

**Measuring self-efficacy development in drumming skills and social-emotional learning: *Do the sources of self-efficacy beliefs change in level of influence or constitution with more task experience (measured quantitatively)? What are the main cognitive outcomes as understood by the students themselves qualitatively?***

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## Abstract

Providing opportunities for students to develop and practice building healthy ways of interacting and self-regulating (discipline), finding a sense of belonging (community) and benefiting from meaningful opportunities for contribution (leadership) are established elements of successful learning environments, and thus, requisite for learning. Seminally, Albert Bandura recognized learning contexts not as mere spatial environments and social expectations, but also as student and teacher internal personal beliefs, behaviors/cognitive patterns and expectations about their abilities: self-efficacy. Bandura identified four main sources of efficacy beliefs: *enactive mastery experiences, vicarious experiences, verbal persuasion and physiological affective states*, and found enactive mastery experience to be the most influential.

However, the cognitive processes informing self-efficacy and the sub-processes involved in how and when the four sources inform efficacy beliefs have largely been ignored. This study used a West African drumming program (Drum Power) as learning context to assess and measure changes and development over time in both A) drumming skill self-efficacy and socio-emotional self-efficacy skill (community, leadership & discipline) and B) the four sources informing efficacy beliefs. Development was assessed quantitatively through new self-report surveys and assessed qualitatively through interview responses honing in on student experiences and program impact in even greater depth. Results, 1) showed growth over time in drumming skill and social-emotional skill efficacy, 2) showed enactive mastery to be the most influential source of efficacy beliefs, and 3) revealed Drum Power instructional practices as a more broadly applicable model for affective teacher instructional practice. Participants represent previously under-researched populations: ethnically diverse students in grades 3-12 including people of color, mirroring typical current public school demography mid-sized cities in the United States.

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## Introduction

It has been duly noted that the learning outcomes currently being achieved by ethnic minority students and students in public schools across the United States (especially those living in poverty) are leaving them far short of what is necessary for being competitive or even being participants in our evolving job market(s) and national economy (American Psychological Association, 2012; U.S. Department of Education, 2011). This reality requires attention and action as Ronald Edmonds (1979) noted more than 35 years ago:

“At issue is a minimum level of goods and services to which we are all entitled. Some of us, rightly, have more goods and services than others, and my sense of equity is not disturbed by that fact. Others of us have almost no goods and access to only the most wretched services, and that deeply offends my simple sense of fairness and violates the standards of equity by which I judge our social order” (p.15).

Within Edmonds’ thoughts is an understanding of education as a good, but also as developmental “training” or a skill-building opportunity with the potential to increase access to goods and services. It is a path to agency as efficacy, defined by Bandura (1977), as the capability to exercise control over one’s level of functioning or over the investment of effort in one’s life. Thus, learning might be thought of as processes that both develop and require self-efficacy. Many researchers have also asserted, as shown in Figure 1 (see p. 85), student learning is the result of environments and pedagogical processes orchestrated and provided by efficacious teachers (Bandura, 1993; Ladson-Billings, 2009; Zimmerman, 1998).

Thus, all students and teachers’ co-dependent work and processes toward self-efficacy, leading to teaching and learning, are bi-directional as are the patterns, attitudes and qualitative elements produced. As Bandura (1993) foundationally presented, these efficacy processes are co-contributing factors to student and teacher development and achievement.

## **Self-Efficacy: Theory and Foundations of the Dominant Model**

Bandura's (1977) study and experimentation with fearful and avoidant behavioral responses with snake phobias resulted in his theorizing that an individual's expectations around performance (understood as self-efficacy) influenced behavior and, as a result, outcomes. Self-efficacy was defined as beliefs about one's personal agency (and later, collective group agency) derived from various sources of life experience and observations perceived and cognitively processed through reflection (Bandura, 1986 & 1997). Beliefs, which determine agentic power, are shaped by attributions based on perceived performance that inform expectations for future performances, as well as the commitment and effort individuals bring to them. Efficacy expectations are not equivalent to outcome expectations, however. Individuals may believe that certain courses of action will likely lead to certain outcomes without conviction that they can or will achieve them; efficacy beliefs reflect the degree to which an individual believes that they can/will execute the behavior necessary to yield the desired outcome (Bandura, 1977).

Bandura posited that efficacy beliefs operated in concert with other socio-cognitive influences and went beyond a contextualist perspective where individuals were only reactive to their environments. Instead, Bandura offered that individuals, as well as being shaped and affected by their environments, shaped and selected them, occupying positions/relationships characterized by transactional reciprocal causation (Bandura, 1986 & 1997) (See 2, p.85).

Bandura (1977 & 1986) identified four main sources of efficacy beliefs: *enactive mastery experiences*, *vicarious experiences*, *verbal persuasion* and *physiological affective states*. He posited that information gathered from these sources gains explanatory power not by merely existing, but rather through being the subject of the individual's reflection. This allows for the reality that not all experience is relevant nor given consideration toward forming efficacy beliefs,

and that many personal and contextual factors direct choices (or “cognitive functions”) about 1) which events and information to consider, and 2) how to interpret it (Bandura, 1997). For example, after working on an academic task, students typically reflect on how they did and form judgments of competence and ability based on the degree of success they interpreted (See Figure 1. *Learning Cycle phases*, p.85). These interpretations then determine expectations for similar tasks in the future (Usher & Pajares, 2008). If they judge themselves as successful versus unsuccessful, expectations will reflect those perceptions; judgments are most likely to create or change self-perceptions when assessing new or novel tasks. Similarly, their perceptions of the levels and degrees of success attained will be reflected in the levels of expected success/failure (Usher & Pajares, 2008; Wyatt, 2016). Thus, the cognitive processes and sub-processes that Bandura (1997) presented as determinant and most involved in the choices individuals make about which information is most salient is vitally important, however, the patterns defining their assessments and attributions have largely been ignored, and otherwise gone unaddressed and untested in most subsequent research. This study will focus on the impact of each source of efficacy (defined below) because deepening understanding on the sources students use to build efficacy beliefs could inform pedagogical approaches in support of their positive efficacy development. I include summaries of the processes that Bandura (1997) presented as operationally defining the sources from which efficacy beliefs are derived below.

**Enactive Mastery Experience.** *Enactive mastery experiences* are personal interpretations of previous performance results believed to serve as the most powerful sources of self-efficacy (Bandura, 1977, 1993, 1997; Usher & Pajares, 2008; Zimmerman, 2000). Thus, in considering the example above of a student reflecting on their performance on an academic task, enactive mastery experience would be a present source of efficacy beliefs if the student expresses

past experience or past personal performance/practice as a key source informing/defining the belief(s). Similarly, in tasks that involve developing skills to be able to execute the associated tasks to solve an academic task or to play an instrument, for example, one of the most common types of enactive mastery experience is time spent practicing/engaging in the task itself and/or time spent doing related skill-building exercises (practicing).

**Vicarious Experience.** *Vicarious experiences*, the second major source for information on personal capabilities, are derived from seeing others perform or model, and are reliant on social comparison (Bandura, 1977). As a result, Bandura (1977) theorized and empirically found this source to be less dependable because it was not based on “direct evidence”. Considering the example above of a student reflecting on a past academic performance, an example of an efficacy belief derived from vicarious experience would be expecting to perform well or poorly based on having observed others’ performance(s) in the same academic task. Notably, Bandura (1977) explained that because people experience the results of their own performances (enactive mastery experiences) while also observing the models of others (vicarious experience), both influences interact and affect one another, making generalizations about the relative impact or power of either type fraught. The processes by which others’ experience influences efficacy beliefs is variable and influenced by many factors including the confidence or certainty one has in one’s capabilities. Similarly, according to Bandura (1997) vicarious experience has greater impact on efficacy beliefs when the individual has less prior experience (less enactive mastery experience) with the task or situation to draw upon.

**Verbal Persuasion.** *Verbal persuasion* is being verbally coaxed or told that one can perform well toward the goal of increasing efficacy beliefs or even being told one will not perform well leading to lower efficacy beliefs. Recalling our example, if the school Counselor

said “*you should try the academic task because she has seen your talent in that subject area and thinks you’ll be good and successful at it,*” that would be an example of verbal persuasion as source of efficacy belief. For Bandura (1977) verbal persuasion is less influential on efficacy outcomes than reflections on one’s actual performance because expectations are not based on the individual’s actual experiences. However, it can support positive changes in self-efficacy if the appraisal goal is within “realistic bounds” (Bandura, 1977, P. 101). At the center of verbal persuasion is the communicational framing of the verbal message and implicit argument for efficacy beliefs. These arguments often use effort attributions or talent attributions as the foundations for encouraging increased efficacy appraisals (Bandura, 1997). Effort has been believed to be the more affective strategy for improving low efficacy with hard work presented as a reason to believe, however, research has also shown that those messages, when given repeatedly over time, are interpreted as a rationale for thinking one’s talent is limited (Schunk & Rice, 1986), lowering applied effort and efficacy.

**Physiological and Affective States.** *Physiological and affective states* are the somatic markers that individuals read, feel and interpret especially in stressful or strenuous situations. In the example of the student reflecting on the academic task, physiological or affective state would be the source of efficacy beliefs if the student attributed their level of performance as well their efficacy beliefs to their physiological or emotional state during the academic task—being in a “good mood,” or not feeling well, for example. High levels of arousal often lead to lower perceived efficacy because people feel distracted from optimizing performance and/or energy and focus are spent on responding to stress rather than performing (Bandura, 1997). These feelings can lead to vulnerability, which then increases the salience of arousal, which can produce more anxiety about increased arousal and a cyclical effect that reduces efficacy

appraisals. Mood states can also influence both reactions and the interpretation of somatic arousal affecting efficacy appraisals. One of the goals of this study is to investigate the degree to which mood states determine efficacy self-appraisals.

### **Empirical and Conceptual Applications of Bandura's Self-Efficacy Model**

**Student Self-Efficacy Research.** Researchers and theorists interested in defining, understanding and maximizing the developmental processes involved in both teaching and learning have found that salient individual differences and variability in performances and achievement are at least, in part, influenced by efficacy beliefs as defined by Bandura (1977) (Gibson & Dembo, 1984; Pina-Neves et. al., 2013; Ross & Bruce, 2016; Usher & Pajares, 2008; Wyatt, 2016). Self-regulation research, fueled by the need to explain and replicate environments and scenarios where students are the masters of their own learning processes (Zimmerman, 1998), has defined learning as a “self-directive process through which learners transform their mental abilities into academic skills” (Zimmerman, 1998, p.2). Zimmerman (1998) summarized self-regulation theorists as collectively observing a three-phase cyclical process of interactions for academic learning: *forethought* (processes and beliefs that form a foundation and precede learning), *performance or volition control* (efforts, focus, and affect during learning) and *self-reflection* (post-contextual learning assessments, feelings, and conclusions about the experience) (See1, p. 80). Research has shown that individuals' reflections on past events influence beliefs about their abilities, expectations, motivation, and strategies in the same or similar future learning contexts (Abbott, 1977; Dweck & Elliot, 1988; Spencer, 1997; Steele, 2003).

However, these processes are also born of teacher self-efficacy, which influences planning, effort, strategies and orchestration (Ayers, 2010; Bandura, 1993; Britzman, 2003), as well as student goal and effort-driven processes and development (Dweck, 1986; Jackson, 2011).

Thus, teacher efficacy has been established as an essential element for student academic and socio-emotional development (Noddings, 2002; Truscott et. al, 2012; Collay et. al., 1998;).

Teacher efficacy has been presented as essentially the same cycle of development derived from Bandura (1977, 1986 & 1997) (shown in1, p. 80) as student learning, except for the addition of student feedback and professional development; it consists of forethoughts and attributions as a result of student and peer feedback from past experiences that qualitatively inform teacher self-assessments (perceived ability, goals, strengths, weaknesses) and efficacy which then affects future teaching performance (Bandura, 1993; Ross & Bruce, 2007; Witte & Jansen, 2016).

This study, however, focuses on student self-efficacy rather than teacher self-efficacy, although it is essential to consider and acknowledge the transactional connections between the two in applying interventions and new strategies for teaching and learning. The goal of this study is to lay stronger research foundation for how students form efficacy beliefs toward possible future contribution to improving the pedagogy and teacher development in support of those efficacy foundations. Thus, this study seeks to build deeper contextualized research on student efficacy beliefs without prematurely presuming enough replication or clarity to consider the teaching side or teacher efficacy additionally. Put simply, I seek to investigate, observe and measure the processes and/or attributions prior to suggesting ways to use those observations to teach more efficaciously or affectively.

Most research on self-efficacy has begun from an acceptance of Bandura's (1986) model of triadic reciprocal causality (see Figure 2, p. 85) where behavior, environmental factors and personal characteristics (including affect, cognition and biological traits/events) all interact interdependently so that many factors influence or create a given event. Self-efficacy, as defined and conceptualized by Bandura (1977), continues to be used by researchers as a theoretical

framework for understanding and predicting students' academic outcomes (Morris et. al., 2016; Pina-Neves et. al., 2011; Usher & Pajares, 2008; Zimmerman, 2000), and as an outline for the central sources of efficacy assessments (*Mastery experience, vicarious experience, social persuasions and emotional and psychological states*) (Usher & Pajares, 2008). Similarly, Bandura (1977, 1986 & 1997) distinguishes self-efficacy as multi-dimensional domain-specific capability assessments unlike broader self-descriptive constructs like self-concept not derived from context-specific task performance (Pajares, 1996, Usher & Pajares, 2008).

A review of research on student self-efficacy in school contexts reveals findings and research centering on 1) measuring the sources self-efficacy quantitatively, qualitatively and investigating construct validity (with at least 5 different scales developed between 1991 and 2006), and 2) analyses of the sources of self-efficacy which have primarily been correlational, but also include: hierarchical regression models, path models, structural equation modeling, experimental designs and qualitative studies (Usher and Pajares, 2008). Further, participants in research on the sources of self-efficacy have primarily been white college students, rarely high school students, and never an ethnically and economically diverse group of elementary school-aged students (Usher and Pajares, 2008; Usher, 2009).

**Measurement of Student Self-Efficacy.** Quantitative studies of perceived self-efficacy and the sources informing it have focused on Bandura's (1997) categories (mastery experience, vicarious experience, social persuasion and affective/physiological states), and many researchers have adapted the Sources of Mathematics Self-Efficacy Scale items created by Betz & Hackett (1983) and further developed by Lent et al. (1991) for college students to fit their research applications (Usher and Pajares, 2008). Mastery experience has been measured reliably through students' ratings of their own performance expectations/perceptions. However, common

measurement mistakes have included equating students' objective performances (grades or scores) with mastery experience, and also asking students to self-report how much experience they have and conflating those responses with mastery experience-derived self-efficacy; both of these examples betray the Bandura (1997) construct by removing the focus on how students perceive and interpret their experience, and thus, their efficacy as a result. For example, experience is only mastery experience if the student perceives it to be a source of their own efficacy beliefs, thus objective scores or the amount of exposure they have had to a task would not qualify on its face. Vicarious experiences have been measured by asking students to rate their perceptions of peer or adult models with most researchers usually choosing one or the other but rarely both. This source has shown low reliability likely due to the complex ways multiple external influences can interact at different developmental stages (Harris, 1995). Social persuasions have been assessed through items that ask students to rate the degree to which encouraging messages from others have influenced their perceptions. Physiological and affective states have been assessed by asking students to rate their anxiety levels and feelings including mood, arousal and happiness, and their influence on perceived efficacy beliefs.

Qualitative studies, of which there are far fewer, have tended to ask participants to list factors that have contributed to their beliefs in the same four source areas as open-ended questions. Using an individual's recollections has proved less reliable because the thoughts shared when trying to recall past influences on efficacy are hard to recall out of context (Usher & Pajares, 2008).

**Data Analysis of Student Self-Efficacy.** Usher and Pajares (2008) notes that correlational studies attempt to presume causality and use Bandura's sources as independent variables to predict self-efficacy. It is notable that no other possible variables are conceptualized

and added to explain the variance. Most hierarchical regression models have ordered the sources with enactive mastery experience first (as Bandura 1977 hypothesized), vicarious experience second, social persuasion third and physiological state last even though Bandura only specified enactive mastery experience as primary without ranking the others; Bandura also warned that generalizations about the relative impact of the sources were fraught, as mentioned previously. Bandura's (1977) finding that mastery experience most consistently predicts efficacy has been replicated with correlations always being significant in all the studies reviewed ranging from .29 to .67, with a median of  $r=.58$  (Usher & Pajares, 2008). Vicarious experience was found to be the least consistent and weakest predictor of self-efficacy given low alpha reliabilities (often .50s and .60s) for the items used to assess it, and given the general difficulty of developing good ways to measure it (Usher & Pajares, 2008).

Similarly, there have been many studies that have presented significant correlations between Bandura's (1977) four main sources of efficacy however this is not surprising given the "...agentic bonds between them. A student who writes an excellent essay [*mastery performance*] will likely earn top marks [*vicarious experience* via social comparison], receive praise from others [*verbal persuasion*], and experience positive feelings toward writing [*emotional arousal*]" (Usher & Pajares, 2008, p.775). However, a growing body of empirical research has established that there is a relationship between the confidence and comfort that people bring to the tasks in which they engage and the choices they make of which tasks to attempt such that efficacy affectively predicts participation versus avoidance behavior which then predicts levels of accomplishment attained (Gibson & Dembo, 1984; Pajares, 1996; Phan & Ngu, 2016; Usher & Pajares, 2008).

Most generally, the attention focused on self-efficacy assessments has not yet yielded practical contributions to schools and the ways they go about the work of education nor have they produced consistent enough empirical results to stabilize the field (Morris et.al. 2016; Pajares, 1996; Usher & Pajares, 2008; Phan & Ngu, 2016; Wyatt, 2016). More specifically, because Bandura (1977) provided a theory and conceptual model with one of the principle tenets being to research and create items of measurement that very specifically reflect the domains and skills required for the task(s) of interest to assess efficacy, there is great inconsistency among items purporting to measure similar capability areas (Usher & Pajares, 2008).

Surveys purporting to assess efficacy have included items like the following:

I am confident that about my ability to do the [math] work in this class? (global-specific)  
 How confident are you that you can solve mathematics tasks and problems involving addition and subtraction? (intermediate-specific)  
 How confident are you that you can explain what a noun is? (task-specific)  
 (Phan, 2012b, p.200)

These items are problematic first because they have been conceptualized as conveying math efficacy in task-specific ways as well as in “globally-specific” ways, which betrays social cognitive theory. The last of the three items is the only item that fits the construct as task-specific while the others drift more to measuring how a student conceives of themselves more generally, self-concept. To further clarify, Zimmerman & Bandura (1994) modeled the specificity of context required in conforming survey items (see Scale Measuring Perceived Self-Regulatory Efficacy for Writing, Table 4, P. 78) in the following examples for writing: “I can construct a good opening sentence quickly;” “I can come up with an unusual opening paragraph to capture the readers’ interest.” The designation of self-efficacy beliefs as task and domain-specific capability judgments makes them distinct from self-concept and expectancy beliefs which researchers often use without a specific task to identify general motivation without a direct

connection to performance (Bandura, 1993 & 1997; Morris et. al., 2016; Pajares, 1996; Usher & Pajares, 2008). In short, “capabilities assessed and capabilities tested should be similar” especially when making arguments for causation (Pajares, 2008. P. 550).

### **Social Emotional Learning: Life Skills**

The work of providing opportunities for students to learn, define and practice building healthy ways of interacting and supporting their own learning and the learning of fellow students typically fall under the research and strategies commonly referred to as Social Emotional Learning (SEL). That work has also included building healthy relationships and learning communities in the classroom. Social emotional learning according to the Collaborative for Academic, Social Emotional Learning (CASEL) (2013) “involves the processes through which children and adults acquire and affectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions” (p.4). According to CASEL (2013) quality programs are well-designed classroom-based programs that systematically promote students’ social and emotional competence, provide opportunities for practice, and offer multi-year programming; deliver high-quality training and other implementation supports, including initial training and ongoing support to ensure sound implementation; are evidence-based with at least one carefully conducted evaluation that documents positive impacts on student behavior and/or academic performance.

CASEL (2013) identified 5 points of curricular focus that research has shown to be elements of effective programs: self-management, self-awareness, social awareness, relationship skills and responsible decision-making. CASEL (2013) also found training during the implementation of SEL curricula to be an important enhancement for more affective application.

As momentum continues to build for pedagogical work in this area many new curricula have emerged. Responsive Classroom, Second Step: A Violence Prevention Program, and Interplay Solutions are three well-known curricula that are commonly used in public schools (Mindess, Chen & Brenner, 2008). Mindess et al. (2008) presents all three curricula as frameworks that integrate SEL into academic lessons, and Second Step and Interplay Solutions as scenario-based learning where students are challenged to practice reactions to specific situations. Responsive Classroom and its Middle school equivalent, Developmental Designs, provide teachers with core values to teach, learn and define with students along with language for common routines, as well as instruction in using relevant consequences and inclusive removals (“Take-A-Break” chair) equitably for student empowerment rather than punishment (Denton, 2007; Noddings, 2002). SEL has been shown to produce substantial gains especially when initiated in pre-school (CASEL, 2013; Mindess, Chen, Brenner, 2008). However, the research and findings of these social emotional learning efforts have not produced measurement tools that assess SEL in relation to student behaviors around academic skills and classroom routines as connected to efficacy beliefs in the SEL areas, the goal of this study.

### **Drum Power Curriculum: Self-efficacy & Social Emotional Learning Context**

Drum Power is a youth leadership program that provides young people with an opportunity to learn West African Traditional, Afro-Cuban and Afro-Brazilian drumming and their cultural/historical significance in order to build self-esteem and self-confidence through discovering the rewards of discipline, community and leadership, its pillars. Discipline (defined as “using my energy for good things”), community (“supporting my own learning and the learning of others”) and leadership (“doing the right thing even when I have do it by myself and especially when no one is watching”) are life skills and the explicit foci of social emotional

learning that underlie all of the music skill development work, problem solving and practice as individual musicians and members of an ensemble/community.

All three pillars, discipline, community and leadership and the applied behavioral definitions utilized in Drum Power are well-supported elements of most socio-emotional learning curricula as well as effective classroom teaching (CASEL, 2013). The need to reclaim the empowering aspects of discipline and wrestle them away from “punishment” toward embracing praxis or the practice of rigorous mental and physical training (self-regulation toward empowerment) is well articulated in Yang’s (2009) précis *Discipline or Punish? Some Suggestions for School Policy and Teacher Practice*. Further, discipline contains self-empowering elements of “grit,” perseverance and passion toward long-term goals (Duckworth et al., 2007), without the rugged individualistic shortcomings of that construct. Within this operational meaning of discipline is also the facilitation and validation of intrinsic motivation toward personal goals as well as self-regulation (Zimmerman & Bandura, 1994). Similarly, community includes learning to embrace the responsibility of giving support, and learning how to receive it which is a tenet of established healthy classroom culture. Community as a life skill includes the following student needs: responsibility, helping others, empathy, inclusion, collaboration, sharing, cooperation, opportunities for student meaningful contribution and ownership (Andrade & Morrell, 2008; Ayers, 2010; Britzman, 2003; Casel, 2013, Danielson, 2008; Ginsberg, 2005; Hill, 2009; Jackson, 2011; Ladson-Billings, 2009). Finally, leadership is the student-driven, student-owned alchemy where encouragement and teacher-driven classroom culture building give way, through positive reinforcement and practice, to student-derived direction, maintenance and empowerment. This concept also includes the confidence to critique and feel empowered to affect change in one’s personal life and as a community member, as well

as feeling some level of obligation to do so. This conception of leadership is also an essential element of student preparation widely accepted in education, socio-emotional learning and positive youth development (Andrade & Morrell, 2008; Britzman, 2003; Casel, 2013, Danielson, 2007; Jackson, 2011; Ladson-Billings, 2009)

In order to provide more clarity on the day-to-day, moment-to-moment routines, teacher actions and practices that support the goals and gains in drumming and social emotional skills previously presented, Figure 3 (p. 86) shows the elements provided with consistent intentionality through instructor behaviors, strategies and routines (left), and Yang's (2009) model of classroom pedagogical styles (right) so that I can locate our classroom within it. First I will present the elements of all successful learning opportunities as they apply and are provided through Drum Power processes, and then turn to where those processes locate the drumming class along the subjective continuums of engagement and classroom structure in the Yang (2009) model.

Teachers provide and maintain an atmosphere that is nurturing and comfortable for participants and the teacher where everyone feels valued and respected, *a safe and respectful environment*. Drum Power sessions begin with establishing a safe space physically and emotionally where learners can apply effort and risk failure without fearing embarrassment or harassment given: 1) presenting "failure" to execute drumming skills as necessary step toward growth that all students will experience; 2) establishing the expectation that students and the instructor will never laugh or respond disrespectfully when we witness those necessary "failures"; 3) responding with swift and serious redirection and consequences when students are not sensitive with other students who are vulnerable given "failure" and struggle; 4) informing students that the only way to guarantee that all students are learning is to challenge ("call on")

students to demonstrate understanding and execution which will often not be voluntary/optional but always equitably applied to all students; and 5) responding to potential/real student behavioral missteps and struggles with sincere questions rather than leading with accusations, conclusions or frustration.

Many of the aforementioned elements also are foundational for creating an atmosphere where *Caring and Trusting Relationships* can live, however the following strategies attend to that goal: 1) whenever possible the instructor explains the intentions behind his/her teaching methods, decisions and priorities so that students feel respected while simultaneously gaining some modeling for reflective decision-making; 2) when students' successes and struggles with drumming are experienced publicly by the group, they are shown the ways the community can learn collectively from those experiences, gain greater personal confidence/comfort with academic risk-taking and build a community based on trust; 3) establishing being honest with themselves as individuals as the first step toward discipline, community and leadership and teaching into this concept anecdotally and actively looking for teachable moments; 4) being personally vulnerable and honest about my own weaknesses as a member of the caring community; and 4) supporting students' practice with giving critical feedback and instructive leadership with sensitive respectful language ("speaking to others in ways that would feel good to us"). Honesty with one's self is presented as both a necessary precursor for honesty with others, and as a source of personal truth and key source of powerful artistic expression. Students are asked "Who do you want to be," and "What are the actions and behaviors you need to take to get there?" as an on ongoing conversation, evolution of self-discovery and act of self-determination for acting and being in drumming class.

Clearly communicating high expectations for the participants is probably the most

important element of any student/teacher relationship. It is a well-known fact that the goals and achievements toward which young people aspire are directly influenced by the expectations and confidences imparted by the adults in their lives (Hammond, 2014; Jackson, 2011; Ladson-Billings, 2009). As the teacher we instill confidence in the potential and ability of each individual, and we instill confidence in the ability of the group as a unit and ensemble.

*High and Clear Expectations*, common tenets of affective teaching (Yang, 2009), include clearly defined expectations for caring relationships and emotional safety in Drum Power, where what begins as teacher-driven directives, modeling and practice gives way to student ownership, maintenance, self-regulation and collaborative community empowerment. The following are key instructor-provided elements for high and clear expectations: 1) the instructor presents their plan and process for handling instances when students are off task with clarity and simplicity (along with the developmental goals and intentions underlying them) at the start of the program, and consistently throughout; 2) students are told and shown that drumming skills and the social emotional learning skills will be practiced until “we get them right;” and that expectations that are lowered because of struggle often signify a lack of faith that they are attainable and that the instructor has no such lack of faith in the students; and 3) the expectations for drummers are communicated to parents and school/organizational staff so that there is a community-based expectation and accountability for effort and work that extends beyond the context of drumming class that other care-givers can support and reinforce.

Since one of the goals is to help young people learn to embrace and enjoy the responsibilities of leadership, we create opportunities for them to be leaders and provide guidance and support as they do so. With responsibility comes accountability, thus, assigning leadership roles is a powerful fun way for students to learn to be more responsible and

accountable through applied learning. *Opportunities for Meaningful Contribution and Ownership* include the following: 1) student-modeling of drumming skills and techniques and social emotional skills for one another; 2) sharing relevant personal life experiences around discussion topics in class; 3) assigned responsibilities for maintaining the class (setting up the drums and chairs and putting them away); 4) leading school assembly performances without the drumming instructor present and modeling that for their entire school communities to inspire students not in the drumming class; 5) giving artistic direction and input in the selection of repertoire for performances and new learning; and 6) practicing and exploring critical thinking through discussion centered on their thoughts and opinions as individuals and as a group toward empowerment to affect change in their own lives. On this last point, there is an explicit focus on encouraging students to think for themselves and interrogate the ways of seeing the world that they may have inherited but not yet investigated to find their own truth, and their own paths toward shaping it. This reflects a pedagogical commitment parallel to William Ayer's (2010, p.11) statement that, "To name oneself as a teacher is to live with one foot in the muck of the world as we find it—with its conventional patterns and received wisdom—and the other foot striding toward a world that could be but isn't yet."

Developing new skills and getting young people accustomed to high expectations and high levels of focus requires that most aspects of the class have elements of *Consistency and Continuity*. The instructor creates class structures and routines that allow students to repeat necessary drills and processes for development and learning allowing students to be confident about what to expect each class. This goal is accomplished through consistent activities including: 1) the basic exercise (opening warm-up) each class which students usually lead; 2) consistent processes for scaffolding the learning of new rhythms and social-emotional lessons; 3)

consistent routines, language and concepts for student demonstrations of knowledge and musical skills; 4) consistent rolls for contribution and leadership; and 5) consistent positivity and emotional support from the instructor.

However, although consistency is crucial, instructors also react to unexpected situations and make changes when necessary. When unexpected situations occur the first priority is the participants' needs at that moment and providing *Programmatic Flexibility and Adaptability* can mean drastically altering the lesson planned for the day to meet the student needs of the day. In cases when the unexpected situation is unsatisfactory behavior we acknowledge that the behavior can signal an immediate need to be addressed. Thus, rather than view the goal each day as teaching the rhythms or concepts planned, our goal is to teach to the expressed needs and readiness of the students; if they are ready to drum we drum, but if we need to practice discipline (using our energy for good things) in a more direct way we might set the drums aside and work on less layered mind-body control and power. This might take the form of conversations, going for a walk or revisiting the commitments we have made to each other as a conversation, but always leads back to behavioral practice and action.

Finally, instructors create openings for students to share their experiences with drumming, belonging to and defining community, as well as with applying and defining discipline and leadership. Early conversations are used to create shared meanings that are operationalized as agreements for building and then maintaining the drumming community. These conversations as well as close observation of each student's comfort with material, drum classes processes and social interactions signal instructors to differentiate exercises and motivational style to fit individual student needs while supporting group directives and ensemble growth. Similarly, *Knowing the Origins and Triggers for Your Students' disruptive Behaviors* –

“*the hurdles they see,*” challenges instructors to be attentive to knowing the patterns and triggers that initiate impediments to learning for students to be able to anticipate problems and plan for them curricularly as well as preemptively provide coping tools and support. This proactive approach allows students to feel seen, heard and valued and also allows some of the unplanned triggering of past struggle and even trauma to be avoided. This approach also acknowledges that learning is an effortful choice that involves risking failure, which for the students who struggle most, can be scary and tenuous. The scary elements that inspire fear are the “struggles they see” that instructors anticipate in support of building momentum and confidence for learning in Drum Power.

In order to consider the Drum Power classroom type or style within the theoretical frame of Yang’s (2009) model (See Figure 4, p. 86), which parallels the dominant model for parenting styles but replaces “demandingness” with “structure” and “responsiveness” with “engagement” (which is bi-directional not purely teacher-assessed) we return to the right half of Figure 4 (See page 86). Structure for Yang (2009) is defined as the degree to which students meet high expectations either due to coercion or voluntarily, and engagement is bi-direction (“bilateral”) action by both teachers and students. “On the one hand, students engage when they actively read, listen, discuss, and participate in classroom activities...on the other hand, teachers engage youth through lived experience, including popular culture, socioeconomic realities, cultural heritage, language, and the social context of the community” (Yang 2009, p.54).

The other descriptive categories applied to classroom characterization are the same as the parenting style equivalents where *Authoritarian* is high in structure (demandingness) but low in engagement (responsiveness), *Permissive/indulgent* is low in structure (demandingness) but high in engagement (responsiveness), *Indifferent* is low in structure and low in engagement, and

where *Authoritative*, re-named “Disciplined,” is high in both structure and engagement. Yang (2009) asserts the same reclamation of “discipline” as Drum Power, defining it as the consistent effortful application of will and praxis necessary to learn a craft characterized by transformation rather than repression and punishment. Thus, a disciplined classroom would be the result of providing the seven elements presented above as central to Drum Power in ways that students engage them fully and voluntarily as action.

During Drum Power sessions, usually 90 minutes in length, once a week with 15-30 students for 12-30 weeks, integrate social emotional learning and drumming skills through development and practice toward the goal of students growing an experience-based capacity to build and maintain healthy relationships and behavior in a learning community with teacher guidance that gives way to student-driven leadership. Every class session builds and explores aspects of discipline, community and leadership as: 1) a continuously evolving conversation, 2) a set of established behaviors and routines and 3) personal/group priorities that are both generally present but also specific to the music tasks of each class. This focus is explicit in teacher and student language and routines for accomplishing the work and fun specific to each class, as well as present as an implicit and explicit aspect of the greater atmosphere to which all contribute during class. The degree to which the goals for discipline, community and leadership have been met is also the focus of group reflections and discussions over the course of each semester of instruction. These goals are indeed shared by many schools and school districts as are the elements articulated as integral for maximizing student academic and socio-emotional learning (Andrade & Morrell, 2008; Ayers, 2010; Britzman, 2003; Caasel, 2013, Danielson, 2007; Hill, 2009; Jackson, 2011; Ladson-Billings, 2009). However, given any number of circumstances including diminishing teaching time, less focus on classroom culture due to testing demands and

consistently changing curricula, these goals and the requisite operational foci, training and practices are often less present in most classrooms.

### **The Present Study**

The overarching goals of the present study were to measure self-efficacy for drumming skills, as well as discipline, community and leadership in the context-specific and context-dependent way self-efficacy was theorized in the Bandura (1977) construct, as well as to examine the relative levels of influence between the four sources of efficacy (mastery experience, vicarious experience, social persuasion and physiological/affective states) and the ways their relative levels of influence may change over time with more direct task experience.

This study also developed and tested a new survey comprised of context-specific previously validated items, a second survey of four questions on the sources of efficacy beliefs and open-ended interview questions. They were applied to the Drum Power African drumming class consisting of students in grades 3 through 12 to 1) measure self-efficacy for drumming and socio-emotional skills (community, leadership & discipline) in context-specific ways; 2) determine which sources of efficacy beliefs were most influential at varying levels of drumming experience; and 3) to use constructivist grounded theory interview questions to look deeper into the experiences and interpretations of the students both leading to the efficacy ratings as well as their overall impressions of their learning experiences. The goal is also to conduct this research with an ethnically and economically diverse population of elementary school students, which has not been done previously.

This study had the following hypotheses to address the goals just presented:

- 1) The new Drum Power Student Self-Efficacy Survey (Appendix A, pp. 68-71) will distinguish between the drumming skills, pillars and central components

to measure student self-efficacy levels in Drumming Skill Efficacy, Drumming Discipline Efficacy, Drumming Community Efficacy and Drumming Leadership Efficacy (See Figure 14. *Drum Power Self-Efficacy Theoretical Model*, p.93)

- 2) The relative levels of influence that students indicate on *Drum Power Sources of Self-efficacy Survey* for the four efficacy sources (Verbal Persuasion, Vicarious Experience, Mastery Experience and Physiological/Affective State (understood as mood) will show change over time in relationship to the growing level of experience students have with the drumming tasks (See Figure 15. *Self-Efficacy Source Influence Theoretical Model for Expected Change Over Time*, p. 94).
  - a. From zero to 2/3 classes vicarious experience and verbal persuasion may have substantial influence that will dramatically decrease after that for most students.
  - b. Mastery experience will be the most influential source from 2/3 classes on for most students and it will not drop for the 6-8 week, 6 month and year end survey ratings
  - c. Physiological/Affective states (mood) will remain steady for students who initially rate that source as high (4+ on the Likert scale), while it will reduce over time for those who initially rate that source as Low to Medium (1-3 on the Likert scale)
- 3) Qualitative interview questions will reveal deeper student experiences that,

A) start to uncover sub-processes and patterns in how efficacy beliefs are formed and experiences interpreted by students, B) reveal experience-derived themes that allow reasoned conclusions on shared and individual impact(s) on self-efficacy, drumming skill and social emotional learning, and C) present/reveal key common qualitative markers that are distinct and unique to the Drum Power program.

## **Method**

### **Declaration of Researcher Perspective**

Since the hypotheses I have proposed for the quantitative data and the lens of analysis for the qualitative data are influenced by my experiences, point of view, biases, and observational/analytic strengths and weaknesses, acknowledging who I am as honestly as I can is important. I am an African-American male born and raised by Black Nationalist parents on the south side of Chicago, IL until high school who also spent two years of that time in Liberia, West Africa (1975-1979) and Bon Aire, Netherlands Antilles (1974-1975). I attended high school in Washington, DC at an elite predominantly white affluent boarding school. I completed undergraduate studies in Madison, WI and went on to graduate study in African-American history there while falling in love with youth work and teaching as social uplift and youth empowerment through work-study jobs off campus. I lived in Brooklyn, NY for 12 years playing music professionally, creating Drum Power and developing healthy learning environments for children in grades k-12 and training teachers. I romped in the slave huts, with roofs 4 feet tall (that not even a child could stand erect within) from the “middle passage,” that lined the beaches of Bon Aire, I marched when Amadou Diallo was shot 41 times in New York City feeling the horror of systemic non-response and wondered “what kind of animal requires

that much force,” as well as felt the vibration when the first plane crashed into the World Trade Center on 9/11 on my walk to the subway for work.

I spent several years in Harlem, Manhattan, the Bronx and Queens, New York failing to reach the most needy students before finding some strategies that were both successful as critical pedagogy affective for me, and engaging for my students. I moved to Madison, WI with my own bi-racial children in 2010 and began Drum Power work there, tailoring it for a much more culturally deprived but overall more privileged audience. I entered graduate school with the goal of using what we know about human development and learning (Educational Psychology) to support teaching (Curriculum and Instruction) through the lens of my own teaching work. I have both seen the hopelessness in a student’s face when their confidence in their own ability to learn is gone, and also marveled at the indomitable glow when a student restores that confidence, many times. The wide range of human realities, perspectives and experiences with social justice (and injustice), as well my awareness and sensitivity to the power and manipulation of data, statistics, research and my scholarly voice have informed my methods, analyses, syntheses, communication style(s) and choices—my epistemological point of view.

### **Participants**

Participants for the study were recruited from two elementary schools in the Madison Metropolitan School District and the Advanced Drum Power Performing Group. There are, however, differences in how participants in each drumming class site were selected and/or joined the classes. Students at School A in the Madison Metropolitan School District site were selected for the drumming classes based on teacher nominations (see Appendix C, p.77) according to criteria designed to allow access by a diverse group of students from the following categories: A) students who struggle with achievement and/or confidence, B) students who excel with

achievement and/or confidence, C) students who are in the middle and thus are often overlooked and D) boys who struggle with self-control, academic risk-taking and behavior. Drumming began in 2010 at School A, and the group presents at assemblies and is an imbedded element of the school culture. Students at School B were participants in an afterschool program where students chose drumming from a menu of 4 possible clubs. The Drum Power Advanced Performing Group consists of students from Madison Metropolitan School district who commit time outside of school programming to rehearse once a week as well as perform regionally.

I recruited 38 volunteer participants resulting in 38 written surveys and 16 qualitative interviews conducted by a trained research assistant with the following distribution: 8 third graders, 12 fourth graders, 13 fifth graders, 4 sixth-eighth graders, & 2 high school students. This range of participants is the focus because there have not been any studies of an ethnically diverse group in this age range that includes people of color, even as many interventions to build efficacy target those students and their schools (Usher & Pajares, 2008), although they have not been the focus of research. The participants included 18 African-American, 4 African, 4 Latino/Hispanic, 1 Pakisani and 11 White students. There is also plenty of research showing that student trajectories for learning and achievement, which have been linked to growth mindset and beliefs about aptitude, are established by the time students reach high school age (Herbers et. al., 2012).

In the 2016-2017 academic year School A served 406 students in grades k-5 and was 15% African-American, 3% Asian, 19% Hispanic, 8% Multi-Ethnic and 54% White, 47% low income, 14% Special Education and 21% ELL (English Language Learners). School B served 263 students in grades k-5 and was 23% African American, 19% Asian, 19% Hispanic, 12% Multi-Ethnic and 28% White, 78% low income, 17% Special Education and 37% ELL. Schools

A and B are in the Madison Metropolitan School District. The Advanced Group is typically diverse and in 2016-2017 was 10 students, 30% African-American, 20% Hispanic, 40% White, 10% Native-American and 20% LGBTQ.

### **Procedure**

All participants in all three Drum Power drumming programs were invited to voluntarily participate in the study, however, study participation was not a requirement for drum class participation. Parental consent and student assent was solicited in accordance with UW IRB compliance and the study was also be submitted to the Madison Metropolitan School District Educational Research Committee (ERC). All participants were asked to complete a written Sources of Drumming Self-Efficacy survey after 1) Day 1 of drumming, 2) after 2-3 classes, 3) after 6-8 classes, 4) at completion of drumming; students responded to four written survey items on the source informing their efficacy beliefs according to the same schedule (See Table 1. *Summary of Study Self-Report Measures*, pp. 75-76). All participants also were asked to complete the Drum Power Student Self-Efficacy Survey after 1) Day 1 of drumming, 2) after 6-8 weeks and 3) at completion of drumming. Fifteen participants were selected from schools A, B, and the Advanced Performing Group to sample the widest range of experience (measured in time in the program) from the least to the greatest time in drumming, and interviewed for qualitative responses. The responses to the qualitative questions were recorded as audio and transcribed.

### **Measures**

**Drum Power Student Self-Efficacy Survey.** To address the first research goal this new survey assessing Drumming Skill Efficacy, Drumming Discipline Efficacy, Drumming Community Efficacy and Drumming Leadership Efficacy has been compiled (and in some cases adapted with fidelity) using items from the following previously validated scales: Scale

Measuring Perceived Self-Regulatory Efficacy for Writing (Zimmerman & Bandura, 1994, see Table 4, p. 78); Student Adaptive Learning Engagement in Science (SALES) (Velayutham et. al., 2011, see Table 3, p. 77) and the What is Happening In Class (WIHIC) (Aldridge, Fraser & Huang, 1999, see Table 2, p. 77). Students will be asked to fill out a five point Likert scale survey in response to a total of 26 items in each of the four component categories previously presented.

The Drum Power Student Survey (Appendix A, pp. 71-74) is comprised of 26 previously validated context-specific items that measure drum student self-efficacy as the following subscales: 1) drumming skills, 2) drumming discipline self-efficacy, 3) drumming community self-efficacy, 4) drumming leadership self-efficacy and four items assessing the sources informing these efficacy beliefs at the following time points: the first day of drumming, after 6-8 classes, and after 6 months or at the time at which the drumming program ends if less than 6 months (but not after fewer than 8 weeks). The 26 items making up the four efficacy sub-scales as well as 16/17 of the efficacy source items are 5 point Likert scales with the following response options: “Very much”, “Yes a little”, “Unsure”, “Not much” and “Not at all.” The final question asks students to choose the best one of five multiple choice options to indicate which source of efficacy has been most influential overall.

There are 9 drumming skill self-efficacy items all of which maintain the fidelity prescribed in Zimmerman and Bandura (1994) for measuring perceived ability to apply academic skills (drumming skills in this case) in context toward executing specific tasks, rather than more globally as drumming self-concept. For example, the first three items are: “I can play all the rhythms we have learned in drumming;” “I can name all the rhythms we have learned in drumming;” and “I can play the right response when the teacher or another

student plays the break.” These items ask participants to present perceived ability based on what they believe they can execute in the context of drumming.

The drumming discipline self-efficacy subscale, which is understood as the ability to focus, concentrate and behave in ways that “use my energy for good things,” includes a total of 7 items, four (4) compiled from the Student Adaptive Learning Engagement in Science (SALES) scale developed by Velayutham et. al. (2011), two from the What is Happening In Class (WIHIC) scale developed by Fraser, McRobbie & Fisher (1996) and one item from Zimmerman & Bandura (1996)’s Self Efficacy for Writing Scale. The items from the Velayutham et al. (2011) and Zimmerman & Bandura (1996) measure efficacy for self-regulated learning and the degree to which students meta-cognitively motivate themselves behaviorally by participating in learning, overcoming obstacles to focus and giving consistent effort (Boekaerts & Cascallar, 2006). While the items adopted from the What is Happening In Class (WIHIC) (Fraser, McRobbie & Fisher, 1996) measure focus on the importance of achieving personal goals and completing planned activities.

The drumming community self-efficacy subscale assesses the perceived ability to “support my own learning and the learning of others” in the classroom community through a total of 5 items. Four of these items are adapted from the WIHIC scale focusing on both the degree to which students help one another and cooperate with one another, and then one item I added assessing the degree to which students believe they can “depend on most students to follow the rules.” This item was added because in past research I found strong correlations between confidence in classmate rule-following and students’ feelings of safety and confidence in the drumming community.

The drumming leadership self-efficacy subscale assesses perceived ability to lead others defined in Drum Power as “doing the right thing even when I have to do so alone and especially when no one is watching,” and includes 5 items. Four of the 5 items are adapted from the WIHIC (1996) scale for involvement which measures the degree to which there is attentive interest, participation in discussion, willingness to do additional work beyond the minimum required and opportunities for students to be the experts or sources of knowledge. I added the following item, “I know what my strengths and weaknesses are in drumming,” because one of the elements of leadership stressed in Drum Power is self-awareness of strengths to be appreciated, and areas where improvement is needed to be points of focus for future work. The ability to do this is reinforced as an important aspect of leadership.

**Drum Power Sources of Self-Efficacy Survey.** To address the second research goal on the sources from which efficacy beliefs are derived for the students, there are 4 items (1 for each of the 4 Bandura (1977) efficacy sources) included at the end each of the Drum Power Student Survey that attempt to assess the sources of the student efficacy beliefs at the following time points: the first day of drumming, after 2-3 classes, after 6-8 classes, and after 6 months or at the time at which the drumming program ends if less than 6 months (but not after fewer than 8 weeks). They are asked the following four questions at each time point with the same Likert scale as presented previously: “...How much did you think you would do well or poorly at drumming for the following reasons: 1)...because other people said you would be good or bad? [verbal persuasion]; 2)...because you saw other kids and compared yourself to them? [vicarious experience]; 3)...because of what you learned at practiced during those weeks [mastery performance]; and 4)...because of the mood you were in when you came to class [physiological/affective state].” Thus, there are 16 items of this type for each of the time points

from Day 1 until after 6 months of drumming. Then the last and final question asks “Which of these 4 things do you think affects what you expect to be able to do in drumming the most now: A) Practice, B) What other kids can do, C) What people say about my drumming ability and D) How I feel each day? This question will be asked only on the last day data is collected.

**Qualitative Interviews.** Finally, in service of the third research goal, A) to examine how participants formed their perceptions and expectations for efficacy, B) reveal experience-derived themes and theory(ies) and C) key common qualitative markers that are distinct and unique to the Drum Power program, 16 participants were selected from each Drum Power group in order to maximize analyzing data from a diversity of drumming experience levels and program sites. Students interviewed were asked to respond to the following open questions and allowed to answer them in as many or a few words as they wished:

1. How would you describe your experience with the drumming class?
2. Why did you join the drum group?
3. What did you expect it to be like and why?
4. Did you expect to fit in? Why or why not?
5. Did you expect to be good/bad at drumming before you first started? What made you think that? Did that stay the same or change with more time in class?
6. Have you learned anything about yourself in drumming this year? If so what? (*Prompts: “understand”, “discover”*)
7. What did you learn in drumming?
8. What was the most important thing you learned in drumming? Why?
9. Have you learned anything in drumming that you think will help you in the future? If so what and why?
10. What was your favorite thing? Why?
11. What was your least favorite thing? Why?
12. Was drumming easy for you? If yes, why? If not, how was it hard and what did you do to deal with that? & why?
13. Was drumming like other classes you have been in? How was it like other classes/ how was it different? (*Prompts: Were the expectations the same? Was it run the same? Was your role the same? Were the rules the same?*)
14. Was the drumming teacher like other teachers? How was he similar and how was he different?
15. What does discipline mean to you?  
What does it mean in action? Example?  
Will it help you in other situations? If so, how?

16. What does community mean to you?  
What does it mean in action? Example?  
Will it help you in other situations? If so, how?
17. What does leadership mean to you?  
What does it mean in action? Example?  
Did you lead anything? How did that feel?  
Will it help you in other situations? If so, how?
18. How did it feel to be a member of the group? Why?
19. What do you think most affected how well you did in drumming?

Their responses were recorded as audio. Interviewers were trained to minimize assumptions communicated through the questioning processes, language and reactions while also attempting to account for their status and power as interviewers. Practicing interviews with me simulating typical student response patterns, rhythms, omissions and tendencies and then debriefing on the simulations were an element of the training. Additionally, the questions underlined above were asked without any additional prompts or follow-up questions to isolate participant feedback without any interviewer prompts or influence on responses to those items.

## **Results**

### **Hypothesis 1: Evaluation and Results of Drum Power Student Self-Efficacy Survey**

To test the first hypothesis, whether the Drum Power Student Self-Efficacy Survey measured student self-efficacy levels in Drumming Skill Efficacy, Drumming Discipline Efficacy, Drumming Community Efficacy and Drumming Leadership Efficacy, I conducted a principal components analysis (PCA) to examine and support the structural characteristics of the instrument and to determine whether the survey items represent clearly identifiable constructs. I conducted the PCA of the 26 items in the measure over all three measuring points treating each time point per participant as a different participant providing a total of 114 samples given 38 x 3 time points, using SPSS. The Kaiser-Meyer-Olkin test for sampling adequacy value was .824, showing sampling was adequate. The rotation method used was Oblimin with Kaiser

normalization. The analysis suggested 7 factors (Kaplan, 2009) associated with Eigenvalues greater than 1 ranging from 1.1 to 7.6 explaining 63.2% of the total variance. Since the survey included 4 subscales (Drumming Skill Efficacy, Discipline Efficacy, Community Efficacy and Leadership Efficacy) I used the PCA to identify those 4 components based on the underlying questions and constructs that the associated items were designed to address. Specifics on each component are provided below. However, most generally, the PCA results produced a first component identifiable as *Drumming Skill Efficacy* (29.1% of the variance), a second component identifiable as *Community Efficacy* (9.5% of variance), a third component identifiable as *Discipline Efficacy* (6% of variance), a fourth component also identifiable as a different aspect of *Discipline Efficacy* (5% of variance), a fifth component identifiable as a different aspect of *Discipline Efficacy* (5% of variance), a sixth a component consisting of 3 items from 3 different subscales that seem unrelated to one another, and a seventh component identifiable as Leadership Efficacy (4% of the variance).

The first component explaining 29.1% of the total variance, with an Eigenvalue of 7.6 included 7 items, all of which were from the *Drumming Skill Efficacy* sub-scale, however, I removed the item, “I can name all the rhythms we have learned in drumming” because that factor loaded the least of the variable at .591 and the item itself would also get exponentially harder as the drumming class went on as more material was taught without a fair amount of pedagogical emphasis on knowing the names of rhythms. Thus, 6 items, with Cronbach’s  $\alpha$  .897, all of which were originally, included in the Drumming Skill Efficacy sub-scale (with loads from .624 to .808) were retained (see Table 5: Drum Power Efficacy Survey subscale descriptive statistics and Cronbach’s  $\alpha$  reliability, p. 79).

The second component, explaining 9.5% of the variance, with an Eigenvalue of 2.5, Cronbach's  $\alpha$  .758, was comprised of 2 items from the *Community Efficacy* subscale (with loads .743 & .664) along with one item from the *Discipline Efficacy* subscale (.619), so the discipline item was removed while the other 2 items were retained.

The third component, explaining 6% of the variance, with an Eigenvalue of 1.5 was comprised of two items from the *Discipline Efficacy* subscale (with loads .720 & .425). The two items retained were "I do not give up when work is difficult," and "I work until I finish what I am supposed to do." The fourth component explaining 5% of the variance with an Eigenvalue of 1.3 included two items from the *Discipline Efficacy* subscale (with loads .718 & .517), "Sometimes I miss important information" (reversed scored) and "I concentrate in this class." Both were retained for analysis as an aspect of discipline. The fifth component explaining 5% of the variance with an Eigenvalue of 1.3 included two items from the *Discipline Efficacy* subscale (with loads .764 & .715). The items retained were "I have personal goals in this class" and "I know what I am trying to accomplish in this class," another aspect of discipline as "*using my energy for good things.*" All six of these items had reliability of Cronbach's  $\alpha$  .787.

The sixth component explaining 5% of the variance had an Eigenvalue of 1.2 and included the following three items each from a different subscale: "I know my strengths and weaknesses" (*discipline efficacy*), "Members of this class are friendly toward me" (*community efficacy*), and "I can keep up with what the teacher is showing me" (*drumming skill efficacy*). The loads carried for these items (in the order presented) were .811, .621 and .471. Since these items had no clear relationship to one another and represented different subscales, this component was not retained.

The seventh and final component extracted via PCA explained 4% of the total variance, with Eigenvalue 1.1, Cronbach's  $\alpha$  .856, and included six negative items 4 of which were from the *Leadership* subscale and two from the *Community* subscale. The items not in the leadership subscale were excluded and the 4 items retained had Cronbach's alpha of .687.

Having extracted the components I then analyzed the means to determine the trajectories and statistical significance of their change over time using repeated measures ANOVA. The ANOVA yielded significant mean differences for *Drumming Skill Efficacy* ( $F(1.4, 50)=29.34$ ,  $p<.000$ ) over time. Mauchly's test showed sphericity was violated so the Greenhouse-Geisser correction was applied. The pairwise comparisons showed the mean differences between all three time points were significant at the .05 level, and drumming skill means increased over time (see Figure 5, p.87). Because the total sample included less experienced brand new drummers who made up 37% of the sample, I also investigate whether the means differed in the expected direction between experienced and less experienced drummers. The means for new first-year drummers on all 5 items on Day 1 (T1) were an average of 1.2 points lower than those of the remainder of the participants who had 1 to 7 years of drumming experience (See Figure 6, p.87).

The ANOVA with repeated measures of the mean differences for *Discipline Efficacy* at the three time points revealed marginally significant differences ( $F(2, 74)=3.13$ ,  $p=.05$ ). Mauchly's test showed sphericity was not violated ( $\chi^2(2) = 1.1$ ,  $p=.586$ ). The pairwise comparison between the mean for T1 (Day 1) and T3 (6 mo. /Prog. End) was significant at the  $p<.05$  level (see Figure 5, p.87).

The ANOVAs analyzing the *Leadership Efficacy* and *Community Efficacy* subscale means across the three time points revealed non-significant mean differences.

## **Hypothesis 2: Evaluation and Results of Drum Power Sources of Self-Efficacy Survey**

To test the second hypothesis, that the relative levels of influence for efficacy sources would show change over time (possibly due to the growing levels of experience students have with the tasks and class), I ran four repeated measures ANOVA to evaluate change in the four efficacy sources over time, and created Spaghetti Plots for each efficacy source to analyze the trajectories of each score across the time points. The results for physiological/affective state (mood) showed that the change in that source was statically significant ( $F(3,108)=11.696$ ,  $p<.027$ ) and Mauchly's test showed sphericity was maintained ( $\chi^2(5) = 7.703$ ,  $p=.174$ ). Mean level for mood for T1 (Day 1) was 3.3, for T2 (4-6 Weeks) was 3, for T3 (6-8 Weeks) was 2.5 and for T4 (>6 Months/Program End) was 3. Thus, mood (physiological affective state) had a moderate but steady presence throughout the course of the drumming class (see Figure 12, p.91).

Social persuasion showed statically significant change ( $F(3, 111)=3.481$ ,  $p<.018$ ).

Mastery experience (practice) showed statically significant change over time ( $F(2.278, 84.289)=4.614$ ,  $p<.010$ ) and Mauchly's test showed sphericity was violated so the Greenhouse-Geisser adjustment was applied. Mean level for mastery experience for T1 (Day 1) was 3.79, for T2 (4-6 Weeks) was 4.23, for T3 (6-8 Weeks) was 4.47 and for T4 (>6 Months/Program End) was 4.46. Pairwise comparisons were significant between T1 and T3, but not for the other time points.

Finally, vicarious experience (comparing one's self to others) did not show change over time. Mean level for vicarious experience for T1 (Day 1) was 2.5, for T2 (4-6 Weeks) was 2, for T3 (6-8 Weeks) was 2 and for T4 (>6 Months/Program End) was 2.

### **Hypothesis 3: Evaluation of interviews for Efficacy Processes and Experience-based themes and Outcomes**

To test the third hypothesis, A) that qualitative interviews would show how participants formed their perceptions and expectations for efficacy, B) reveal experience-derived themes and theory(ies) and C) identify key common qualitative markers distinct and unique to the Drum Power program, I analyzed the interviews of students in accordance with Constructivist Grounded Theory (Charmaz, 2006; Charmaz, 2016) to make sense of the quantitative data by generating theory(s) from the thoughts and words of the students themselves. Even as I clearly designed these research hypotheses and formed some theoretical hypotheses for the quantitative data/measures, I left room for the students to inform my analysis and “explain the data” through the qualitative themes and patterns shared, to re-introduce doubt into the analytic process without false presumptions of researcher neutrality (Charmaz, 2006). Employing intensive interviewing as the source-data allowed a directed conversation where the participants were the primary voices/directors for exploring each qualitative question as a topic for response or non-response. I began with 1) finding initial codes to sort the responses into larger categories of student actions and reactions, then 2) focused coding of the most significant and/or most present themes, then 3) clustering the codes to organize them into discrete categorical and sub-categorical relationships and conceptions, then 4) theoretical coding to explore how the codes related to one another and may form a theoretical hypothesis along with 5) memo-writing throughout the data analysis at each coding phase. (Charmaz, 2006). The initial coding of the interviews consisted of identifying markers that could be recognized from the student’s ideas and comments in a consistent way. These markers included: *Sources of efficacy beliefs, Reasons for joining, Being excited about being in drumming, References to the teacher’s role in class, References to the*

*pillars, Learning new things about myself etc.*, (See Appendix C: Qualitative Coding Scheme, pp. 74-76). Focused coding then consisted of organizing the interview comments into groupings of the markers from the initial coding into larger more descriptive and explanatory categories including, for example: *Experiences of belonging, Fair but hard teacher-derived challenges, Drumming as a site for work on discipline, community and leadership, Feeling stronger and/or better as person from drumming*. The categories from the clustering revealed the 5 themes: 1) Processes and patterns in self-efficacy belief formation, 2) Experience-based themes, social-emotional outcomes and drumming outcomes. The quotations and student perspectives below serve as exemplars in both themes and depth, mirroring many of the students' comments; many students shared similar experiences and perceptions of their qualitative responses and thoughts around drumming.

**A) Processes and Patterns in Self-Efficacy Belief Formation.** The qualitative interviews revealed that most students constructed their initial expectations for drumming efficacy based on how much previous experience and practice they personally had (*mastery performance*), even though many of them had friends and/or siblings who were current and past participants in the program (*vicarious experience--comparing themselves to others*), and despite the fact that many were referred to the group by adults who said they would likely be good at it (*social persuasion*). As the following responses also show, their expectations grew with more drumming experience and time in the class:

*I expected to be OK [at drumming] cuz I guess if I got taught a new beat I [thought I] would practice and practice at home and get better at it, so I thought I'd be ok at drumming...it changed [over time] cuz it actually wasn't that hard anymore. (First year drummer, 5<sup>th</sup> grade, School A)*

*I expected to be bad [at drumming] because I didn't know the sounds or anything, or what you could do with a drum...it was hard at beginning, but it got easier and [then] I knew everything. (First-year drummer, 4<sup>th</sup> grader, School B)*

*I expected me to be bad cuz I was trying a new thing but I was hoping I would get kinda' good at it...I picked up on the drumming. (Second year drummer, 5<sup>th</sup> grader, School B)*

*I expected not to be as good as people there [in the Advanced group] but I tried to work hard to get better. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

Of the 16 students interviewed, from 3 different school-based programs and the Advanced Group, there was only one student who did not form her starting drumming skill efficacy beliefs explicitly based on mastery experience sharing, “I expected to be good because they [the drummers at my school] worked as a community and I knew I could do that.” This affirmation of her expectation for emotional support, safety and collective work did, however, show that she implicitly drew expectations from mastery experience, although indirectly, asserting that she thought she would have the support of the community to facilitate learning the skills that would still come as a result of practicing with the group.

Drummers also revealed the nuanced and complex nature of efficacy beliefs as variable over time, but also confirmed the nature of efficacy beliefs as being simultaneously both temporal and global. More specifically students communicated the reality that how they performed in any given drumming class was affected by the daily undulations of their lives which included physiological/affective states (mood, attitudes, sleep the night before and having a good vs. bad day) while still expecting their development as drummers to progress steadily due to practice and consistent effort. In real time mood states and the impacts of every-day life were always present sometimes as sources of motivation, other times as difficulties to be managed and/or overcome, and sometimes as more ambiguous states in between. One drummer shared, “I expected to be bad because I didn't really know what African drumming was...[that expectation] changed a lot because I started to learn lots of different sets [of rhythms]...It wasn't easy at first but it got easier.” He also shared that what most affected how he did in drumming (daily) was,

“...when I had a bad day and when I was tired or mad.” (2<sup>nd</sup> year drummer, 5<sup>th</sup> grader, School B)

### **B) & C) Experience-based Themes, Social-Emotional Outcomes and Drumming**

**Outcomes.** The experience-derived themes, qualitative markers unique to Drum Power classes and theories one can draw from them coalesced in the following four conceptions: 1) Feeling personally connected to drumming, 2) Finding my power, 3) My teacher as a trusted guide and care-giver and 4) Practicing the Pillars of Power (Drum Power social emotional skills).

*Feeling personally connected to drumming.* Unanimously, the first reflection shared when students were asked “How they would describe their experience in the drumming class?” was that it was a fun activity, (a way to connect to a joyful part of themselves), as well as a place to interact socially with friends. For others it was also a tool for stress release, self-expression, and a source of feelings of connection to siblings who had also participated.

*I think it's great...It actually turned out be awesome! I got to be with my friends and we get to dance and play so much drums and have fun. (First-year drummer, 4<sup>th</sup> grader, School B)*

*It was really fun being a member of the group, getting to play the drums and getting to know my classmates and Mr. Lashley. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

*I have a good time. I learn new things and just be in my own little world...my own little world is music and stuff...I love music [and] music runs in my family. I drum at church but I never [had] drummed with my hands so I tried a new thing. I expected it to be joyful because I love music...School is stressful so I get my stress out by hitting the drum hard. (Second year drummer, 5<sup>th</sup> grader, School B)*

*I think that it [drumming] helps me with knowing who I am, like cuz I'm growing up I need to know who I am and I feel like drumming helps me a lot and I get to communicate with other people and there's a mix of different ages and I get to interact with all those people...I joined [the Advanced Group] because I started with summer camp and I liked it. (4<sup>th</sup> year drummer, Advanced Group, 7<sup>th</sup> grader)*

*I joined when I was in third grade and I did it with my [older] brother. When I first did it we had this rhythm that had a lot of one [pattern] and no resting so I thought 'Oh it would be easier just to play whatever,' and my brother and Mr. Lashley taught me that,*

*like, it's not good to just play whatever...do it right. (3<sup>rd</sup> year drummer, 5<sup>th</sup> grader, School A)*

*It's really fun, it's sort of a privilege to be able to drum with an experienced awesome dude, Mr. Lashley. I feel like it was super awesome to get to perform in front of a lot of people...I joined the drum group because my brother joined the group first and I felt like 'ok I wanna be like my big brother. I wanna be a big kid and I wanna be a drummer.' My dad showed me a little bit of the drumming on the drum set and the snare...Its's cool to learn and have fun at the same time. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

***My teacher as trusted guide and caregiver.*** Students conveyed a feeling of trust in me (“Mr. Lashley”) that seemed to rise out of their experiences and perceptions of various elements of the class that they saw as the result(s) of my explicit philosophy, effort, planning, routines, expectations and pedagogical decisions. In addition to sharing specific experiences in class they also communicated that for them these elements evoked feelings of being cared for, and being seen, heard and valued. Thus, their responses were trust and motivation toward continuing to risk possible failure in order to learn drumming, discipline, community and leadership.

Students were reminded that one of the goals was to make sure that all students learned and felt confident enough to ask questions when they needed help as a skill to practice in this class that would ideally be applied in future classes. However, in order for the vulnerability of showing a lack of knowledge to live, students also practiced responding sensitively to mistakes and hearing/seeing other student's struggles in order to be able to count on the community to be respectful of their own (*A safe and respectful environment; Caring and trusting relationships*).

*I learned about being flexible and to be myself with the drum and if we don't know [something] we can just raise our hands instead of being like 'I don't know this teacher so I don't want to express anything with him'...Flexible means you have to be respectful to people, like if they didn't do it right...don't laugh like you usually would do. And like if he's teaching someone else don't be like 'oh this is boring I already did this.' You just have to be flexible and let the other people know what we are doing and try to get them in contact. (First year drummer, 4<sup>th</sup> grader, School B)*

*My favorite thing in drumming was I love that Mr. Lashley won't give up on you. So when I first started I didn't know any of the rhythms at all and he would show me and*

*even stop the whole class and say 'Jasyra I can tell that you are struggling with this, we can all help you'. So I feel like that was nice. He tells everybody a lot that even if you have a question that you think might be dumb still ask it, so I learned from that...I feel like drumming was similar to other classes because it was a group but different because usually in other classes the teacher kinda looks at everybody [as a whole] but they don't talk to you personally. But in here Mr. Lashley and Tom, my other [drum] teacher, focus on you, not you alone, but when they know that there is a problem they stop and focus on you so they don't kinda just ignore you and think 'ah you'll get through it.' They always try to help you...They help you a lot more and they try to persuade you to commit...(4<sup>th</sup> year drummer, Advanced Group, 7<sup>th</sup> grader)*

There were also feelings of being challenged to learn difficult new material but in fair ways that allowed students to embrace new learning challenges without feeling unprepared or ill-equipped to meet them.

*He [Mr. Lashley] was similar to other teachers but a lot nicer. He don't get angry when you do something wrong and he takes his time to help us and shows us how, instead of giving up on us and saying 'you won't get it just do it next year' or something. (First year drummer, 3<sup>rd</sup> grader, School B)*

*When I first joined [the School A drum class] I felt pretty nervous. It was a new thing and there were a lot of people in there and Mr. Lashley has an interesting teaching style. He's a great teacher but very different than more traditional teachers. He's very focused on discipline and he pushes people. He doesn't let people stay down. He constantly pushes for them to be able to go farther and he makes them think that they can go farther. He tells people that they can, and he helps them do that. (7 year drummer, 10<sup>th</sup> grader, Advanced Group)*

As resonates in some of the previous student comments, students found the class structure and teacher expectations to be demanding and even uncomfortably so at the start. One of the teaching strategies used is talking publicly in class about individual and group struggles with drumming and social-emotional skills and processing them as a group. Even though students were informed that when the group and or individuals did well we would celebrate as a community (family) and when the opposite was true we would learn from one another in non-humiliating ways, because perfection is not expected and development requires struggles, it was

still a shift for most students, and even scarily different for others. One of the outwardly shyest students expressed:

*The drumming teacher was not like other teachers. If Mr. Lashley is talking to someone, he doesn't talk [just to them]. He's not afraid to speak out. He says it in front of the whole class because it would be for the whole class too. And he's strict. Other teachers that I've had they're not strict, not as strict as Mr. Lashley. You don't want to get in trouble from Mr. Lashley because it's really scary. He would put you in the spotlight and have a serious face. (First year drummer, 5<sup>th</sup> grader, School A)*

The same student also shared that “My favorite thing was when I’m trying a rhythm, because [for] some rhythms I can get them right away, and then while I’m playing Mr. Lashley smiles at me. Then, I just feel really proud of myself.”

Students also seemed to find the high expectations to be an expression of teacher confidence and strong guidance rather than dictatorial repression—authoritative, rather than authoritarian.

*It's pretty different because he teaches in a different way than other teachers do. If someone doesn't play something right he doesn't say 'oh that's good enough.' He tries to push them forward...The expectations in drumming were higher [than in other classes] because Mr. Lashley expects every single one of us to try to be good at drumming and to try to play. Class was run differently than other classes because sometimes he would just say 'play this' [rhythm] and he wouldn't play anything and we would just have to play [by ourselves] without him playing anything...In other classes the teacher tells you stuff that you don't really know, but he knows that you know this [rhythm] but you probably forgot...Some of the rules were different because if you played something and you got it wrong Mr. Lashley wouldn't say like 'ok that's kind of good' and not say anything else. He would push you forward [more] than what the other expectations were [in other classes]...He was similar to other teachers because he taught stuff so that you could remember it, but he was different because he had higher expectations for kids. (2<sup>nd</sup> year drummer, 4<sup>th</sup> grader, School A)*

*Other classes that I've been in, they weren't the best classes because sometimes the way they teach is not a good way of teaching to me cuz' sometimes they just hand it [an assignment or instruction] to you. A couple of my other teachers they just handed it to me and I didn't know what to do. But Mr. Lashley explains it and he goes around [the circle to each student] and if you don't know it the he kinda' talks with you and progresses you through it. (2<sup>nd</sup> year drummer, 4<sup>th</sup> grader, School B)*

*Mr. Lashley says 'if you don't know this [an element of drumming material] please speak up because you are not going to get better playing quieter [hiding] and letting other drummers play over you...He was similar to other teachers because of course he was teaching, teaching different subjects and he taught in small parts or chunks where you learn the start, and then the middle and then the end and then you learn how those go together and then you practice it over all. In that way he was similar but he was lot different than a normal teacher because he was lot more interactive, if that makes sense. He's not just sitting in front of class telling you to 'do this and raise your hand if you have a question,' he's playing with you, he's actually demonstrating how to do it on the drum. At the beginning of the year no one could play the slap [sound on the djembe drum] and it was so funny cuz' Mr. Lashley would go around to each person and play the sound using the student's hand, like more interactive. And Mr. Lashley would sometimes stop and talk to us more about life lessons. I like that. He's more good strict not bad strict than other teachers, and more reinforcing of rules. Bad strict is the unfair rule, and unfairly reinforced rule. Like, you humanly mess up and you are punished meanly for it. And then there is good strict where you hold people accountable for the rules that you set and you call them out and you tell them to stop if they are doing something...Bad strict is when they are not reinforcing their rules at all or they're un-humanly punishing and reinforcing. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

***Practicing the pillars of power (social-emotional skills).*** Of the 15 students interviewed, 10 identified one or more social-emotional skills (most often one of the Pillars: discipline, community or leadership) as the “most important thing that they learned in drumming,” while only 5 identified a drumming or musical skill in response to that question. Many responses also showed glimpses into the cognition paths students traveled from the introduction of these concepts, to the application/experience of them and then to their adoption of them as deeper understandings, personal rules and new psychological and physical behaviors.

*Probably, community, leadership and discipline [were the most important thing I learned]. In school it means one thing to me and in drumming it means the same thing but more. All around the school there are posters [with definitions] about what it means. In [drumming] class we discussed what does community mean and everybody was like, um 'a group of people' and like, what it said on the poster. And then he explained it differently not better, but more fuller...I think that's a good thing to know. When you're learning in school, like when you're in school we're learning all sorts of types of stuff, but in drumming when I learned that, like [I thought] it's a good thing to know when you're around people. It's a good thing to be, like a good person to be. (3<sup>rd</sup> year drummer, 5<sup>th</sup> grader, School A)*

*[Note: School A adopted the Drum Power Pillars of power (discipline, community and leadership) as the school-wide core values in 2016 so students who compared how those ideas live in drumming vs. their homeroom classes attend that school.]*

*The most important thing I think I've learned from drumming is the sense of community and kind of how everyone is better as one. Everybody sounds better together and we are all stronger in a bundle than just like as stick. That's how I kinda' see it. We build each other up and help each other with that. (7 year drummer, 10<sup>th</sup> grader, Advanced Group)*

*One of the things that was really hammered into my brain was the lesson that, you only really get out how much effort you put in. That was the most important lesson I learned because if you don't put much effort into playing the drum you're not going to get better and it's not going to sound right. And being, a perfectionist, I was just like, 'I'm just gonna do this and be great' and then [I] put all this energy into it and then I [got tired] and put lower energy into it and started getting worse [not improving] and learned the lesson that you can only get out as much as you put in. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

*It's important to do all the pillars of power and to do your best when everybody is watching or nobody is watching, why, because Mr. Lashley has taught us a lot so far and he's strict but he helps us with our behavior... (1<sup>st</sup> year drummer, 3<sup>rd</sup> grader, School A)*

Students had very clear action-based definitions and understandings of the social-emotional skills they mentioned having developed and practiced in drumming classes.

*Discipline means working harder to me. It means pushing ourselves further than you think you can...I compare it to perseverance almost...Say if I'm confused about something I might tap it [the rhythm] out and focus more. It would definitely help me in academics at school if I don't understand a concept [I can] keep trying it until I feel as I'm confident in myself to be able to that. And I can complete that task and goal. Leadership is stepping up and being able to lead others without anybody else watching. You're not trying to fill some kinda' [external] standard. You're standing up out of your own will to be able to complete something and being able to be a role model or guidance for other people. Say, [for instance] Mr. Lashley is not in the room but he wants us to run something [practice a rhythm], an example could be me or someone else starting that and getting us through that until there is a leader [back] in the room. Community means being able, as one big group, to come together to try to reach a common goal, and being able to coexist together and work together in a peaceful and productive way...Not putting others down or keeping people in that position of being down. Always push[ing] people up. (7 year drummer, 10<sup>th</sup> grader, Advanced Group)*

Some students also revealed their applications of self-regulatory tools including attention focusing, self-instruction, self-monitoring and self-talk, also evident in the comments of the

student above (p. 45) who said she used ignoring and focusing on something else to get beyond the pain of her hands hurting when she first began drumming. The following experiences in response to the question “Was drumming easy and how did you deal with it if it wasn’t?” are also similar in substance and positive tone:

*I told myself ‘don’t give up!’ [It was] like a little talking in my head. (First year drummer, 5<sup>th</sup> grader, School B)*

*I just tried to ignore it [the uncomfortable struggles]. (First year drummer, 4<sup>th</sup> grader, School B)*

*I just try my hardest but sometimes I get frustrated, but I don’t like, bang the drum [in anger]. [I tell myself] things will get easier because you have help, people to help you. (First year drummer, 4<sup>th</sup> grader, School B)*

*At first it was hard because everything was new, new rhythms, new drums, so I sometimes asked questions, and sometimes I would just stop and say [to myself] ‘I can get through this.’ (4<sup>th</sup> year drummer, Advanced Group, 7<sup>th</sup> grader)*

*It was hard. When you learn new stuff it’s kinda’ hard and you have to try a lot to get good at it. [When it was hard] I just tried to listen to Mr. Lashley and what he was saying. (2<sup>nd</sup> year drummer, 4<sup>th</sup> grader, School A)*

*I closed my eyes and thought good thoughts and then focused on Mr. Lashley and I got better with the songs. (First year drummer, 3<sup>rd</sup> grade, School A)*

*It’s hard when I’m learning new rhythms and if I think to myself that ‘I can’t play them’ then I can’t play them. [To deal with this feeling] I look at Mr. Lashley’s daughter [who is in the school A drum group] because she’s really good at drumming and I think to myself ‘if she can do it then I can do it too.’ (Third year drummer, 5<sup>th</sup> grade, School A)*

**Finding my power.** There were many statements of exploring and ultimately finding power and agency both as individuals and as a community in the students’ reflections. There was an awareness of the inherent accomplishment in having learned a previously unknown set of artistic skills and cultural traditions. However, participants shared experiences of personal growth, gains in self-awareness and self-understanding and a sense of achievement and confidence gained from public performances. Through their voices and comments we also see

the depth of self-knowledge and honesty implicit in their self-appraisals of the areas where growth was needed, and where and how they felt growth took place.

*It's really helped me. I've always been kind of shy and introverted but drumming has really helped me to notice that I don't really need that, and that I'm free to express myself in other ways. Drumming, I've been doing for a lot of years and it's really opened me to other cultures and customs and stuff like that through the rhythms and the kinds of drumming [that] we do, Brazilian and African. It's always been a very positive experience getting to meet new people, getting a chance to help people through drumming, and for people to help me too...(7<sup>th</sup> year drummer, Advanced Group, 10<sup>th</sup> grader)*

*I learned that I liked drumming a lot and that I just make it harder than it really has to be [sometimes]. Like if you're like [in] drumming most people complain about their hands hurting but if you like don't think about your hand[s] hurting you will barely feel it. I learned a couple new techniques and we also had this little concert that was also fun. (First year drummer, 3<sup>rd</sup> grader, School B)*

*I learned that I can do something even though it's hard...I learned kind of to be yourself. I used to think I need[ed] to be more cool to fit in with my [older] brother and so Mr. Lashley just taught me to just try your best but do it your own way. (3<sup>rd</sup> year drummer, 5<sup>th</sup> grader, School A)*

*I learned that I can do good and try my hardest. (First year drummer, 5<sup>th</sup> grader, School A)*

*My favorite thing was the satisfaction I felt after playing a concert well. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

*I learned that I should not doubt myself...I learned about Mr. Lashley's culture, like [when] he did some of the dancing. The most important thing I learned is probably that you should not give up and [to] keep trying. If you are doing drumming and you get something wrong and you just say 'Oh I can't do that' then you're never gonna learn it...This girl Samia does the breaks [leads the drummers playing instructions with her drum], and she's really good at it but sometimes she messes up but she keeps trying and she doesn't just say 'Oh I can't do this' but she keeps going. And I learn from [watching] her that I should do that. (1<sup>st</sup> year drummer, 5<sup>th</sup> grader, School A)*

Students also felt that gaining leadership roles was empowering and a source of deep satisfaction signifying the successful acquisition of drumming skills and having earned leadership roles as disciplined community members. They expressed a nuanced understanding of the cyclical relationship between both leading and following as well as the real-time movements back and

forth between those roles. Simply put, “In drumming...I lead a song, and I just feel happy that all these people are listening to me [pause]...and helping lead me too.” (3<sup>rd</sup> year drummer, 5<sup>th</sup> grader, School A)

Finally, many students mentioned many ways they saw the social-emotional learning skills as potentially playing important roles as useful skills into the future. The applications and situations they mentioned included managing social situations and interacting with people, responsibly performing job/career duties and more simply being good, caring trustworthy people. For most students the feelings and experiences of *Feeling Personally Connected, My Teacher as Trusted Guide & Caregiver, Practicing the Pillars (Social-emotional skills)* and then *Finding my Power* were connected and fed one another in bi-lateral and bi-directionally reinforcing ways. They also tended to initially occur in the order in which I presented them above. The connections between the themes and the ways they reinforced one another are illustrated in the following student’s thoughts addressing whether any aspect of the drumming class would influence his future life.

*[The thing that would be most helpful for me is] probably the Pillars of Power, which are discipline, community and leadership, which probably saved my life during all the stuff happening [with me] at school. Sometimes I get mad a bit but then I feel like the discipline, leadership and community like, really helps me. Before I joined I didn’t feel like I had those powers and those strengths. So when I joined I felt like Mr. Lashley was a very optimistic person who could help me with my life. (4<sup>th</sup> year drummer, Advanced Group, 6<sup>th</sup> grader)*

The conceptual model (see Figure 4, p. 86) depicts the ways the experiences and actions reinforce and affect one another reciprocally. As is evident in the student’s comments he experienced feeling a personal connection to drumming class and his teacher whom he described as “optimistic” which in this case may be best understood as connoting being open to seeing the student as a valued member of the community as well as serving as an accessible resource for

him. The student found that implementing the social-emotional skills practiced in drumming in situations at school fostered control and agency in contexts where he previously lacked them leading to finding his power. Finding his power with the support of the drumming classroom social-emotional work left the student feeling a sense of gratitude toward his teacher and feeling more deeply personally connected to his drumming class. It is also likely that for this student the impulse that triggered all the subsequent events, experiences, actions and reactions was joining drumming initially to “be like his older brother” and to have “fun.” Thus, his experience fits well within the model showing how all four elements affected and interacted with one another explaining his experiential and developmental outcomes.

**Qualitative Analysis Summary.** The students’ comments which coalesced in theme and substance as experiencing *Feeling Personally Connected, My Teacher as Trusted Guide & Caregiver, Practicing the Pillars (Social-emotional skills)* and *Finding my Power* showed that the *Elements of Every Successful Learning Opportunity* (See Appendix B, pp. 72-73) were provided in powerful and consistent ways. Their reflections on experiencing a high level of demandingness in a nurturing and fair way that allowed them room to explore leadership roles showed that the Drum Power classroom was a “disciplined” (Yang, 2009) (authoritative) classroom, and that one of the main outcomes was feeling empowered. They unanimously expressed having learned drumming skills and social-emotional skills that they understood as useful in the context of the drumming class and beyond. The interviews also showed that students’ initial drumming class self-efficacy beliefs primarily were informed by how much previous drumming experience they had indicating enactive mastery experience as the primary source initially. This source then remained the most impactful and grew in influence over time relative to all the other sources. However, students also consistently formed initial drumming

class efficacy beliefs based on their mood (physiological/affective state) when they came to class, and there was constant influence from this source at a low-medium level throughout the drumming program for the duration of the study.

There were also site-specific trends, patterns and differences between the students' experiences. Compared to the first year drummers at Schools B and C, students at School A and Advanced Group drummers, who often had two to seven years of Drum Power participation, tended to have more nuanced, deeper understandings of the social-emotional skills, drumming skills and connections between the pedagogical strategies and learning outcomes achieved. However, students from all the sites/programs presented the four themes, and site-based differences were qualitative rather than substantive. This finding showed that developing social-emotional skills in a practiced applied way requires time and continued consistent work even when fully integrated in the academic curriculum. This finding also intimated that developing social-emotional skills was enhanced by the depth and trust present in the relationships, communities and environments where the exploration, practice and skill development took place. It was clear that students who had more time to develop stronger relationships of trust, both as learning communities with peers and with the teacher, had deeper experiences of all four main outcomes-- *Feeling Personally Connected, My Teacher as Trusted Guide & Caregiver, Practicing the Pillars (Social-emotional skills)* and *Finding my Power*.

### **Discussion**

This study provides unique contributions and insights for assessing and interpreting self-efficacy and social-emotional learning outcomes through a close investigation of the Drum Power pedagogy as experienced by an ethnically diverse population of third through twelfth grade students matching the demographic profiles for many public schools in medium-sized

cities in the United States. This study's recruitment of students and schools reflecting ethnic diversity and substantial inclusion of ethnic minority and economically less advantaged students was an attempt to investigate self-efficacy as a path to agency for those most in need (Edmunds, 1979; U.S. Department of Education, 2011) where education is "training" or a skill-building opportunity that increases access to goods and services. Most previous self-efficacy research has centered on college students (Usher and Pajares, 2008; Usher, 2009). This study presents an example of students and teachers' co-dependent work and processes quantitatively and qualitatively. The mixed-methodological approach of using qualitative data to "make sense" of the quantitative data raised the level of theoretical rigor for interpreting both quantitative and qualitative data while providing contextual clarity for study results.

The first major contribution was the design and implementation of a self-efficacy quantitative measure and a qualitative Constructivist Grounded Theory protocol, for classroom academic content (drumming skills) and social-emotional skills (discipline, community and leadership), that satisfied the criteria for domain-specificity inherent to the construct of self-efficacy (Bandura, 1977). This study built on the research foundations that salient individual differences in achievement and performances are at least partially influenced by efficacy beliefs as conceptualized by Bandura (1977) (Gibson & Dembo, 1984; Pina-Neves et al., 2013; Ross & Bruce, 2016; Usher & Pajares, 2008; Wyatt, 2016). Similarly, this study also utilized a theoretical frame and set of healthy classroom elements to inform the tools (measures) for obtaining and analyzing student-derived data assessing outcomes of teacher behaviors, strategies, planning and effort resulting in the Drum Power Student Self-Efficacy Survey and the qualitative interviews. There are effective validated classroom climate measures that include social-emotional learning behavioral indicators (Danielson, 2008; Pianta et. al., 2012), but there are

not any that also assess self-efficacy with the context-specificity requisite for fidelity to Bandura (1977 & 1986). The Drum Power Student Self-Efficacy Survey also does not equate student's objective performances (grades or scores) with efficacy nor conflate students' self-reports of experience with learning tasks with efficacy; the survey provides items that assess what students can/do or how they behave rather than asking them to interpret their behavior. The good to very good Cronbach's  $\alpha$  scores for the four subscales (.758, .787, .856 & .897) showed solid reliability between the items and subscales (See Table 5, p 79).

The quantitative and qualitative data provided different view points that, when taken collectively, allow a more complete view of students' experiences in drumming. The *Drumming Skills Efficacy* subscale performed very well providing a solid model for translating actual academic skills into self-efficacy items showing significant student growth over time, a promising result toward quantitatively assessing context-specific academic skill efficacy and growth. While, the qualitative interviews showed student-perceived growth in social-emotional skills (discipline, community and leadership) more reliably and revealed additional conceptions and experiential outcomes: *Feeling Personally Connected*, *My Teacher as Trusted Guide & Caregiver*, *Practicing the Pillars (Social-emotional skills)* and *Finding my Power*. More importantly, the qualitative data provided a view of the processes leading to efficacy growth, confirming where growth took place, how it was felt and understood by students, and how and why they saw it as having occurred. The qualitative data also tied the quantitative drumming skill results to specific classroom pedagogical strategies and elements including teacher behaviors and routines. It confirmed that the drumming class provided (the *Elements of Every Successful Classroom*): *a safe and respectful environment, caring and trusting relationships,*

*high and clear expectations, opportunities for meaningful contribution and ownership as well as consistency and continuity.*

There have been previous qualitative studies of self-efficacy that have invited participants to list factors contributing to their beliefs as open-ended questions, however they have focused on the four sources of efficacy rather than invited students to share a broader and more detailed perspective of learning experiences to see if themes or elements of efficacy emerge (Usher & Pajares, 2008). Thus, my approach, asking participants to address a more robust range of observations and elements around classroom climate, personal interests, sources of enjoyment, difficulties, growth and outcomes using language that did not presume an assumed response of affirmation or denial, made the data more grounded. Further, the qualitative analysis allowed me to both investigate and acknowledge what students brought to the experiences of learning and contributed to the learning community both in terms of self-efficacy, social-emotional learning and drumming, but also more broadly in terms of their interests, inspirations, histories, values and self-assessed developmental needs. When asked “What did you learn in drumming?” one student said, “Discipline, I learned about using your energy for good things. There are some hurtful people in the world and you ain’t going to wanna be hearing certain things [from them] and stuff, so use your energy for good things and let them be.” She also said the most important thing she learned was “African history...because I want to learn about my ancestors.”

The second major contribution is the successful assessment of the sources of Bandura’s (1977) self-efficacy, enactive mastery experience, social comparison, vicarious experience and physiological affective state (mood) for change over time in an educational setting. The combination of the student’s reflections shared through the grounded theory interviews and the quantitative items provided a clear view of the paths of influence across the time points based in

actual learning experiences and their interpretations of them. Bandura (1977 & 1997) posited that personal and contextual factors influenced and directed how individuals processed and interpreted information from these sources. I attempted to take balanced approach to assessing the sources of efficacy by being very specific in the quantitative survey and then using the qualitative interviews in a less targeted way to see if students registered the sources without any prompting. The quantitative items asked on a five point Likert scale were: “Today how much do the things below effect how well you expect to do in drumming: ...that other people say you are good or bad at it (social persuasion); ...that you see other kids and compare yourself to them (vicarious experience); ...because you will practice and work at it? (enactive mastery experience); the mood you are in when you came to class? (physiological/affective state, mood) The qualitative items were: “Did you expect to be good/bad at drumming before you first started? What made you think that? Did that stay the same or change with more time in class? What most affected how you did in drumming? Quantitative results matched qualitative results in showing that *enactive mastery experience* was the highest at the last point of measure and most influential overall, that *physiological/affective state (mood)* was steadily present at a low to moderate level, and that *vicarious experience* and *social persuasion* were less present throughout.

Many students shared that the mood they were in during class influenced their expectations and their actual performance at a low but steady level as the ANOVA showed, while the interviews additionally revealed that the same students believed that practice (enactive mastery experience) was still more influential overall, simultaneously. One student shared that what most influenced how he did in drumming “was when I had a bad day or was mad,” but he also explained that “I expected to be bad at drumming at first because I didn’t have any

experience, but that [my expectation] changed with more experience... it [drumming] wasn't easy at first, but it got easier, listening and staying focused made it easier." (2<sup>nd</sup> year drummer, 5<sup>th</sup> grader, School B). Few if any studies have identified efficacy source(s) influence this specifically and never for this age and ethnic demographic (Usher & Pajares, 2008).

The degree to which vicarious experience and social persuasion were quantitatively low at every time point with students rating their influence primarily from 2-2.5 (where 2= "NO" and 3="Sort of") on the likert scale, leaves room to argue based on this study that they had little to no influence on efficacy beliefs. The qualitative interviews also showed these sources to be completely absent from the student comments and reflections. Thus, even though Bandura (1977 & 1986) found these sources to be less influential, this study points to the possibility that they may not be present at all. Perhaps these sources are not influential elements and should be considered and further tested for subtraction from the conceptual model.

The study's third major contribution is providing insights about the outcomes, impacts and experiences of students when social-emotional learning is fully integrated into curricular learning, which has implications well beyond the drum class context. CASEL (2013) identified the following five key elements as common in the most affective programs: self-management, self-awareness, social awareness, relationship skills and responsible decision-making. The drumming class itself seemed to be a space where students practiced and honed these skills as well as practiced relating in pro-social ways that were not possible in less safe spaces; it was a space for deeper investigation and practice. However, the strategies, priorities and routines creating that space were not contingent on drumming as a discipline or activity. The *Elements of Every Successful Learning Opportunity* (see Appendix B) and the ways they were provided through Drum Power instructional practices leading to the main qualitative experience-based

thematic outcomes, *Feeling Personally Connected*, *My Teacher as Trusted Guide & Caregiver*, *Practicing the Pillars (Social-emotional skills)* and *Finding my Power*, provide a broadly applicable model for affective teacher instructional practice, classroom culture building/maintenance and assessment of related and relevant outcomes with implications for best-practices beyond the drumming class context. The drumming skill efficacy growth subscale provides a model for assessing academic self-efficacy growth applicable to other academic subjects if adjusted with context-specificity to those alternate uses. While the qualitative outcomes revealed outcomes universally indicative of strong learning culture and positive classroom relationships (Ayers, 2010; Ladson-Billings, 2009; Yang, 2009).

The study also showed the ways that the four main qualitative themes in the Qualitative Theoretical Model (p. 86) connect and interact with one another as student experiences, actions and reactions. Students presented who *feeling connected* to drumming led to feeling empowered to learn and give effort (*finding my power*), and that the explorations and practice of caring for one another and the space through the *practicing the pillars* led to seeing the *teacher as a trusted care-giver* facilitating more pathways toward *finding power*.

*It's really helped me. I've always been kind of shy and introverted but drumming has really helped me to notice that I don't really need that, and that I'm free to express myself in other ways. Drumming, I've been doing for a lot of years and it's really opened me to other cultures and customs and stuff like that through the rhythms and the kinds of drumming [that] we do, Brazilian and African. It's always been a very positive experience getting to meet new people, getting a chance to help people through drumming, and for people to help me too... He's [Mr. Lashley is] a great teacher but very different than more traditional teachers. He's very focused on discipline and he pushes people. He doesn't let people stay down. He constantly pushes for them to be able to go farther and he makes them think that they can go farther. He tells people that they can, and he helps them do that. (7<sup>th</sup> year drummer, Advanced Group, 10<sup>th</sup> grader)*

Students' comments also reflected the reality that the intensity and seriousness necessary for initially motivating students to build and maintain a physically and emotionally safe space at

the start resembled authoritarian dictatorship but then shifted in power balance as students took responsibility once it was modeled for them and turn-keyed through strategies for student *opportunities for ownership and meaningful contribution* becoming authoritative, as Yang (2009) perceptively noted.

The students' shared experiences also revealed key elements of culturally responsive teacher behaviors and strategies, the study's fourth major contribution. Qualitative results presented student beliefs that the teacher 1) believed they could succeed and pulled knowledge and effort out that already existed within them, 2) focused on knowledge being viewed critically helping students develop skills through differentiation and 3) created a learning community where students were apprentices applying new and familiar social-emotional skills in conjunction along with their own validated experiences (Ladson-Billings, 2009). The quantitative results showed how these culturally responsive practices led to skill-building and knowledge acquisition as efficacy. Similarly, the four themes and the student reflections informing them of feelings of trust, safety, validation, affirmation, teacher "personal warmth" and teacher "active demandingness" are examples of culturally responsive pedagogical elements that also support cognitive processing and learning development that have been highlighted by Hammond's (2015) seminal guide, "Culturally Responsive Teaching & The Brain," now being widely used as a guide for teacher professional development. Thus, this study provides a field-tested, applied example of these concepts and strategies at work as well as an example of how to assess them through student-driven, student-derived data. Measures purporting to assess self-efficacy that actually measure different conceptions including self-concept and locus of control are still pervasive in education (Bandura, 1986; Usher & Pajares, 2008; Rotter, 1966), so each new model assessing the construct of self-efficacy with fidelity adds substantially to the field.

## Study Limitations

One limitation was the relatively small sample size, which limited the effect size and options for statistical analysis. The principal component analysis could have likely benefited from a larger sample size, and even been upgraded to a factor analysis with more participants. The marginal means for the *Community Efficacy* component for each time point actually went down although the variance was not statistically significant. The components may not clearly map onto the items for *Community Efficacy* and students did not necessarily connect the community subscales items with the social emotional learning construct as taught and practiced in class. The interviews mention a sense of palpable community that was not clearly indicated by the survey items.

Using a new scale for assessing social-emotional learning was also a limitation. However, this issue was unavoidable given the context-specificity inherent in the Bandura (1977) self-efficacy construct. As a result there were a few items that we revealed to be flawed. For example, “I can depend on most students to follow the rules,” was problematic and prone to inconsistency based on comparisons with other items and observations of classroom climate from the qualitative interviews. Many students scored the question low at 1 or 2 and then commented in the interview that there was a high level of expectation for general classroom climate and rule-following in drumming class. This inconsistency likely occurred because the item, as currently worded, did not specify whether participants should comment specifically on the drumming class. Students, who filled out surveys in school may have thought the question inquired about general school climate or their homeroom since drum class was not specifically mentioned in the question.

Finally, while the presence of clear assessment and demonstrable gains in social-emotional skills efficacy is clear in the qualitative data, it was far less clear in the quantitative data. Thus, social-emotional skill quantitative items now have a starting point for future refinement.

### **Implications & Future Research**

Pondering the issues with the social-emotional learning items, the following new question surfaced for me: when we seek to assess, teach or even talk about social-emotional learning is the most important outcome of interest (or unit of analysis/measurement) more behavioral or more metacognitive? What was clear upon deeper reflection was that the SEL items in Drum Power Student Self-Efficacy survey came from a metacognitive frame while the *Drumming Skills Efficacy* items came from a more behavioral execution viewpoint. Further, would it make more sense to ask “Do you lead the group in playing or performing rhythms” as leadership rather than, “I know what my strengths and weaknesses are...” or “I help other class members who are having trouble?” The first question takes a metacognitive construct and assesses it more behaviorally without asking the person responding to do the metacognitive “math” to answer the question. Leading a rhythm would require metacognitive ability demonstrating patience, respectfully instructing others, independent thinking, modeling leadership for others, self-regulation etc. However, I suspect this item might load as part of drumming skill subscale if analyzed with factor analysis or principal components analysis because of the more behavioral focus when compared to more metacognitive questions. The developmental levels of students would also be a factor in taking this approach requiring consideration of what a demonstration of behavioral leadership could and possibly should look like across different ages, grades and experience levels of leadership and learning.

Similarly it was also the case that when given the item “Students work with me to achieve class goals,” only 13% answered “very much”, 29% responded “yes a little”, “29% were “unsure”, 18% said “not much” and 11% said “not at all” (See Figure 13 p.92). This shows a very likely metacognitive disconnect from the reality that making music together as a group/ensemble is in fact working with other students to achieve class goals, and/or might show that the question did not invoke that recognition. This may indicate a need for future research consideration on how a more metacognitive question like this one signals a connection for participants to behaviors—the reverse of the previous metacognitive direction.

The study data also showed the cognitive processes characterized by Zimmerman (1998) (see Figure 1, p.85) as the *Learning Cycle Phases* where students in a learning task progressed through a cycle from forethoughts about how they expected to perform, to experiencing the task and their emotions and cognitions during the activity/task and then reflecting on their performance forming evaluations and attributions that would be taken into the next related task continuing the cycle.

Finally, this study provides data giving insight on key gains from the Drum Power program as well as shows how they are connected to teacher behaviors, pedagogical priorities, and the relationships that grow from them. Such a model could be replicated as well as adapted in many ways with a focus on self-efficacy, to most minimally serve as a starting point for key considerations and planning at the level of applied systems and routines for culturally responsive pedagogy, and grander still as a template for fully integrating social-emotional skills into academic teaching. Deepening our understandings of the sources students use to build and form efficacy beliefs could inform pedagogical approaches in support of their positive self-efficacy development. As I noted in the introduction self-efficacy research, taken collectively, has yet to

yield practical contributions to schools and the work of education nor produced sufficient consistent empirical results to stabilize the field, so it is my hope that this study adds another positive step in that most constructive direction.

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## Appendix A.

## DRUM POWER STUDENT SURVEY PART 1

**FIRST NAME:** \_\_\_\_\_

**LAST NAME:** \_\_\_\_\_

**GRADE:** \_\_\_\_\_

**These questions ask about Drumming Skills. Mark ONE ANSWER for EACH QUESTION with an "X".**

	For SURE YES!	Yes	Sort of	No	NO WAY!
1. I can play all the rhythms we have learned in drumming.					
2. I can name all the rhythms we have learned in drumming.					
3. I can play the right response when the teacher or another student plays the break.					
4. I can play the bass, slap and tone sounds on the djembe drum.					
5. I can keep up with what the teacher is showing me.					
6. I can play the basic exercise (warm-up).					
7. When class starts I can start drumming with no difficulty.					
8. When I have trouble learning a new rhythm I can think about it a different way that makes it easier.					
9. I can teach at least 1-2 drum rhythms I learned to someone else.					

**What are your thoughts on Discipline? (Mark one X for each line).**

	For SURE YES!	Yes	Sort of	No	NO WAY!
10. I can refocus my concentration on drumming when I find myself thinking about other things.					

11. I sometimes miss important points in class.					
12. I do not give up even when the work is difficult.					
13. I concentrate in class.					
14. I keep working until I finish what I am supposed to do.					
15. I have personal goals for this class.					
16. I know what I am trying to accomplish in this class.					

**These questions ask about Community. (Mark one X per line.)**

	For SURE YES!	Yes	Sort of	No	NO WAY!
17. I can depend on most students to follow the rules					
18. Members of this class are friendly toward me					
19. In this class I get help from other students.					
20. I learn from other students in this class.					
21. Students work with me to achieve class goals.					

**These questions ask about Leadership. Mark one X for each question.**

	For SURE YES!	Yes	Sort of	No	NO WAY!
22. I know what my strengths and weaknesses are in drumming					
23. I give my opinions in this class.					
24. The teacher asks me questions.					
25. I explain how I solve problems.					
26. I help other class members who are having trouble.					

**Sources of Self-efficacy**

**These questions ask about how well you expect to do in drumming. Mark one X for each question.**

Today how much do the things	Very much	Yes a	Uns ure	Not much	Not at all
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<b>below effect how well you expect to do in drumming:</b>		little			
27. ...that other people say you are good or bad at it?					
28. ...that you see other kids and compare yourself to them?					
29. ...because you will practice and work at it?					
30. ...the mood you are in when you came to class?					

<b>After the first 2-3 drum classes do you think you would do well or poorly at drumming for the following reasons:</b>	Very much	Yes a little	Unsure	Not much	Not at all
31. ...that other people said you are good or bad at it					
32. ...because you see other kids and compare yourself to them?					
33. ...because you practice and work at it.					
34. ...because of the mood you were in when you came to class?					

<b>After 6-8 drumming classes do you think you would do well or poorly at drumming for the following reasons:</b>	Very much	Yes a little	Unsure	Not much	Not at all
35. ...that other people said you are good or bad at it					
36. ...because you see other kids and compare yourself to them?					
37...because you practice and work at it.					
38. ...because of the mood you were in when you came to class?					

<b>After 6 months did you think you would do well or poorly at drumming for the following reasons:</b>	Very much	Yes a little	Unsure	Not much	Not at all
--------------------------------------------------------------------------------------------------------	-----------	--------------	--------	----------	------------

39. ...that other people said you are good or bad at it?					
40. ...because you see other kids and compare yourself to them?					
41. ....because you practice and work at it.					
42. ...because of the mood you were in when you came to class?					

**43. Which of these 4 things do you think effects what you expect to be able to do in drumming the most now?**

- A. Practice
- B. What other kids can do
- C. What people say about my drumming ability
- D. How I feel each day.

## Appendix B

### **Elements Every Successful Learning Opportunity**

#### **1. A Safe & Respectful Environment**

Teachers provide and maintain an atmosphere that is nurturing and comfortable for participants, the teacher and any other people involved in the program or class room. Such an environment is created when everyone feels VALUED and RESPECTED

#### **2. Caring & Trusting Relationships**

In addition to creating and maintaining an environment conducive to building caring and trusting relationships, teachers must FORM caring and trusting relationships with every participant individually and with the group as a unit. This requires great sensitivity, insight and vulnerability.

#### **3. High & Clear Expectations**

Clearly communicating your high expectations for the participants is probably the most important element of any youth program. It is a well-known fact that the goals and achievements toward which young people aspire are directly influenced by the expectations and confidence imparted by the adults in their lives. As the teacher you instill confidence in the potential and ability of each individual, and you instill confidence in the ability of the group as a unit/ensemble. Never lower your expectations and use your commitment to helping students reach them as the rationale for your actions and explain that to students.

#### **4. Opportunities for Meaningful Contribution & Ownership**

Since one of the goals is to help young people learn to embrace and enjoy the responsibilities of leadership, we must create opportunities for them to be leaders and provide guidance and support as they do so. It is important to remember that with responsibility comes accountability, which makes assigning leadership roles a powerful fun way for students to learn to be more responsible and accountable with practice and application.

#### **5. Consistency & Continuity**

Developing new skills and getting the youth accustomed to high expectations and high levels of focus require that most aspects of the class be consistent and continuous. The teacher must create a class structure or schedule that allows students to repeat the necessary drills for development without allowing the classes to be too monotonous or “boring.”

#### **6. Programmatic Flexibility & Adaptability**

Although consistency is crucial, instructors must also be able to react to unexpected situations and make changes when necessary. When unexpected situations occur the first

priority should be the participants' needs at that moment. In cases when the unexpected situation is unsatisfactory behavior we must assume that the behavior is their way of telling us that they need something. We must determine the need and address it.

### **7. Know the Origins and Triggers for Your Students' disruptive Behaviors - "the hurdles they see"**

If you know what they see you can shepherd them through it and you have a better chance at knowing when to nurture and when to be tough. This is the true goal of CPR but really the goal of all effective teaching if the end game is getting each student to gain and learn as much from you as possible.

Most disruptive behaviors surface because:

- A.) Past Trauma is triggered
- B.) Clinical Issues exists
- C.) Students are risk averse (afraid to try for fear of failure)

## Appendix C

### Drum Power Lowell Staff Recommendation Criteria

We are planning to continue drumming at Lowell as an opportunity for leadership development and community building for 3-5<sup>th</sup> grade students who are strong leaders in need of opportunities, students who struggle and those who are somewhere in the middle.

Thus, we are asking that you kindly recommend students in **all four categories from your class/role** at Lowell that you think would benefit. Please list them in order of those most in need according to the following four categories and criteria, and also feel free to recommend students who you know really want to do it:

- A. Students who struggle with Self-confidence, Risk taking, Self-control/behavior, Positive identity, Academic confidence, Turning in & completing Homework, Participating in Class, Volunteering for extra work/responsibilities, Attendance, Working with Others, Motivation to Learn
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
- B. Students who positively demonstrate leadership ability, Self-confidence, Risk taking, Self-control/behavior, Positive identity, Academic confidence, Turning in & completing Homework, Participating in Class, Volunteering for extra work/responsibilities, Attendance, Working with Others, Motivation to Learn
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
- C. Students who are in the middle of the descriptions above and thus tend to get lost, not getting negative attention or positive notoriety but could use a boost in accountability, responsibility and confidence:
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
- D. Boys who struggle with Self-confidence, Risk taking, Self-control/behavior, Positive identity, Academic confidence, Turning in & completing Homework, Participating in Class, Volunteering for extra work/responsibilities, Attendance, Working with Others, Motivation to Learn:
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_

The priority will be given to students in the group last year and then to the students you recommend. Please submit your list to Ms. Trudell or Ms. Reller by September, 16<sup>th</sup>.

## Appendix D: Qualitative Data Analysis Coding Scheme

Open Coding (Student comment exemplars)	Focused Coding	Clustering	Theoretical Code
<p><i>I like the sense the sense of community.</i></p> <p><i>I liked working with others, learning to communicate and critique others. Drumming technique was hard at first.</i></p> <p><i>I enjoyed feeling the level of acceptance of me in the group.</i></p> <p><i>When the class was hard I would keep trying and working at it.</i></p> <p><i>I knew people and had friends in drumming so I expected to fit in.</i></p> <p><i>I think it's great...It actually turned out be awesome! I got to be with my friends and we get to dance and play so much drums and have fun.</i></p>	<ul style="list-style-type: none"> <li>▪ Reasons for joining drumming</li> <li>▪ Reasons for being excited to join</li> <li>▪ Expectations for doing well or not doing well</li> <li>▪ Previous experiences &amp; feelings about drumming or Drum Power specifically</li> </ul>	<ol style="list-style-type: none"> <li>1) Experiences and feelings of belonging</li> <li>2) References to personal experiences and/or history influencing hopeful, positive, joyful drumming class expectations</li> <li>3) Expressing positive relationships to the drumming community and or friends in class</li> <li>4) High frequency of not having a least favorite thing about drumming class</li> </ol>	<p><b>Feeling Personally Connected</b></p>
<p><i>It was really fun being a member of the group, getting to play the drums and getting to know my classmates and Mr. Lashley.</i></p> <p><i>I have a good time. I learn new things and just be in my own little world...my own little world is music and stuff...I love music [and] music runs in my family. I drum at church but I never [had] drummed with my hands so I tried a new thing. I expected it to be joyful because I love music...School is stressful so I get my stress out by hitting the drum hard.</i></p>	<ul style="list-style-type: none"> <li>▪ References to teacher's role in class</li> <li>▪ References to teaching style, teaching routines, strategies, and teacher priorities</li> <li>▪ Comparisons between drumming class and other classes &amp; learning contexts</li> <li>▪ Feelings and opinions about the teacher and about the way class was run</li> </ul>	<ol style="list-style-type: none"> <li>1) Hard but fair learning challenges</li> <li>2) Trusting teacher judgment</li> <li>3) Feeling strictness was fair and positive</li> <li>4) Feeling the teacher really cares about me</li> <li>5) High frequency of opinions that students' favorite thing was the teacher's habits or teacher priorities</li> <li>6) High frequency of not having a least favorite thing about drumming class</li> </ol>	<p><b>My Teacher as Trusted Guide and Caregiver</b></p>
<p><i>It's really fun, it's sort of a privilege to be able to drum with an experienced awesome dude, Mr. Lashley. I feel like it was super awesome to get to perform in front of a lot of people...I joined the drum group because my brother joined the group first and I felt like 'ok I wanna be like my big brother. I</i></p>	<ul style="list-style-type: none"> <li>▪ References to pillar learning and practicing in Drum Power</li> <li>▪ High frequency that pillars was identified as the most important and/or favorite thing learned</li> </ul>	<ol style="list-style-type: none"> <li>1) Drum Power class as site for work on pillars</li> <li>2) Drumming as site for deeper work on pillars than other contexts</li> <li>3) Clear ideas on the roles the pillars would, could play in students' future lives</li> </ol>	<p><b>Practicing the Pillars</b> (Discipline, Community &amp; Leadership)</p>

<p><i>wanna be a big kid and I wanna be a drummer.' My dad showed me a little bit of the drumming on the drum set and the snare...Its's cool to learn and have fun at the same time.</i></p> <p><i>He [Mr. Lashley] was similar to other teachers but a lot nicer. He don't get angry when you do something wrong and he takes his time to help us and shows us how, instead of giving up on us and saying 'you won't get it just do it next year' or something.</i></p> <p><i>My favorite thing was when I'm trying a rhythm, because [for] some rhythms I can get them right away, and then while I'm playing Mr. Lashley smiles at me. Then, I just feel really proud of myself.</i></p>	<ul style="list-style-type: none"> <li>▪ Examples of perseverance in drumming</li> <li>▪ Excitement about learning new things</li> <li>▪ Feeling a sense of accomplishment and/or empowerment</li> <li>▪ Feeling a sense of growth</li> <li>▪ Feeling stronger than when drumming started</li> <li>▪ Feeling stronger as a member of the drumming community</li> </ul>	<ol style="list-style-type: none"> <li>1) Feeling stronger or better as a person because of Drum Power participation</li> <li>2) Feeling stronger or better as a drummer</li> <li>3) Feeling proud of performances</li> </ol>	<b>Finding My Power</b>
<p><i>At first it was hard because everything was new, new rhythms, new drums, so I sometimes asked questions, and sometimes I would just stop and say [to myself] 'I can get through this.</i></p> <p><i>The most important thing I think I've learned from drumming is the sense of community and kind of how everyone is better as one. Everybody sounds better together and we are all stronger in a bundle than just like as stick. That's how I kinda' see it. We build each other up and help each other with that.</i></p> <p><i>Probably, community, leadership and discipline [were the most important thing I learned]. In school it means one thing to me and in drumming it means the same thing but more. All around the school there are posters [with definitions] about what it means. In [drumming] class we discussed what does community mean and everybody was like, um 'a group of people' and like, what it said on the poster. And then he explained it differently not</i></p>	<ul style="list-style-type: none"> <li>▪ References to all sources of beliefs about performance expectations</li> </ul>	<ol style="list-style-type: none"> <li>1) References to enactive mastery experience, vicarious experience, social persuasion or physiological/Affective state (mood) as a source of beliefs about performance expectations</li> </ol>	<b>Processes and Patterns in Self-Efficacy Belief Formation</b>

<p><i>better, but more fuller...I think that's a good thing to know.</i></p> <p><i>[The thing that would be most helpful for me is] probably the Pillars of Power, which are discipline, community and leadership, which probably saved my life during all the stuff happening [with me] at school. Sometimes I get mad a bit but then I feel like the discipline, leadership and community like, really helps me. Before I joined I didn't feel like I had those powers and those strengths. So when I joined I felt like Mr. Lashley was a very optimistic person who could help me with my life.</i></p> <p><i>I accomplished a lot and that felt good.</i></p> <p><i>I expected to be bad [at drumming] because I didn't know the sounds or anything, or what you could do with a drum...it was hard at beginning, but it got easier and [then] I knew everything.</i></p> <p><i>I expected me to be bad cuz I was trying a new thing but I was hoping I would get kinda' good at it...I picked up on the drumming.</i></p> <p><i>I expected not to be as good as people there [in the Advanced group] but I tried to work hard to get better.</i></p> <p><i>I expected to be good because they [the drummers at my school] worked as a community and I knew I could do that.</i></p>			
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**Table 1. Summary of Study Self-Report Measures**

Measure (# of items)	Reference	Sample item; response scale
<b>Drum Power Student Self Efficacy Survey (administered Day 1, 6-8 weeks, Program End)</b>		
Drumming Skill Efficacy (9) <i>Perceived ability to execute drumming skills tasks</i>	7 items developed for this study (2017) 2 items adapted from Scale Measuring Perceived Self-Regulatory Efficacy for Writing (Zimmerman Bandura, 1994)	I can play all the rhythms we have learned in drumming. I can play the bass, slap and tone sounds on the djembe drum. 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
Discipline Efficacy (7): <i>Perceived ability to focus, concentrate and motivationally participate and direct their learning processes</i>	4 items adapted from Student Adaptive Learning Engagement in Science (MSRSL) Questionnaire (Velayutham et. al., 2011) 2 items, What is Happening In Class (WIHIC) Aldridge, J., Fraser, B. & Huang, T. (1999) 1 item adapted from Scale Measuring Perceived Self-Regulatory Efficacy for Writing (Zimmerman & Bandura, 1994)	I can refocus my concentration on drumming when I find myself thinking about other things. (Zimmerman & Bandura, 1994) I do not give up even when the work is difficult. (MSRSL) I have personal goals for this class. Adapted (WIHIC) 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
Community Efficacy (5) <i>Perceived belief that I support others’ learning and that mine is supported—cooperation and support in learning tasks.</i>	4 items, Cooperation What is Happening In Class (WIHIC) Aldridge, J., Fraser, B. & Huang, T. (1999) 1 item developed in my past research from First Year Project	In this class I get help from other students. Students work with me to achieve class goals. (WIHIC) I can depend on most students to follow the rules.(First Year Project. 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
Leadership Efficacy (5) <i>Perceived ability to lead others and meaningful contribution to the class</i>	4 items, What is Happening In Class (WIHIC) (Aldridge, J., Fraser, B. & Huang, T. (1999) 1 item developed for this study.	I help other class members who are having trouble. I give my opinions in this class. (WIHIC) I know what my strengths and weaknesses are in drumming 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
<b>Sources of Drumming Self Efficacy (administered Day 1 (T1), 2-3 weeks (T2), 6-8 weeks (T3) &amp; 6 months /Program End (T4)</b>		
Mastery Experience (1) <i>Practice and repetition</i>	Developed for this study with fidelity to Bandura (1997).	After the first 2-3 drum classes do you expect to do well or poorly at drumming because of how you practice? 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
Social Persuasion (1) <i>Feedback from someone else as affirmation or criticism</i>	Developed for this study with fidelity to Bandura (1997).	After the first 2-3 drum classes do you expect to do well or poorly at drumming because another person or people say you will be good or bad? 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
Vicarious Experience (1) <i>Social comparison to someone else</i>	Developed for this study with fidelity to Bandura (1997).	After the first 2-3 drum classes do you expect to do well or poorly at drumming because you see other kids and compare yourself to them? 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
Physiological or Affective State (1) <i>Physiological or emotional state while in class (mood)</i>	Developed for this study with fidelity to Bandura (1997).	After the first 2-3 drum classes do you expect to do well or poorly at drumming because of the mood you are in when you came to class? 4-Very much, 3-Yes a little, 2-Unsure, 1-Not much” and 0-Not at all
<b>Qualitative Interviews (Administered 1 time after 8 weeks/Program End of drumming classes to 15 participants)</b>		

Measure (# of items)	Reference	Sample item; response scale
Qualitative Interview Items (19) Open-ended questions for response with as many or as few words as participants desire	Developed for this study with fidelity to Constructivist Grounded Theory (Charmaz, 2006)	<p>How would you describe your experience with the drumming class?</p> <p>Why did you join the drum group?</p> <p>What did you expect it to be like and why?</p> <p>Did you expect to fit in? Why or why not?</p> <p>Did you expect to be good/bad at drumming before you first started? What made you think that? Did that stay the same or change with more time in class?</p> <p>Have you learned anything about yourself in drumming this year? If so what? (Prompts: “understand”, “discover”)</p> <p>What did you learn in drumming?</p> <p>What was the most important thing you learned in drumming? Why?</p> <p>Have you learned anything in drumming that you think will help you in the future? If so what and why?</p> <p>What was your favorite thing? Why?</p> <p>What was your least favorite thing? Why?</p> <p>Was drumming easy for you? If yes, why? If not, how was it hard and what did you do to deal with that? &amp; why?</p> <p>Was drumming like other classes you have been in? How was it like other classes/ how was it different? (Prompts: Were the expectations the same? Was it run the same? Was your role the same? Were the rules the same?)</p> <p>Was the drumming teacher like other teachers? How was he similar and how was he different?</p> <p>What does discipline mean to you? Leadership?  What does it mean in action? Example?  Will it help you in other situations? If so, how?</p> <p>What does community mean to you?  What does it mean in action? Example?  Will it help you in other situations? If so, how?</p> <p>What does leadership mean to you?  What does it mean in action? Example?  Did you lead anything? How did that feel?  Will it help you in other situations? If so, how?</p> <p>How did it feel to be a member of the group? Why?</p>

**Table 2.** What is Happening in this Classroom Measure (WIHIC) (Aldridge, J., Fraser, B. & Huang, T. (1999)

**APPENDIX**  
**Items in the What Is Happening in This Class? Questionnaire**

<p style="text-align: center;"><b>Student Cohesiveness</b></p> <p>1. I make friendships among students in this class. 2. I know other students in this class. 3. I am friendly to members of this class. 4. Members of the class are my friends. 5. I work well with other class members. 6. I help other class members who are having trouble with their work. 7. Students in this class like me. 8. In this class, I get help from other students.</p> <p style="text-align: center;"><b>Teacher Support</b></p> <p>9. The teacher takes a personal interest in me. 10. The teacher goes out of his/her way to help me. 11. The teacher considers my feelings. 12. The teacher helps me when I have trouble with the work. 13. The teacher talks with me. 14. The teacher is interested in my problems. 15. The teacher moves about the class to talk with me. 16. The teacher's questions help me to understand.</p> <p style="text-align: center;"><b>Involvement</b></p> <p>17. I discuss ideas in class. 18. I give my opinions during class discussions. 19. The teacher asks me questions. 20. My ideas and suggestions are used during classroom discussions. 21. I ask the teacher questions. 22. I explain my ideas to other students. 23. Students discuss with me how to go about solving problems. 24. I am asked to explain how I solve problems.</p> <p style="text-align: center;"><b>Investigation</b></p> <p>25. I carry out investigations to test my ideas. 26. I am asked to think about the evidence for statements. 27. I carry out investigations to answer questions coming from discussions. 28. I explain the meaning of statements, diagrams, and graphs. 29. I carry out investigations to answer questions that puzzle me.</p>	<p>30. I carry out investigations to answer the teacher's questions. 31. I find out answers to questions by doing investigations. 32. I solve problems by using information obtained from my own investigations.</p> <p style="text-align: center;"><b>Task Orientation</b></p> <p>33. Getting a certain amount of work done is important to me. 34. I do as much as I set out to do. 35. I know the goals for this class. 36. I am ready to start this class on time. 37. I know what I am trying to accomplish in this class. 38. I pay attention during this class. 39. I try to understand the work in this class. 40. I know how much work I have to do.</p> <p style="text-align: center;"><b>Cooperation</b></p> <p>41. I cooperate with other students when doing assignment work. 42. I share my books and resources with other students when doing assignments. 43. When I work in groups in this class, there is teamwork. 44. I work with other students on projects in this class. 45. I learn from other students in this class. 46. I work with other students in this class. 47. I cooperate with other students on class activities. 48. Students work with me to achieve class goals.</p> <p style="text-align: center;"><b>Equity</b></p> <p>49. The teacher gives as much attention to my questions as to other students' questions. 50. I get the same amount of help from the teacher as do other students. 51. I have the same amount of say in this class as other students. 52. I am treated the same as other students in this class. 53. I receive the same encouragement from the teacher as other students do. 54. I get the same opportunity to contribute to class discussions as other students. 55. My work receives as much praise as other students' work. 56. I get the same opportunity to answer questions as other students.</p>
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Items are scored 1, 2, 3, 4, and 5, respectively, for the responses *almost never*, *seldom*, *sometimes*, *often*, and *almost always*.

**Table 3.** Motivation and Self-Regulation in Science Learning (Velayutham et. al 2011)

Self-regulation	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
<i>In this science class ...</i>					
25. Even when tasks are uninteresting, I keep working.	1	2	3	4	5
26. I work hard even if I do not like what I am doing.	1	2	3	4	5
27. I continue working even if there are better things to do.	1	2	3	4	5
28. I concentrate so that I will not miss important points.	1	2	3	4	5
29. I finish my work and assignments on time.	1	2	3	4	5
30. I do not give up even when the work is difficult.	1	2	3	4	5
31. I concentrate in class.	1	2	3	4	5
32. I keep working until I finish what I am supposed to do.	1	2	3	4	5

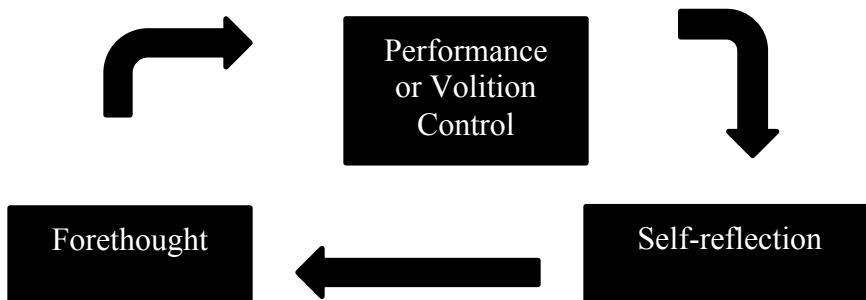
Table 4. (Zimmerman &amp; Bandura, 1994, p. 850)

<b>Means and Standard Deviations for Individual Items in the Scale Measuring Perceived Self-Regulatory Efficacy for Writing</b>			
<b>Items</b>		<i>M</i>	<i>SD</i>
1.	When given a specific writing assignment, I can come up with a suitable topic in a short time.	4.40	1.21
2.	I can start writing with no difficulty.	3.74	1.31
3.	I can construct a good opening sentence quickly.	3.71	1.30
4.	I can come up with an unusual opening paragraph to capture readers' interest.	3.99	1.48
5.	I can write a brief but informative overview that will prepare readers well for the main thesis of my paper.	4.51	1.22
6.	I can use my first attempts at writing to refine my ideas on a topic.	4.72	1.09
7.	I can adjust my style of writing to suit the needs of any audience.	4.19	1.27
8.	I can find a way to concentrate on my writing even when there are many distractions around me.	3.48	1.59
9.	When I have a pressing deadline on a paper, I can manage my time efficiently.	4.63	1.50
10.	I can meet the writing standards of an evaluator who is very demanding.	4.13	1.24
11.	I can come up with memorable examples quickly to illustrate an important point.	4.30	1.25
12.	I can rewrite my wordy or confusing sentences clearly.	4.48	1.28
13.	When I need to make a subtle or an abstract idea more imaginable, I can use words to create a vivid picture.	4.31	1.27
14.	I can locate and use appropriate reference sources when I need to document an important point.	4.98	1.45
15.	I can write very effective transitional sentences from one idea to another.	4.56	1.29
16.	I can refocus my concentration on writing when I find myself thinking about other things.	3.82	1.41
17.	When I write on a lengthy topic, I can create a variety of good outlines for the main sections of my paper.	3.78	1.41
18.	When I want to persuade a skeptical reader about a point, I can come up with a convincing quote from an authority.	4.48	1.43
19.	When I get stuck writing a paper, I can find ways to overcome the problem.	4.34	1.22
20.	I can find ways to motivate myself to write a paper even when the topic holds little interest for me.	3.78	1.41
21.	When I have written a long or complex paper, I can find and correct all my grammatical errors.	4.44	1.35
22.	I can revise a first draft of any paper so that it is shorter and better organized.	4.50	1.33
23.	When I edit a complex paper, I can find and correct all my grammatical errors.	4.72	1.54
24.	I can find other people who will give critical feedback on early drafts of my paper.	4.81	1.63
25.	When my paper is written on a complicated topic, I can come up with a short informative title.	4.63	1.38

**Table 5. Drum Power Efficacy Survey subscale descriptive statistics and Cronbach's  $\alpha$  reliability**

Subscales	N Participants	N of items	$\alpha$	Time	Min	Max	Mean	SD
Drumming Skill Efficacy	38	6	.897	Day 1	1.5	5.0	3.45	.96
				6-8 Weeks	2.0	5.0	4.15	.57
				6Mo- End	2.7	5.0	4.28	.54
Discipline Efficacy	38	6	.787	Day 1	2.2	4.8	3.67	.52
				6-8 Weeks	2.5	5.0	3.82	.55
				6Mo- End	3.2	4.7	3.85	.41
Community Efficacy	38	2	.758	Day 1	2.0	5.0	3.71	.78
				6-8 Weeks	1.5	5.0	3.61	.83
				6Mo- End	1.5	5.0	3.61	.83
Leadership Efficacy	38	4	.856	Day 1	2.0	4.8	3.51	.69
				6-8 Weeks	2.0	5.0	3.47	.69
				6Mo- End	2.3	5.0	3.48	.67

**Figure 1:** Learning Cycle phases (Zimmerman, 1998, p,3)



Cyclical Phases and Sub-processes of Self-Regulation (Zimmerman, 1998, p.4)

Cyclical Self-Regulatory Phases		
Forethought	Performance/Volition	Self-reflection
Goal Setting Strategic Planning Self-efficacy Beliefs Goal Orientation Intrinsic Interest	Attention Focusing Self-instruction/Imagery Self-monitoring	Self-evaluation Attributions Self-reactions Adaptation

**Figure 2:** Triadic Reciprocal Causation (Bandura, 1986)

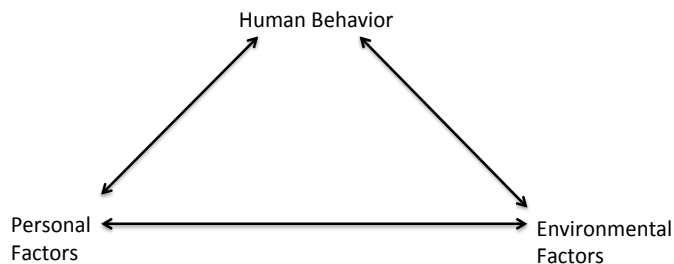


Figure 3: Drum Power Classroom Elements, Structure & Engagement

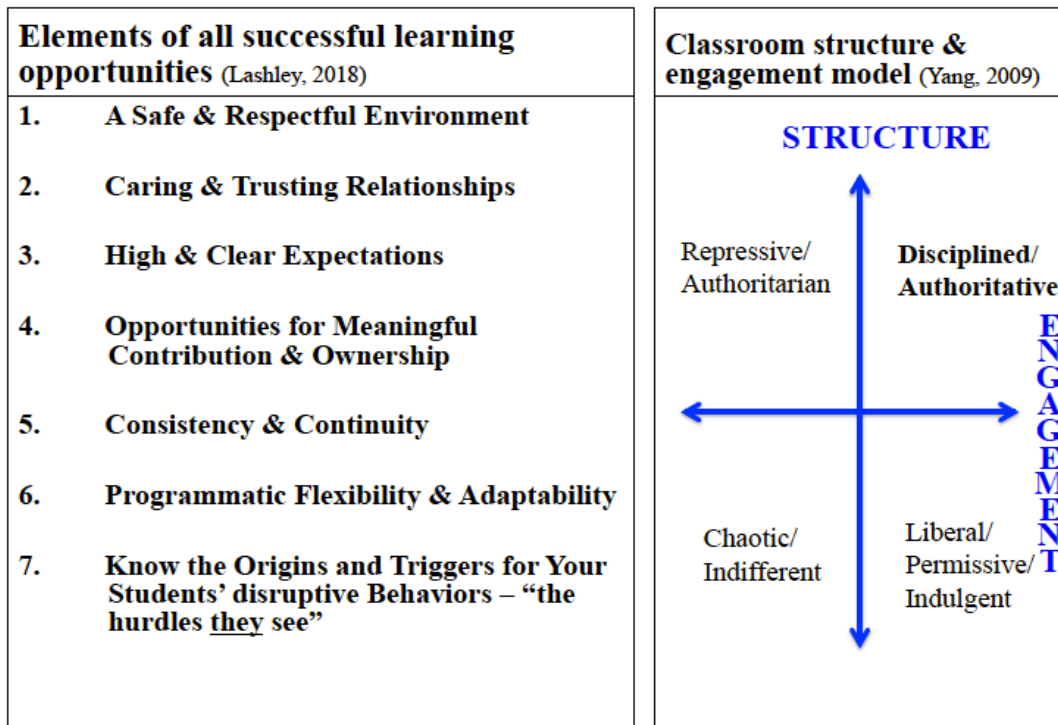
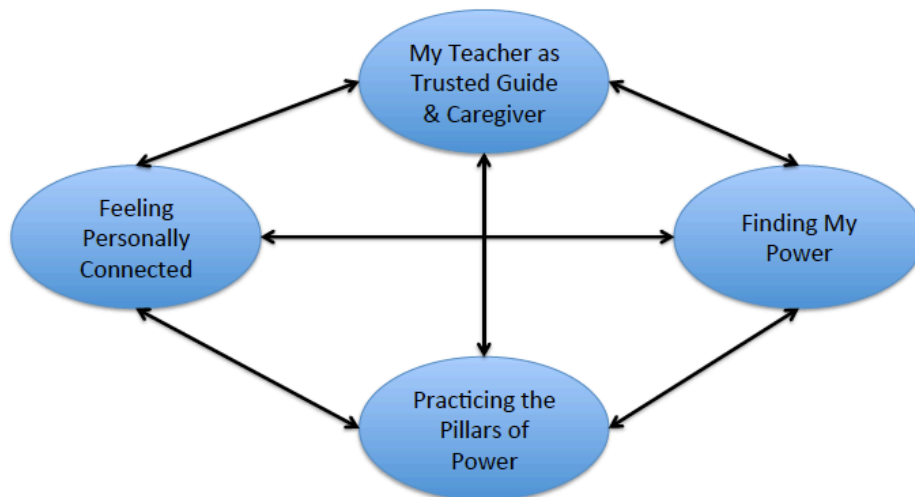
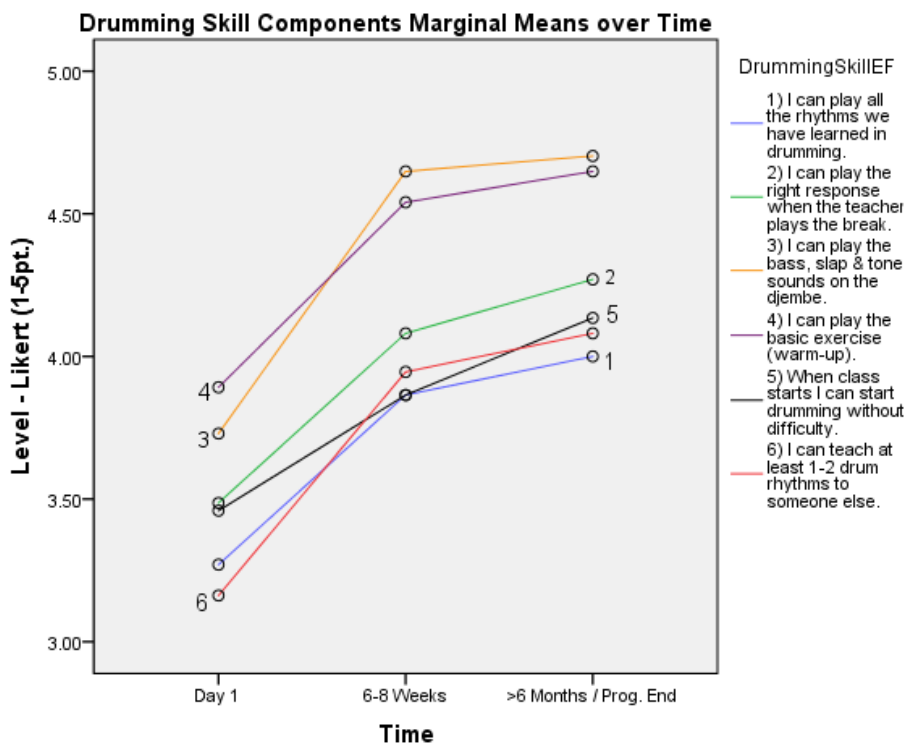


Figure 4: Drum Power Qualitative Conceptual Model

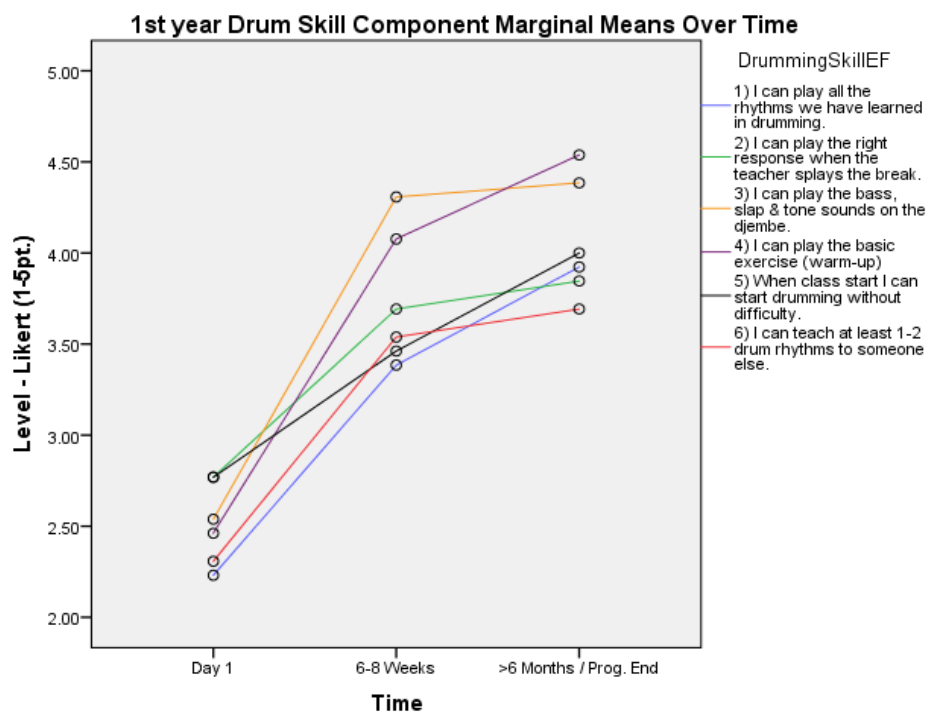
### Drum Power Qualitative Theoretical Model



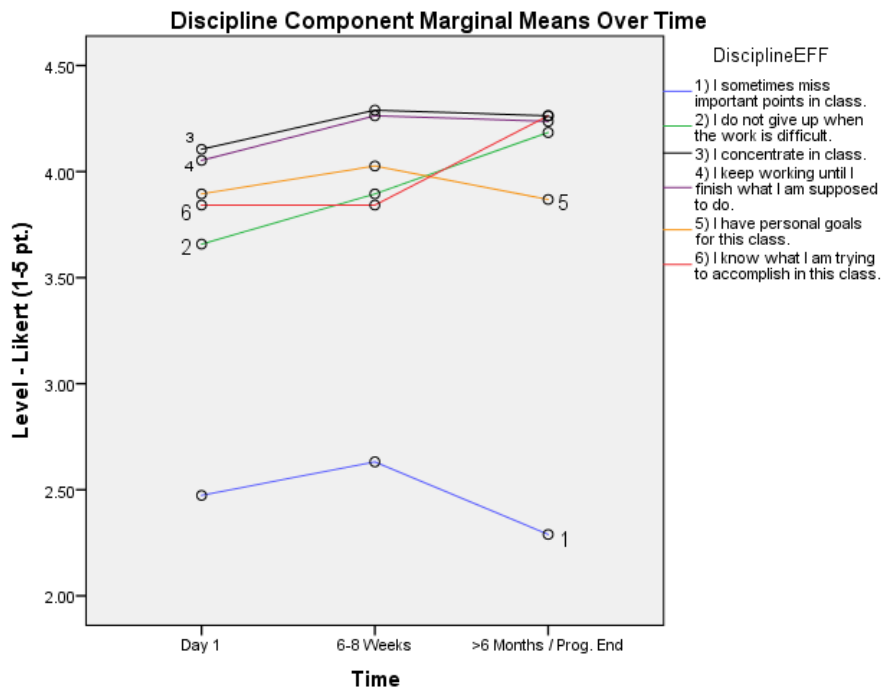
**Figure 5: Drumming Skill CPA Means Over Time**



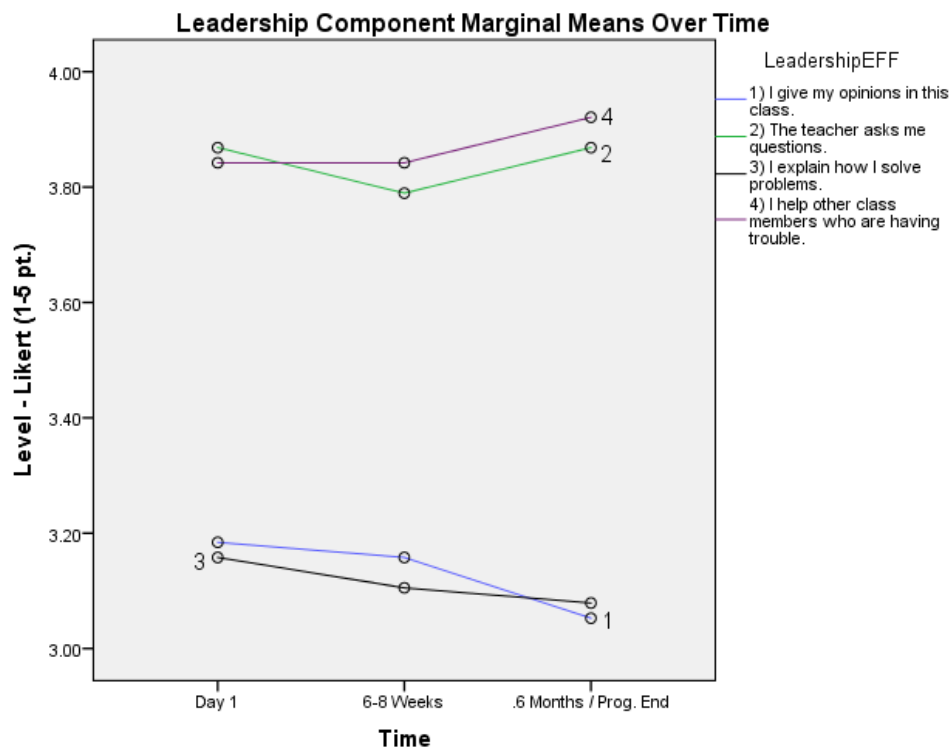
**Figure 6: First Year Drummer Drumming Skill CPA Means Over Time**



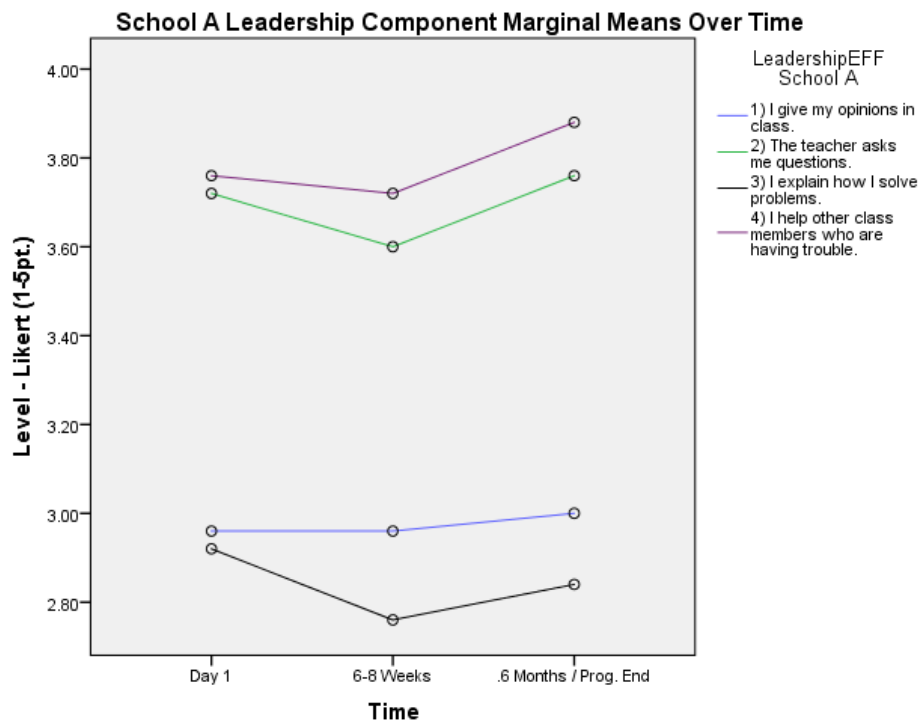
**Figure 7: Discipline PCA Means Over Time**



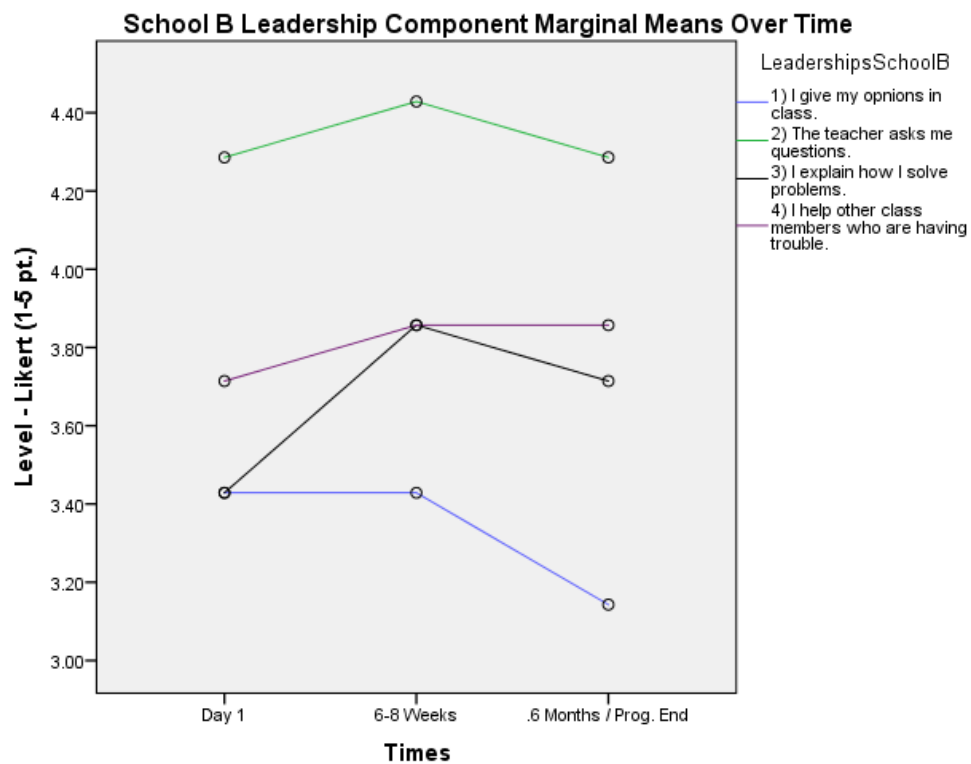
**Figure 8: Leadership PCA Means Over Time**



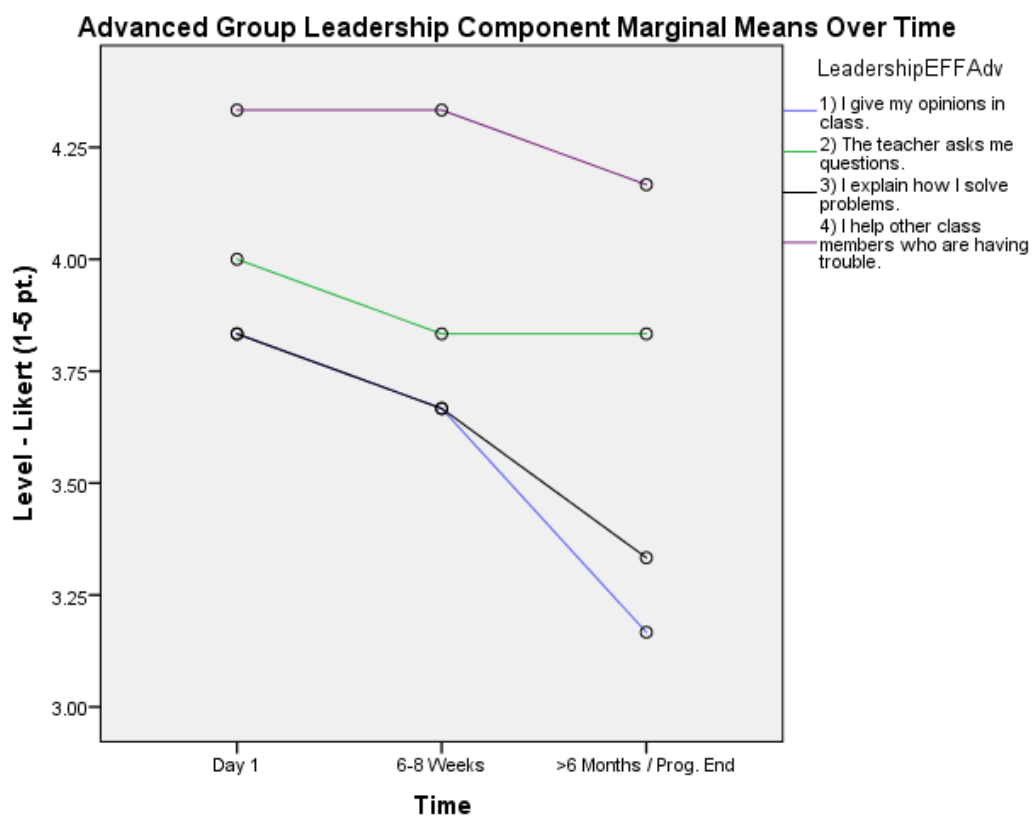
**Figure 9: School A Leadership PCA Means Over Time**

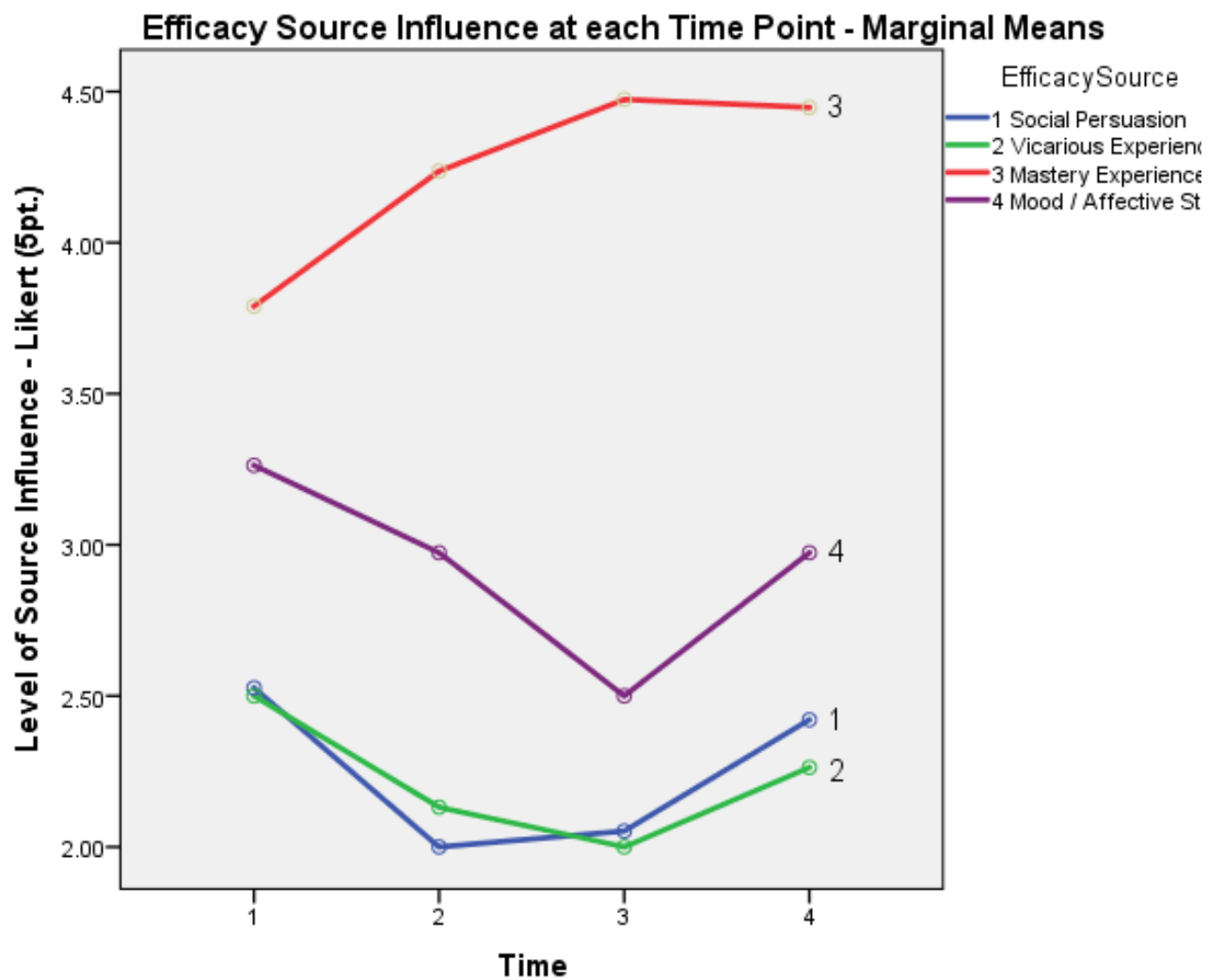


**Figure 10: School B Leadership PCA Means Over Time**

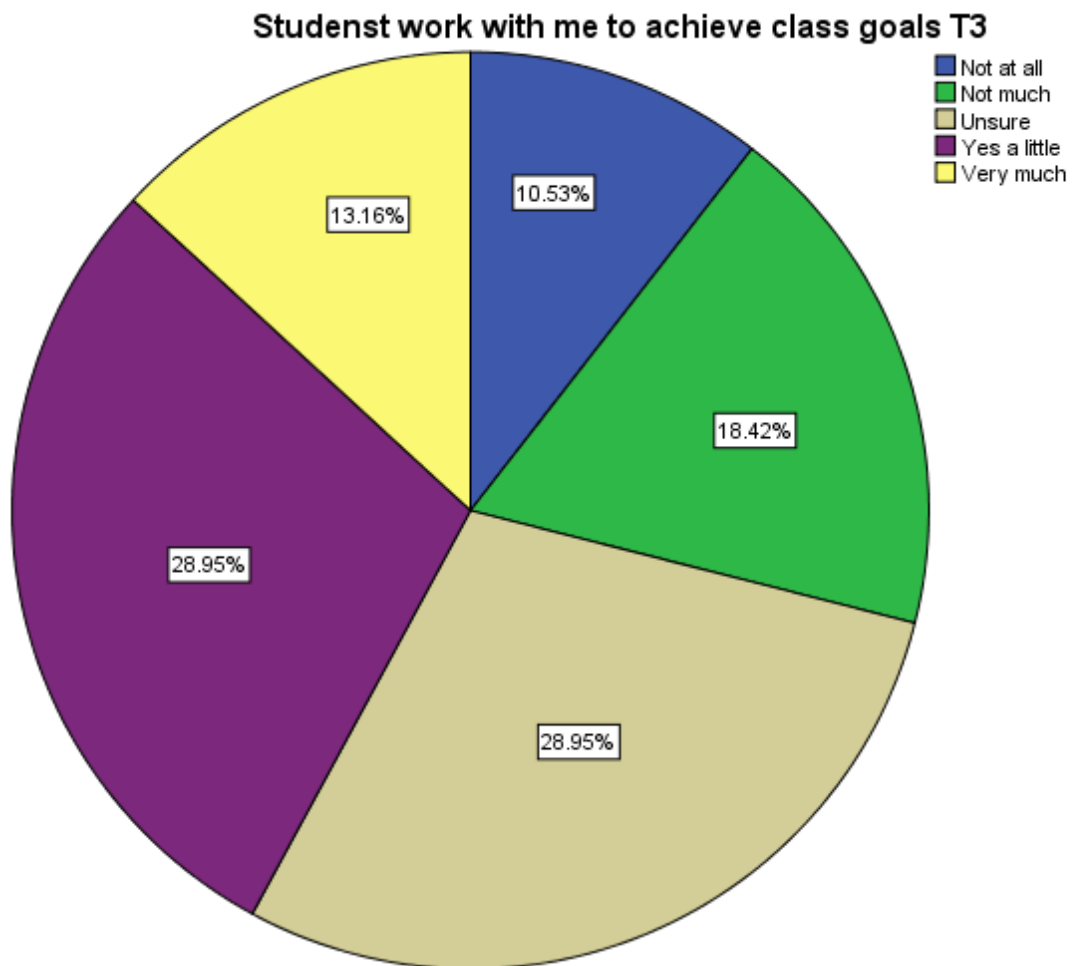


**Figure 11: Advanced Group Leadership PCA Means Over Time**



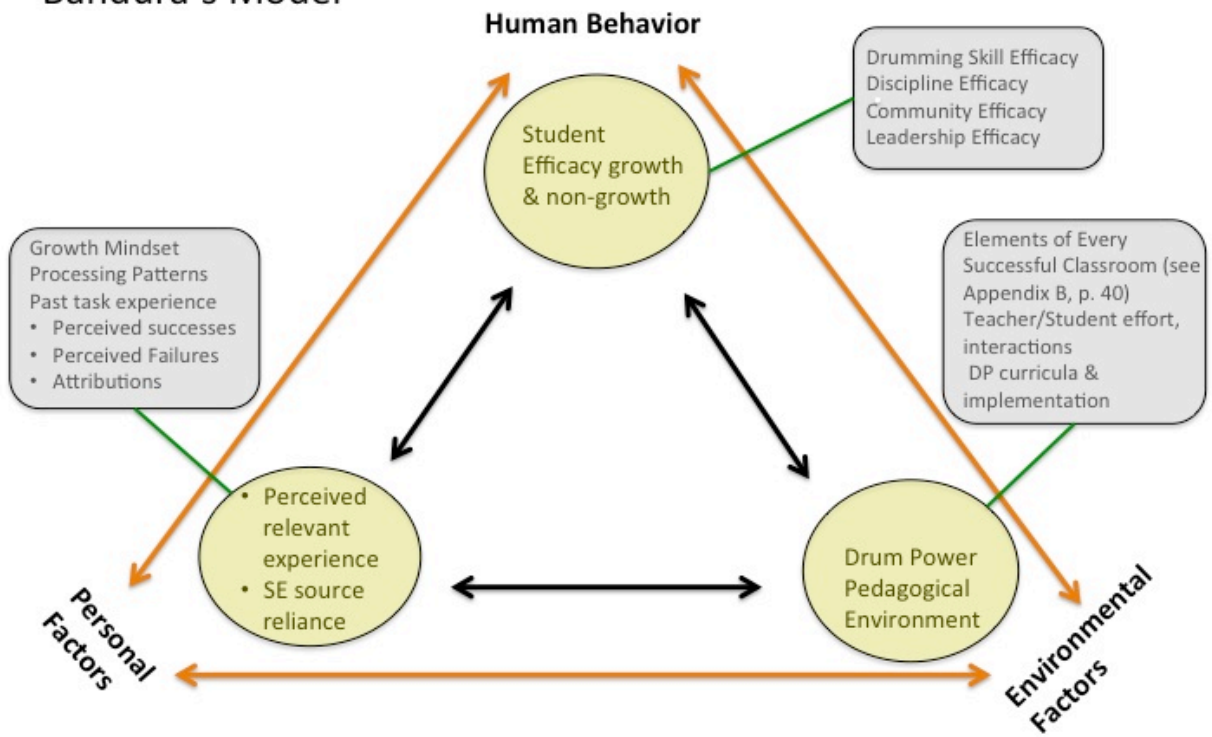
**Figure 12: Efficacy Source Means Overt Time**

**Figure 13:** “Students work with me to achieve class goals (percentages)

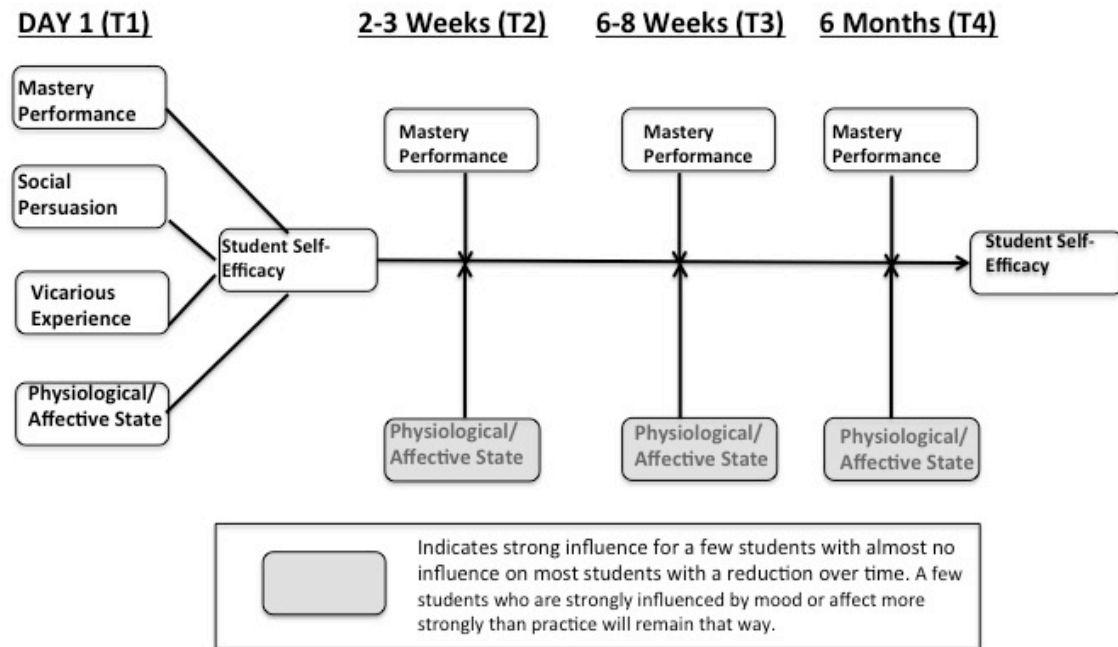


## Study Theoretical Model

Bandura's Model



**Figure 15.** *Self-Efficacy Source Influence Theoretical Model for Expected Change Over Time*



**Figure 16: Relationships First/Drum Power**