysis does demonstrate that the population of

musicians used in this study demonstrated an overwhelmingly high level of academic achievement.

This research could be replicated to track the motivational trends of the target population in addition to their academic achievement trends. As motivation is a key component to increasing academic achievement, determining why performance-based ensembles promote self-motivation could be examined (Bandura, 1988; 1997; Barron & Harackiewicz, 2001; Brophy, 2005; Conley, 2012; Petri & Govern, 2004). The inclusion of a qualitative component could help to increase depth of understanding into individuals' perceptions pertaining to their self-motivation levels as a result of their participation in performance-based ensembles.

An examination of the achievement trends of students who are not involved with performance-based ensembles versus those who do participate could be performed. It seems intuitive that this type of study would be most successful if conducted with a control group of non-performers and a test group just beginning their performance-based course of study. This could include a sample in a collegiate setting, such as the one found in this study, or it could focus on students who are just beginning to study music formally. A longitudinal study cataloging academic development could then ensue.

As the process of self-regulation and self-directed learning are pivotal aspects of attaining high academic achievement levels, assessing how these skills develop within the performance-based curriculum could be examined. Pinpointing these cognitive processes could provide crucial insight into how students' thinking develops over a period of several years.

The above suggestions could help guide research examining the benefits of student participation in performance-based ensembles. Discovering these vital cognitive connections might serve to raise the importance of performance-based entities within the curriculum, and may also provide more outlets for students to increase the quality of their life-long learning skills.

Conclusions

Through this study the researcher attempted to contribute to the understanding of why academic achievement levels of participants in performance-based ensembles tend to be elevated. The results of this study do not demonstrate a direct causal relationship between academic gains and participation in these ensembles, but the information gathered still points to high academic achievement levels often associated with student musicians. Further research is needed to draw out themes and parallels between participation in these ensembles and increases in academic gains.

The benefits of participation in the Arts have long been discussed as to their potential to raise student achievement. Finding concrete connections between gains in student achievement and performance-based programs remains an area of educational interest. However, participants with exposure to performance-based programs still demonstrate gains in learning skills over their non-performance peers (Adderley, Kennedy, & Berz, 2003; Creech, 2009; Green, 2012; Gullatt, 2007; Gruenfeld, 2010; Nelson, 2009; Shively, 2011). Therefore, it is important to continue to expand upon the research conducted in this field to pinpoint how these gains can be made accessible to all student learners.

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APPENDICES

Appendix A
Department of Music Ensemble Ranking

Ensembles in the Department of Music are grouped by Instrumental and Vocal genres. A scale of 1 (low degree of difficulty) to 3 (high degree of difficulty) has been used to rank the ensembles. Ensemble rankings are specific in their relationship to each other. A ranking of 1 does not imply that the ensemble is of low quality or unchallenging, it simply denotes a lower level of difficulty in comparison to other ensembles in the department.

Ranking Scale:

1 = low degree of difficulty 2 = moderate degree of difficulty 3 = high degree of difficulty

INSTRUMENTAL ENSEMBLES

Wind Ensemble	= 3
Symphony Band	= 2
Concert Band	= 1
Jazz Ensemble	= 3
Jazz Band	= 2
Marching Band	= 3
Symphony Orchestra	= 3

VOCAL ENSEMBLES

University Chorale	= 3
University Singers	= 2

Appendix B
Cover Letter Introducing Survey Completion

Indiana University of Pennsylvania

Department of Professional Studies
in Education

Davis Hall, Room 303
570 S. Eleventh Street
Indiana, Pennsylvania 15705-1087

724-357-2400

Internet: <http://www.iup.edu>

August 30, 2012

Dear Participants,

As a part of my doctoral studies at Indiana University of Pennsylvania, I am writing a dissertation on the correlations found between participation in performance-based ensembles and levels of academic achievement. The study is titled, "A Correlational Study: Performance-Based Music Ensembles' Effects on Academic Achievement." The survey instruments being used for this study include the General Self-Efficacy Scale, Self-Efficacy for Self-Regulated Learning Scale, and Self-Efficacy for Academic Achievement Scale. At the bottom of this cover letter you have been provided with a link that will take you to the survey instruments being used for this study.

I am asking you today for your help with this endeavor by completing the attached surveys. Of course, you are in no way obligated to complete the surveys. I ask that you fill out the surveys completely. I can assure you that these surveys will only be used for data collection purposes for my study and for future professional publications and presentations. Your responses will be held in complete anonymity; you will not be identified by name or other identifiers. If you elect to take the on-line survey and at any point choose to no longer participate in this study, you may end your participation by simply closing your browser. There will be no compensation for your participation in this study.

By completing this study, with your accurate input on the survey, more emphasis can be placed on the importance of the performance-based curricula in the school system.

Please fill out the surveys by selecting the appropriate response for each statement that most accurately reflects your belief or that most closely matches your feeling about the statement. As part of the study you will be asked to self-report your current Grade Point Average (GPA). It is important for the validity of this study that you report your GPA as accurately as possible. If you are an incoming Freshman, please use your cumulative GPA from high school.

Click on the link to take the survey: https://iup.qualtrics.com/SE/?SID=SV_aWtd2USaBFRtedv

Thank You,



Primary Researcher:

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Project Director:

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Appendix C
Survey of Demographics

1. Gender
 - Male
 - Female

2. Age
 - 18
 - 19
 - 20
 - 21
 - 22
 - 23
 - 24
 - 25
 - 26
 - 27
 - 28+

3. What is your ethnicity?
 - Caucasian
 - African-American
 - Asian
 - Hispanic
 - Indian
 - Pacific Islander
 - Other

4. How many years have you participated in a performance-based ensemble?

5. What is your current your of post-secondary study?
 - Freshman
 - Sophomore
 - Junior
 - Senior
 - Graduate Student

6. What is the average number of course credits you take each semester?
 - Less than 9
 - 12-15
 - 15+

7. What is your primary instrument?

8. What is the average number of hours you spend practicing each day?
 - 1
 - 2
 - 3
 - 4
 - 5+

Appendix C (continued)
Survey of Demographics

9. Please select the following ensembles you have participated in while enrolled at IUP. (Select all that apply)
- | | | |
|-------------------------------------|--|-------------------------------------|
| <input type="radio"/> Wind Ensemble | <input type="radio"/> IUP Chorale | <input type="radio"/> Marching Band |
| <input type="radio"/> Symphony Band | <input type="radio"/> University Singers | <input type="radio"/> Jazz Ensemble |
| <input type="radio"/> Concert Band | <input type="radio"/> Symphony Orchestra | <input type="radio"/> Jazz Band |
10. Approximately how many performing ensembles do you participate in each semester?
- 1
 - 2
 - 3
 - 4
 - 5+
11. Please report your current Grade Point Average (GPA) as indicated on URSA. If you are an incoming Freshman or incoming Graduate student, please use your GPA from your last institution. Please enter up to two decimal places (e.g. 3.63).

Appendix D
General Self-Efficacy Scale (GSE)

1. I can always manage to solve difficult problems if I try hard enough.
2. If someone opposes me, I can find the means and ways to what I want.
3. It is easy for me to stick to my aims and accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
6. I can solve most problems if I invest the necessary effort.
7. I can remain calm when facing difficulties because I can rely on my coping abilities.
8. When I am confronted with a problem, I can usually find several solutions.
9. If I am in trouble, I can usually think of a solution.
10. I can usually handle whatever comes my way.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In S. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, England: NFER-NELSON.

Appendix E
Self-Efficacy for Self-Regulated Learning Scale (SESRLS)

1. How well can you finish homework assignments by deadlines?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

2. How well can you study when there are other interesting things to do?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

3. How well can you concentrate on school subjects?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

4. How well can you take class notes of class instruction?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

5. How well can you use the library to get information for class assignments?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

6. How well can you plan your school work?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

7. How well can you organize your school work?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

Appendix E (continued)
Self-Efficacy for Self-Regulated Learning Scale (SESRLS)

8. How well can you remember information presented in class and textbooks?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

9. How well can you arrange a place to study without distractions?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

10. How well can you motivate yourself to do school work?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

11. How well can you participate in class discussions?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

Bandura, A. (1989). *Multidimensional scales of perceived self-efficacy*. Unpublished test, Standord University, Stanford, CA.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663-676.

Appendix F
Self-Efficacy for Academic Achievement Scale (SEAAS)

1. How well can you learn general mathematics?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

2. How well can you learn algebra?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

3. How well can you learn science?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

4. How well can you learn biology?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

5. How well can you learn reading and writing language skills?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

6. How well can you learn computers?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

7. How well can you learn foreign language?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

Appendix F (continued)
Self-Efficacy for Academic Achievement Scale (SEAAS)

8. How well can you learn social studies?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

9. How well can you learn English grammar?

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty well		Very Well

Bandura, A. (1989). *Multidimensional scales of perceived self-efficacy*. Unpublished test, Standord University, Stanford, CA.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663-676.

APPENDIX G
Permission to Use General Self-Efficacy Scale



Freie Universität Berlin, Gesundheitspsychologie (PF 10),
Habelschwerdter Allee 45, 14195 Berlin, Germany

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Permission granted

to use the General Self-Efficacy Scale for non-commercial research and development purposes. The scale may be shortened and/or modified to meet the particular requirements of the research context.

<http://userpage.fu-berlin.de/~health/selfscal.htm>

You may print an unlimited number of copies on paper for distribution to research participants. Or the scale may be used in online survey research if the user group is limited to certified users who enter the website with a password.

There is no permission to publish the scale in the Internet, or to print it in publications (except 1 sample item).

The source needs to be cited, the URL mentioned above as well as the book publication:

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp.35-37). Windsor, UK: NFER-NELSON.

Professor Dr. Ralf Schwarzer
www.ralfschwarzer.de

Appendix H
E-mail Permission to Use Self-Efficacy for Self-Regulated Learning and Self-Efficacy
for Academic Achievement Scales

Indiana University of Pennsylvania

Department of Professional Studies
in Education
Davis Hall, Room 303
570 S. Eleventh Street
Indiana, Pennsylvania 15705-1087

724-357-2400
Internet: <http://www.iup.edu>

Subject: Re: Survey Permission From: Barry J. Zimmerman 4/11/12 01:27PM

Hi Tim:

I have attached a copy of Bandura's original instrument that was entitled: Children's Self-efficacy Scale. We used two subscales of that scale in our 1992 study: Self-efficacy for academic achievement and self-efficacy for self-regulated learning. These same items were listed in Table 1 of our article. I was unable to locate the grade goal scales of Locke and Bryan that we used with students and parents in our study, but the description of the two scales on page 667 is quite clear. In essence these were each two-item scales with 5 options for each item. I hope this is helpful.

Good luck with your research.

Sincerely,

Barry J. Zimmerman

-----Original Message-----

From: Timothy F Stevenson [<mailto:t.f.stevenson@iup.edu>]

Sent: Tuesday, April 10, 2012 10:45 AM

To: Zimmerman, Barry

Subject: survey permission

Dr. Zimmerman,

My name is Tim Stevenson and I am currently a doctoral student at Indiana University of Pennsylvania. I am seeking your permission to use your Self-efficacy for self-regulated learning and Self-efficacy for academic achievement survey instruments found in your 1992 article, Self-Motivation for Academic Attainment: The Role of Self-Efficacy Beliefs and Personal Goal Setting. (American Educational Research Journal: Vol. 29, No. 3, pp. 663-676) My dissertation focuses on the potential relationship between student participation in performance-based ensembles and their consequent levels of academic self-efficacy.

Thank you for your time and consideration,

Tim Stevenson