

2018

# Self-Regulation And Self-Efficacy In A Three-Part Goal Setting Cycle

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SELF-REGULATION AND SELF-EFFICACY IN A THREE-PART GOAL SETTING  
CYCLE

by

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education in

Curriculum and Instruction

College of Education

University of South Carolina

2018

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## **DEDICATION**

To my husband and daughters who have supported me throughout the process of completing this dissertation. Their love and belief in what I can accomplish are my motivation. My love for you three will not fade. You each light up my world.

## ACKNOWLEDGEMENTS

I would like to thank the teachers, students, administration, and governing board at Explorers School (pseudonym) for allowing me the opportunity to explore and research difficult topics impacting our school. Thank you, Dr. Jenkins-Henry for your feedback and communication. Even though we met very late in this program, I am grateful for the guidance you have given and the expertise you have shared. Thank you to Dr. Flora, Dr. Hardie, and Dr. Tamim for serving on my committee and for sharing your enthusiasm for public education that is equitable and just. The lessons you imparted are present in this dissertation.

## ABSTRACT

The researcher examined the impact self-regulation and metacognitive formative assessments had on self-efficacy through a mixed-methods design. The purpose of the action research study was to teach metacognitive goal-setting through a formative assessment framework in order to measure how students employed self-regulatory behaviors and if this affected their self-efficacy. The overall goals were to improve seventh-grade students' self-efficacy and mental self-regulation in order to 1) discern how students are efficacious and how does it affect their output; 2) provide field-tested instructional strategies and assessment choices for the seventh-grade teacher team; 3) provide qualitative data to the school's administrative team to use for course scheduling and decision making. Culturally and developmentally responsive formative assessments provided a framework for the classroom instructional practices. The work of Lev Vygotsky (1978) and socio-cognitive theory provided a theoretical framework for the study. The following research question guided the study: What are the impacts of a three-part self-regulation model and a weekly metacognitive self-assessment on seventh-grade students' perceived self-efficacy? Working with a diverse population of seventh-grade students at a 6-12 charter school in South Carolina, the research addressed the role of self-efficacy in student self-regulation. *Key words:* action research, culturally relevant teaching, formative assessment, metacognition, motivation, self-assessment, self-efficacy, self-regulation

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## LIST OF ABBREVIATIONS

AP .....	Advanced Placement
CRT.....	Culturally Relevant Teaching
DiP .....	Dissertation in Practice
GT .....	Gifted and Talented
HP .....	High Performing
IGP .....	Individual Graduation Plan
LP .....	Low Performing
MAP .....	Measures of Academic Progress
MSLQ .....	Motivated Strategies for Learning Questionnaire
PD .....	Professional Development
PoP .....	Problem of Practice
SCDE .....	South Carolina Department of Education
SCPASS .....	South Carolina Palmetto Assessment of State Standards
SC READY.....	South Carolina College-and Career-Ready Assessments
SES.....	Socio-economic Status
SIP.....	Students in Poverty
SPED.....	Special Education
SRL .....	Self-regulated Learning
SRLI.....	Self-regulated Learning Interview
ZPD.....	Zone of Proximal Development

## CHAPTER ONE: INTRODUCTION

### Introduction

This study researched viable instructional methods that improve students' abilities to self-regulate, self-govern, and self-examine through balanced assessment practices. Results from this study were used to address existing attitudes and labels that inhibit access and equity for students at Explorers School (pseudonym). It is assumed that some students are unable to motivate themselves intrinsically while it is also assumed that others are innately prepared for rigorous academic work. These labels and implicit biases exist and are detrimental to classroom practices as this labeling inhibits student agency by preventing the opportunity for some students to show academic capability. Additionally, understanding a student's metacognition, helps a teacher to tailor feedback that helps the student grow and improve.

Throughout this Dissertation in Practice (DiP) the school is referred to as Explorers School (pseudonym). At Explorers, the study was conducted with a class of seventh-grade social-studies students. Seventh-grade social-studies is a heterogeneous, non-tracked class, meaning students are not grouped by ability. Therefore, it provided an opportunity to work with a student population representative of the diversity at the school. I examined the effects student self-regulated learning practices had upon students' self-efficacy and metacognition. Using questions from the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich & De Groot, 1990) and a model of the Self-Regulated Learning Interview (SRLI) (Zimmerman & Martinez-Pons, 1986), I

triangulated how the seventh-grade students perceived themselves. Coded themes were used to detail observational behaviors in students. Using Zimmerman's (2002) three-part model of self-regulated learning (SRL) as a framework for formative assessments, students were taught to set goals, to monitor their learning, and to self-assess their progress. Performance was tracked using a weekly formative assessment feedback loop to develop metacognition and develop self-efficacy.

### **Background**

The 21<sup>st</sup> Century, or global age, is unlike any other—one that requires certain habits of mind, problem solving, critical thinking, and creative thinking for adults to function successfully in today's global world (Costa, 2001; Hay, 2001; Resnick, 1999). Based in part on varying cognitive theories and brain research, theorists advocate the benefits of teaching students to use metacognition and to recognize their own mental processes for self-regulating their learning (Ennis, 1994; National Research Council, 2000; Resnick, 1999; Zimmerman, 2002, 2008). However, the practical application of teaching and assessing thinking lies beyond the grasp of some teachers, especially when state and federal mandates continue to measure teacher effectiveness and student aptitude through standardized testing and value-added measures, which fail to consistently deliver an assessment of thinking skills (Beyer, 1984). Measuring a student's progress in perseverance or problem solving or her ability to evaluate her own mastery is overshadowed by content knowledge measured by achievement data.

In an education era where high stakes testing, accountability, and teacher effectiveness are closely linked and forever scrutinized, more teachers feel burdened to yield students who can produce high scores on state end-of-course exams. However, preparing students for high stakes testing, at times, conflicts with initiatives for teaching

innovation and 21<sup>st</sup> Century thinking skills, like metacognition. “Both parties [teachers and students] are led to believe that right answers matter more than habits of mind and the justification of one's approach and results” (Wiggins, 1990, p. 3). High stakes assessments that inaccurately measure student thinking have led to a culture of inadequacy and failure. School districts, principals, teachers, and parents rely upon standardized test scores for decision making and they deem them to be true measures of what students know, an erroneous practice as research argues that high-stakes tests measure only a portion of what students know (Paris, Lawton, Turner, & Roth, 1991).

Black and Wiliam (1998b) refer to the classroom as “the black box”—where demanding input is forced upon teachers and students, while output, or student performance, is relatively poor. Many theorists question the validity of America’s standardized testing system (Stiggins, 2001; Wiggan, 2007). Negative effects of the testing system are such that from an early age, students’ academic identities are tied to their one yearly standardized test score. Their dispositions and academic fortitude can be easily broken and left unrepaired, especially when they experience little success through summative high stakes testing (Stiggins, 2001). “Less successful students in particular feel powerless to control their own success in school and may feel victimized by tests that confirm their low performance” (Paris, Lawton, Turner, & Roth, 1991, p. 14).

Teachers attempting to fulfill conflicting initiatives create an assessment imbalance in their classrooms, not considering one of the most important factors that can contribute to a child’s success: what the child perceives she is learning inside the classroom. One output that is lost is student voice and academic identity that is built by student, cultivated by teacher. Wiggan (2007) argues student identity is clouded by adult

projections and that seldom does research report what the student perceives as academic achievement.

From their very earliest school experiences, our students draw life-shaping conclusions about themselves as learners on the basis of the information we provide to them as a result of their teachers' classroom assessments. As that evidence accumulates over time, they decide if they are capable of succeeding or not. They decide whether the learning is worth the commitment it will take to attain it. They decide if they should have confidence in themselves as learners and in their teachers—that is, whether to risk investing in the schooling experience. These decisions are crucial to their academic well-being. Depending on how they decide, their teachers may or may not be able to influence their learning lives. (Stiggins & Chappuis, 2005, p. 11)

Some theorists argue teaching metacognitive strategies to students enhances their ability to act as independent, self-regulating critical thinkers. In turn, it may generate success in achievement, ultimately affecting a student's disposition and academic fortitude (Buoncrisiani and Buoncrisiani, 2012); Costa, 2001; Stiggins, 2001). Costa (2001) argues a thinking curriculum may be exactly what can equalize education and push schools into the 21<sup>st</sup> Century.

But not every school is created equally and not all thinking is taught equally. Beyer (1984) proposes students' thinking deficits exist because teachers do not teach thinking skills. Others suggest thinking is taught in isolation and, therefore, never truly connected to valid learning experiences. While Resnick (1999) has argued students who



are viewed as having low aptitude are often not taught a “challenging thinking curriculum” (p. 3).

Educational research continues to show that teachers tend to reserve using higher order thinking strategies and activities for their high performing (HP) students, often teaching students who are deemed low performing (LP) through rote practices that require very little critical thinking (Raudenbush, Rowan, & Cheong, 1993; Torff, 2011). Furthermore, socio-cultural research reveals teacher biases can indicate decreased performance expectations for Black students, a belief that Black students are not high-achievers (Wiggans, 2007). Confounding the issue even more, teachers teaching LP students of color have difficulty engaging students in higher order thinking because of linguistic misunderstandings or the idea that a teacher cannot engage because she does not have the cultural currency (Jackson, 2000/2001; Schmeichel, 2012). Torff (2011) maintains these biases concerning deep-rooted beliefs about what students can and cannot do contribute to an existing “rigor gap”—the belief that some students are not equipped to handle critical thinking. It is important to note that research into critical race theory has addressed the prejudicial thinking that is implicit in the idea that non-white or different equals deficit (Schmeichel, 2012). I am careful to qualify here that my research addresses implicit bias in assumptions we make about the nature of self-regulation, efficacy, and motivation. Cultural acceptance allows educators to rewrite the narrative to make room for opportunity for all.

Embedded in the fabric of America’s educational system are inequalities that are exacerbated by racial inequality and income inequality (Bowles & Gintis, 1976/2011; Jackson, 2000/2001; Stiggins, 2001). Educational theorists of the 1960s and 1970s began to look at social class theory to determine the extent children’s economic, social and

cultural, language, and parental influence have upon student achievement (Bowles & Gintis, 1976). These theorists concluded that factors beyond the classroom and teacher's control contributed to poor student achievement. Theorists used social class theory to suggest that cultural prejudice deemed the child of color as inferior, both academically and culturally, creating a schooling environment focused more so on discipline and management than the teaching of skills for an improved life (Bowles & Gintis, 1976/2011; Wiggans, 2007). Arguing that America's educational system perpetuates racial and economic stratification, Bowles and Gintis (1976/2011) liken the tracked cognitive skills taught in schools to those that prepare students of color for certain economic opportunities later in life: "Thus blacks and other minorities are concentrated in schools whose repressive, arbitrary, generally chaotic internal order, coercive authority structures, and minimal possibilities for advancement mirror the characteristics of inferior job situations" (p. 132). Wiggans (2007) argues, "Although the class-and-culture explanation is intriguing, it assumes that students are passive and that schools are not places of agency" (p. 317).

By middle school, students' perceptions of self-worth and self-efficacy are based upon their perceived competence, which is informed by the courses they take, their grades, and test scores (Paris, Lawton, Turner, & Roth, 1991). Perceived efficacy is found to decline starting in middle school (Schunk & Pajares, 2002). The changes middle school students face may contribute to drops in achievement and efficacy as they encounter changes in grouping, an emphasis on normed achievement, and less individualized feedback (Schunk & Pajares, 2002). Criticisms of the sixth-eighth middle school model suggest curricular offerings lack in rigor and studies have revealed "the

achievement of U.S. students begins to plummet in middle school” (as cited in Yecke, 2006, para. 2).

Historically, poor performance on high stakes testing has led to problems with retention, dropout rates, and low self-esteem. Standardized testing has led to a sorting and a tracking of students. LP students are often so trampled by the system they “become mental dropouts” (as cited in Stiggins, 2001, p. 41). “Such students feel absolutely no control over what happens to them in school” (Stiggins, 2001, p. 41). Poor testing performance may be a by-product of the lack of critical thinking taught to LP students. Focusing student attention on regulating and assessing their own learning progressions can improve students’ opportunities for future learning and academic success. Asking students to think about their learning in such a way that it breeds small, daily successes and improves their personal efficacy, giving them some locus of control.

### **Self-Regulation and Assessments for Learning**

It is widely understood that formative assessments themselves are purposed for providing both teachers and students feedback on gaps in learning and anticipated learning targets (Black & Wiliam, 1998a; Heritage, 2008). When students provide their own feedback through metacognition, the assessment evolves to one *for* learning rather than *of* learning. Stiggins and Chappuis (2005) argue that student self-assessment can improve achievement and enthusiasm, and that students involved in their own assessments may be a way to increase opportunity. Finding ways to motivate and excite learners is important to teachers, especially given that analysis of classroom feedback found negative correlations between extrinsic rewards and motivation (Hattie & Timperley, 2007). This suggests that formative modes to promote and assess intrinsic motivation are needed for classroom practitioners.

Zimmerman's (2002) three-part model for self-regulated learning (SRL) was used in this study as a framework for prompting metacognitive self-regulatory behaviors:

- 1) forethought or goal setting,
- 2) performance or monitoring of task, and
- 3) self-assessment.

SRL itself is related directly to formative assessment when feedback from the student is utilized to adjust instruction (Clark, 2012). When a student is involved in regulating her own learning, she is more likely to use self-awareness of task mastery and is more likely to feel a sense of self-satisfaction for learning (Zumbrunn, Tadlock, & Roberts, 2011).

### **Context for the Study**

Explorers is a start-up charter school that is publicly funded and held to the same state and federal testing mandates as other public schools. Typical of charter schools, the school is autonomous in that it has independent control of its budget, freedom to create its own school calendar, and curricular autonomy.

The city of Charleston itself is a racially charged town and serves as the backdrop to this school. One of the primary locations for the import of enslaved peoples, the legacy of slavery and antebellum Charleston is ever present due to tourist industry. Historically, downtown Charleston was primarily populated by Black residents, but over the past 30 years, gentrification of neighborhoods and profitable tourism has changed the landscape (Parker, 2015). There is still evidence of de facto segregation in downtown schools, which are primarily populated by Black students. As more choice schools become an option in Charleston, critics argue these schools negatively impact racial enrollment as many school choice options are not racially balanced (Fiel, 2013). Further polarizing the

community are the recent high profile deaths of Black Charleston residents. In April 2015, Walter Scott was shot by a police officer in North Charleston (Blinder, 2017). In June 2015, nine congregants at Mother Emanuel African Methodist Episcopal Church were murdered during Wednesday bible study (Zapotosky, 2017). In February 2018, a prominent Black Lives activist and Charleston resident, Muhiyidin Moye, was murdered in New Orleans (Bever, 2018). These deaths and racially fueled circumstances serve as the climate in which our students exist.

At Explorers, students are accepted by lottery and there is no entrance exam for admittance. In operation for almost ten years, Explorers has been one of the more racially balanced schools in the entire district, with a ratio of 300 Black students to 196 White students. While Explorers is a lottery school, it is seen as a viable neighborhood option for many youths in the peninsular area, and the administration and school staff do pride themselves on being a truly diverse school offering. However, tracking has led to troubling issues within the school as it can lend itself to re-segregation within the school day (Fiel, 2013; Lee & Ready, 2009).

The seventh-grade is the lowest performing grade level in both math and reading. On the 2016 SC READY reading test 26.5% of seventh-grade students reached “met” or “exceeding” and 31.3% reached “met” or “exceeding” on the SC READY math test (SCDE, 2016). The seventh-grade class leads the middle school in the highest number of discipline referrals. Most incidents occur in classrooms and hallways. Classroom disruptions are the most frequently coded incidents (Educator’s Handbook, 2017).

In 2017-2018, enrollment in honors level or advanced level English and mathematics courses was not reflective of the student demographics within the grade. Out of the honors or advanced level courses taken at the seventh-grade level, 67% of students

were White. These numbers were consistent with those at the high school level. When looking at the enrollment in AP English and math courses offered, 60% of students were White.

Important curricular decisions are made in the spring of the seventh-grade year at Explorers. To enter the tracked “Momentum” program (an accelerated course of study that begins in eighth-grade and ends in twelfth), students must meet established criteria on SCPASS, SC READY, MAP, be tested as gifted and talented (GT), have specific class grades (85 or higher), and receive a teacher recommendation and/or complete a Scholar Statement of Interest.

Low achievement testing can negatively affect the future studies of students (Paris, Lawton, Turner, & Roth, 1991). Research notes a correlation between LP students’ perceived competence and their motivation to continue to do well and persevere (Paris, Lawton, Turner, & Roth, 1991). Therefore, low achievement has a direct impact upon our seventh-grade students’ access to more rigorous courses at the eighth-grade and high school levels. The gaps in opportunities will persist if access to rigorous self-reflection and critical thinking is limited. Research into self-efficacy suggests students base self-concept on the courses they take, the grades they earn, and their ability to perceive progress based on their input (Schunk, 1996). Without classroom data collection, teachers may misunderstand or misapply student behavior and mistake low self-efficacy for apathy or low-aptitude. Course schedulers and teachers may not understand attributions that affect efficacy. Thus, students may not be given equitable access to prove their knowledge or the opportunity to enroll in more rigorous courses. Since scheduling and course selection are based heavily upon achievement data,

interventions at the classroom level are needed to address specific instructional strategies and curricular changes that can positively affect both LP and HP students.

At the administrative and teacher level, the leadership team recognized the issues in seventh-grade achievement and behavior. By using measured instructional practices and curriculum, the results of this study advised the administration and the seventh-grade teacher team using its results. Action research provided a viable opportunity to measure what a teacher does that has immediate and positive impact upon students. The goal was to incorporate real-time interventions and reflective practices that were centered on positive results and impact for students.

### **Statement of the Problem**

Academic dispositions influenced by confidence, motivation, and self-efficacy are each, to a degree, present in the learner profile of the HP or academically successful student (Stiggins, 2001, Zimmerman, Bandura, & Martinez-Pons, 1992). The seventh-grade team has reflected on students' mental behavior, citing students' impulsivity and lack of self-direction as issues that impact their ability to be successful learners in the classroom. They observe that students lack self-regulatory skills or the ability to predict what they need to understand or monitor in a given situation (Allen, personal communication, November 16, 2016).

The problem of practice was that student behavior in non-tracked courses mimicked qualities of low self-regulation and efficacy. Behaviors such as disinterest in the learning activity or disengagement from the process of monitoring one's skill attainment can lead to misunderstandings about what students do know. Other behaviors that result in disciplinary actions are tardiness, refusal to cooperate, and off-task behavior in the classroom. LP students' risky behavior, poor classroom performance and

achievement contribute to negative academic identities and low levels of personal efficacy. Teacher understanding of efficacy, motivation, and self-regulation was limited as evidenced by attitudes and implicit bias. Existing structures and policies are not equitable to ensure that all students have the opportunity to grow as efficacious learners. If these issues are not addressed, the school risks perpetuating existing gaps in opportunity, which leads to issues of access in higher-level honors and AP courses.

### **Rationale for the Study**

To realize a democratic education as it should be fulfilled, all students should have the opportunity to be taught higher order critical thinking that teaches them to self-govern (Green & Johnson, 2010). Many suggest that self-regulatory behaviors that contribute to metacognition are what some students who exhibit poor academic performance lack. When students are taught to control their thinking processes as they approach new learning, they are better able to display understanding during assessment (Babbs & Moe, 1983; Bonds, Bonds, & Peach, 1992). Metacognition is an important attribute of skilled thinkers. They show understanding of the process of acquiring knowledge through self-regulatory questioning and evaluating and monitoring their progress (Bonds, Bonds, & Peach, 1992). By first learning to monitor their own behaviors and learning progressions, students can learn to actively control their critical thinking in other areas (Presseisen, 2001). A critical need for all students is to understand how to acquire knowledge on their own to ensure a lifetime of self-regulatory behavior (Bonds, Bonds, & Peach, 1992). Following social cognitive theory, students must understand a clear trajectory and criteria for learning to be able to self-monitor and self-assess, leading to the measurement of impact upon their learning (Heritage, 2008; Zimmerman, 2002). According to social cognitive theorists, self-regulators set goals,



monitor the learning of skills, and self-evaluate their performance to guide and monitor learning. Motivation to achieve goals and to self-direct learning as well as social functioning lead to higher levels of personal efficacy. Research proves LP students can enhance their own self-efficacy through this metacognitive goal setting cycle (Zimmerman, Bandura, & Martinez-Pons, 1992).

### **Purpose Statement**

The purpose of the action research study was to teach metacognitive goal-setting through a formative assessment framework in order to measure what impact self-regulation had upon students' self-efficacy. The overall goals were to improve seventh-grade students' self-efficacy and mental self-regulation in order to 1) discern how students are efficacious and how does it affect their output; 2) provide field-tested instructional strategies and assessment choices for the seventh-grade teacher team; 3) provide qualitative data to the school's administrative team to use for course scheduling and decision making.

An intended outcome of the action research study was the development of an action plan for the seventh-grade teaching team, which would enable other teachers to use common metacognitive and assessment strategies that would facilitate self-regulation of academic skills and cultivate metacognition. Common terminology and culturally relevant resources were shared among teachers. Results were shared with administration and guidance to help inform course scheduling and behavioral interventions. The intention was to provide a balanced assessment approach by using formative assessments to provide a more rounded view of students' capabilities, which informed the school's practices of admitting students into tracked programs of study. Because of action research limitations, effects of this study were not be generalized to populations beyond the

chosen middle school (Mertler, 2014). However, practices were incorporated into other classrooms at the school and studied further to test favorability and impact.

### **Research Question**

The primary research question that guided the action research study was: What are the impacts of a three-part self-regulation model and a weekly metacognitive self-assessment on seventh-grade students' perceived self-efficacy?

### **Overview of Methods, Design, and Positionality**

#### **Action Research Methodology**

The study utilized a framework that suggests four stages for conducting action research: *planning, acting, developing, and reflecting* (Mertler, 2014). Action research phases are cyclical, marking a deviation from traditional research (Tripp, 1990; Herr & Anderson, 2005). Collaboration *with* an organization demarcates the action researcher's role as an insider, making the study relevant to stakeholders within the organization (Herr & Anderson, 2005). This action research study was concerned with an emancipatory aim, which intended to criticize and improve social and cultural constructs, underscoring Mertler's (2014) point that action research is often concerned with issues of social justice (McKernan, 1987).

Action research is central to the teacher's practice and results are used to immediately impact pedagogy (Mertler, 2014). Action research used for this DiP, designed for the classroom teacher, was based upon the cyclical model of *planning, acting, developing, and reflecting* where I was the agent of action for each phase (Mertler, 2014). Real-time results were used to form an action plan with the purpose of positively impacting the seventh-grade students and teacher team.

During the *planning* stage, the participant-researcher spent ample time talking with teachers, analyzing school-wide achievement, and reviewing discipline data. As an instructional support administrator, I spent time observing and co-planning with the seventh-grade teacher to better understand the students' pedagogical and curricular needs. I met weekly with the seventh-grade teacher to discuss individual students. In my role, I also lead weekly professional development sessions with all teachers. Time was spent considering and identifying that self-regulation is an issue at the seventh-grade level, making this study relevant and timely as it sought to provide measurable interventions—a three-part SRL model and metacognitive self-assessments—that can inform future decisions.

The *acting* stage was implemented once the nine-week data collection phase began. Data collection during the *acting stage* was comprised of three phases. Phase one lasted two weeks and the participant-researcher collected student responses to the MSLQ student questionnaire (Pintrich & De Groot, 1990) and conducted the semi-structured student interview (Zimmerman & Martinez-Pons, 1986). This data was coded and qualified to examine relevant themes and trends among students' beliefs in their own motivation, self-efficacy, and metacognition. Phase two lasted six weeks, during which time I implemented daily and weekly three-part models of SRL that involved goal setting, task monitoring and skill monitoring, and self-assessment (Zimmerman, 2002). Students received daily self-assessments (adapted from Buoncristiani & Buoncristiani, 2012; adapted from Hattie, 2012). These measured understanding of content and learning. Students self-reflected on their learning, task orientation, and skill attainment in relation to the learning goal and their motivation for learning. These formative assessment sheets were catalogued weekly. Aggregated qualitative results are narrative in form as I coded

and themed students' performance and their metacognitive thinking. Post-questionnaires measuring any changes in metacognition and self-efficacy were given during final phase three. Post-treatment interviews with questions measuring students' perceptions were also conducted. Upon ending the data collection, I had gathered quantitative data with the pre- and post-MSLQ instrument. I had gathered qualitative data in the pre-interviews, formative self-assessments, teacher and student reflections, and post-interviews.

During the *developing* and *reflecting* stages of the action research process, results were combined to create a narrative and quantitative depiction of the impact self-regulation had upon students' self-efficacy and their motivation to use self-regulatory behaviors. Regardless of the favorability of the results, they were reported to the school's governing board as well as used to inform the administration and seventh-grade team. These different types of data were used to write an action plan that explains the results of three areas of research: self-regulation and goal setting, formative assessments and instructional resources, and qualitative data to inform policies and administrative decision making. Taking all data sets into consideration, my purpose was to improve our understanding of student motivation, efficacy, and self-regulation. Johnson (as cited in Mertler, 2014) identifies five possible outcomes of action research. Three of which are relevant to the action plan:

1. A greater understanding of the situation or child under investigation or of students in general is developed.
2. A plan, a program, or an instructional method is found to be effective.
3. A plan, a program, or an instructional method is found to need modification. (p. 211)

The results of this study were important to the seventh-grade team, and the entire middle school, because of the shift in student enrollment, seventh-grade testing achievement, teacher attitude, and course scheduling built upon high-stakes achievement scores. Finding ways to improve the learning experience for all was important to the instructional leaders and teachers who are invested in creating social class and racial equality to create a stronger community of educated citizens.

### **Mixed-methods Design**

The action research study is a triangulated mixed-methods design segmented into three phases (Mertler, 2014). Phase one data were collected from classroom observations, the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich & De Groot, 1990), and a semi-structured interview. The use of interviews and surveys was in keeping with traditional research methods into self-regulated learning (SRL), as they have traditionally been effective predictors of students' performance (Zimmerman, 2008). Specifically, this research study utilized two instruments proven to be of value to the investigation of SRL. The MSLQ gathered pre-data about three primary indicators of SRL: metacognition, motivation, and efficacy. The second instrument, the interview, gathered qualitative data on the three indicators. While survey instruments typically provide quantifiable results, I triangulated and qualified the results and coded student responses. Results were first coded using general category labels: motivation, self-efficacy, and self-regulation. I then used provisional, descriptive, and eclectic coding methods (Saldana, 2016; Zimmerman & Martinez-Pons, 1986). Sub-categories were created to include specific labels for behavior and themes. Similar to a case study conducted on one participant, coding values were needed to specifically correlate the sub-category to the umbrella category (Malmivuori, 2006). Phase two involved the

implementation of a weekly SRL framework. Similar to Alvi, Iqbal, Masood, and Batoool's (2016) qualitative study into self-regulation, this study utilized Zimmerman's (2002) three-part self-regulation model to implement goal setting, skill attainment and monitoring, and self-assessment. This clear model provided a framework for me to implement. While collecting and reviewing phase two data, I consulted Hattie (2012) and added descriptive codes and sub-codes to existing themes. During phase three, I conducted post-interviews and students completed a post-MSLQ.

### **Positionality**

Herr and Anderson (2005) posit the origins of action research can be found in Paulo Friere's (1970) *Pedagogy of the Oppressed*, which focuses on participatory collaboration that investigates language and social class for political emancipation. "Traditional action research tends to emphasize issues of efficiency and improvement of practices whereas participatory research is concerned with equity, self-reliance, and oppression problems" (Herr & Anderson, 2005, p. 15). The emancipatory, social justice underpinnings of action research are of interest as this research informed an issue of equity: historically marginalized students' access to high quality thinking exercises, equitable assessment practices, and teaching in relation to a more inclusive curriculum. My position was one of both insider/outsider, which gave access to the internal structure of the school's organization and functioning but also categorized me as an outsider, as the study was completed within another teacher's classroom. My beliefs in expelling biases and improving the quality of education that all students receive fueled my desire to complete this study.

My curricular philosophy is based upon a value-oriented schema, a schema constructed through analysis of existing structures and symbols that expose, rebuild,

imagine, and create a new critical pedagogy in favor of those typically oppressed (Cokley & Chapman, 2007; Fiel, 2013; Guess, 2006; MacDonald, 1971; Schmeichel, 2012). Some theorists agree the purpose of education is not only to improve a students' academic performance but is to also reconstruct existing inequities of power and control (Apple, 1986; Noddings, 1983). Curricula should be chosen for its cultural relevancy, and pedagogy should reflect an espousal or rejection of existing social structures that create oppositions and binaries (Schiro, 2013). The validity of metacognitive self-regulation and its role in shaping a student's disposition and quality of thinking are central to the belief that students learn through actively participating in their own education. I was interested in how self-assessments and formative assessments impact students of color and low-achieving students' self-efficacy through the perspective of a social justice lens. Curriculum and balanced assessments can enfranchise Black students and formative feedback can give voice to a historically marginalized population (Clark, 2012; Yowell & Smylie, 1999).

### **Summary and Conclusion**

This chapter has established the need for a controlled investigation into self-regulation and metacognitive formative assessments. Seventh-grade students underachieve in comparison to other grades. The students were more likely to be referred for discipline and their teachers cited self-regulation as a critical need. To improve inequities in education, I investigated the use of self-regulation to perceive its impact upon students' self-efficacy in an attempt to positively impact their learning identities and future access to rigorous courses. Researchers' criticisms of the standardized testing model served to propel the use of formative assessments and more balanced assessment

practices (Paris, Lawton, Turner, & Roth, 1991; Stiggins & Chappuis, 2005; Wiggins, 1990). I have outlined my research methods and positionality as researcher.

Chapter one has briefly explained the research on the role of self-efficacy and its impact on a learner's identity. Chapter two will discuss the function of self-regulation and its role in producing higher self-efficacy. It provides a review of relevant literature and studies that inform an understanding of formative assessment. Chapter three is a detailed explanation of the methodology to be used. Chapter four presents the findings and interpretation of the data, and chapter five summarizes the study and recommends an action plan for the future of the school.



## **CHAPTER TWO: LITERATURE REVIEW**

### **Introduction**

This Dissertation in Practice (DiP) investigated how the use of self-regulatory metacognition affected students' self-efficacy. Students were taught self-regulation goal setting and were given formative assessments to self-reflect and self-assess. Broad culturally relevant tenets of inclusion and validation were utilized to create an environment of trust and student experience to incite motivation, which impacts student efficacy.

### **Purpose of the Literature Review**

This literature review situates the problem within a socio-cognitive framework. The purpose of the literature review is to examine relative literature on self-efficacy, self-regulation, self-assessment, and formative assessment as well as to identify key historical contributions of socio-cognitive theory. Extensive research exists on the role of self-regulated learning (SRL) and its perceived impact on student learning progressions. Self-assessment and metacognition are explored as attributes of SRL. Formative assessment and culturally relevant teaching are explored as alternative learning formats situated within a socio-cognitive framework of learning. The chapter begins with the work of Lev Vygotsky (1978) and social cognitive theory to illustrate the relationship between the social aspects of learning efficacious behaviors and to illustrate self-efficacy's relevancy to formative assessment practices. Research on self-regulation and self-assessment explores teacher practices and student behaviors. The chapter concludes with a discussion

of formative assessments and feedback. They are explained as a reciprocal process of balanced assessment practices.

Meta-analyses on the mentioned topics provide comprehensive syntheses of the research. Attributes of SRL are examined to create a basis for exploring metacognition and self-assessment. Because self-assessment itself is a broad term, it could reference a particular metacognitive skill-set or the literal grading of one's work. A variety of studies and exemplars are reviewed to fully understand the breadth of the field. This review of literature on efficacy and motivation, self-regulation, formative assessments, and feedback, and supports the viability to investigate school-based action research that qualitatively measures perceived impact.

## **Theoretical Frameworks**

### **Vygotsky and Socio-cognitive Learning**

Drawing from Vygotsky (1978), students in a socio-cognitive environment work collaboratively to build self-governing knowledge. Vygotsky promoted the importance of language and its impact upon cognitive growth, as well as the social aspect of learning in his theory of zone of proximal development (ZPD). Teachers must work to create classroom environments that encourage social interaction. A language-rich classroom draws on students' broad cultural experiences and attempts to build upon them as bases for learning (Ryan & Patrick, 2001; Vygotsky, 1978). Based in part on socio-cultural participation, learning is social and reciprocal (Costa, 2001), meaning language interactions among peers and among students and teachers are crucial to the attainment of new knowledge. Vygotsky argued that learning does not occur in isolation:

In experimental investigations of the development of thinking in school children, it has been assumed that processes such as deduction and understanding, evolution of notions about the world, interpretation of physical causality, and mastery of logical forms of thought and abstract logic all occur by themselves, without any influence from school learning. (Vygotsky, 1978, 79-80)

Furthermore, Vygotsky (1978) criticized those that espoused that “Development or maturation [is] a precondition of learning but never the result of it” (p. 80). The constructive, social nature of learning is exposure to the teaching and the building of knowledge. Students should be exposed to higher order thinking and complex ideas whether they readily display all of the tools of a self-regulatory learner or not. A classroom where teacher models contexts that are representative of cultural nuances will scaffold students to think critically about self-learning (Tanner & Jones, 1994). Poehner (2012) contends that self-assessment is actually borne of Vygotsky’s development of ZPD in that one evaluates success as an outcome. This argument further supports the reciprocal nature of classroom environment, which is a key factor in the use of formative assessments and feedback.

### **Self-efficacy and Motivation**

Self-efficacy and its relationship to the socio-cognitive nature of classrooms are especially important at the adolescent stage as peer relationships are of utmost importance (Schunk & Pajares, 2002). At middle school age, doubt and poor self-esteem can pervade students’ beliefs of their own academic performance. If attempts are not made to positively impact efficacy, students’ academic identities can be negatively affected (Ryan & Patrick, 2001). Bandura et al. (1996) examined the classroom from a

socio-cognitive perspective to measure how self-efficacy factors into independent SRL, academic achievement, and peer relationships. He found that “students who doubt their intellectual efficacy are likely to gravitate to peers who do not subscribe to academic values and pursuits” (Bandura et al., 1996, p. 1209). On the other hand, students may gain positive efficacy when influenced by praise and feedback that focuses on their abilities and capabilities (Hastie, 2013; Schunk & Zimmerman, 2007). Their findings point to the important role self-regulation plays in developing positive self-efficacy beliefs in oneself as well as its contributions to the social aspect of learning. Researchers point out that recognizing one’s efficacy is entirely different from employing self-regulatory strategies; suggesting the importance of linking motivation to structured self-efficacy practices (Pintrich & De Groot, 1990; Zimmerman & Bandura, 1994).

An essential component of self-efficacy that influences motivation is the belief in one’s ability to exert control and influence over life events and achievements (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Individual self-efficacy is an even stronger predictor of behavior than knowledge or skills (Pajares, 1996). The more value or motivation students see in the learning, the more time and value they are likely to place on setting goals and monitoring their attainment (Zumbrunn, Tadlock, & Roberts, 2011).

Concepts of one’s ability contribute to self-esteem, intrinsic motivation, and perseverance. Self-concept has been linked to self-efficacy, but Pajares (1996) warns that self-efficacy is not synonymous with self-concept. Self-efficacy is related to task-specific assessments of one’s performance given within a well-defined context. Bandura et al. (1996) maintain that self-efficacy beliefs are tied to cognitive operations:

Children's beliefs in their efficacy to regulate their own learning activities and to master difficult subject matters affect their academic motivation, interest, and scholastic achievement. (p. 1206)

Self-efficacy and motivation determine how a student perceives herself and her value in relation to her academics, and they influence the learning choices a student makes. A student will engage in activities that she feels confident in which she will succeed and will often avoid those in which she perceives herself most likely to fail: "The higher the sense of efficacy, the greater the effort, persistence, and resilience" (Pajares, 1996, p. 544). Goal setting has been found to improve efficacy when students are given proximal, short term goals with clear criteria for success. Students experience success in attaining proximal goals more often than when setting distal goals (Hastie, 2013; Schunk & Pajares, 2002). "As students work on tasks, they compare their progress against their goals. The perception of progress strengthens self-efficacy and motivates students to continue to improve" (Schunk & Pajares, 2002).

Research in goal setting demonstrates the positive outcomes when students are presented with proximal goals (Schunk, 1995). Research contends that proximal goal setting gives students purpose and short, task-oriented accomplishments increase positive feelings. The self-evaluative aspect of meeting one's goals affects motivation and improves perceptions of ability (Bandura, 1989; Locke & Latham, 1990; Schunk, 1995). Distal goal setting can lead to procrastination or self-handicapping when a goal is set too vaguely or too distant from the present (Bandura & Cervone, 1983). Proximal goals have been found to lead to improved efficacy and self-regulated learning because of their emphasis on specific teacher-developed learning targets and criterion. However, Hattie (2012) warns of the negative consequences associated with emphasizing short term goals

developed by the teacher as it could lead to dependence on the teacher and an actual lack of self-regulation.

### **The Nature of Teaching and Learning**

In *How People Learn*, the National Academy of Sciences (2000) set forth three key findings concerning the way students learn in American classrooms. One of those key findings is the basis for encouraging the use of metacognition: “A “metacognitive” approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them” (p. 18). The publication explained how knowledge is transferred, making it clear that diversity in experience is a mandatory consideration when educating for all. “Prior knowledge also includes the kind of knowledge that learners acquire because of their social roles, such as those connected with race, class, gender, and their culture and ethnic affiliations” (p. 72). It further accounted for linguistic differences among Black and White households in questioning and language usage (National Research Council, 2000). *How People Learn* spawned a movement among academics and education researchers to consider how the brain is wired to retain new learning and make meaning of existing knowledge. This focus on diversity and culture has helped create more child-centered approaches to the classroom environment, assessment practice, and knowledge transfer.

A more recent publication by the National Research Council (2012) examines and categorizes the nature of learning and 21<sup>st</sup> Century skills and competencies in the digital age. This research has outlined what it calls “deeper learning” or learning that can be transferred among contexts. Thus, a learner who has “deep learning” would be able to apply 21<sup>st</sup> Century competencies to a number of given situations. This most recent publication supports the intentions of self-regulated learning (SRL) and culturally

relevant teaching (CRT) in its recommendations that educators use metacognitive modeling, use relevancy and experience to motivate, and use feedback in relation to specific learning goals. Citing motivation as a significant factor in learning, students who focus on attributes of the learning (time or effort), rather than a fixed ability, show more work ethic and perseverance (National Research Council, 2012). SRL is discussed as an active agent of self-sufficient students. It shares attributes of the competencies of self-direction, self-reflection, flexibility, and collaboration. The National Research Council (2012) supports the socio-cultural understanding of SRL, suggesting it is “developed through social processes” (p. 93).

### **Culturally Responsive Teaching**

Culturally responsive teaching focuses on what students know and can do in relation to their lives and is a key feature of a student-centered classroom. The teacher employs practices that account for students’ socio-cultural norms and are sensitive to the diversity of student experience (National Research Council, 2000; Kozulin, 1986). Gay (2013) contends culturally relevant pedagogy “is a technique for improving the performance of underachieving ethnically and racially diverse students” (p. 67). Coined by Ladson-Billings (1995a, 1995b) culturally relevant pedagogy is an attempt to teach within a student’s cultural framework but also to affirm and validate her identity within the educational setting. Beyond incorporating a student’s linguistic heritage, Ladson-Billings argues for an inclusive teaching approach that values cultural competency as well as language differences. Agreeing, Gay (2013) argues that educators must have “explicit knowledge about cultural diversity,” such as differences in socio-linguistics, socio-economic status, cultural characteristics, in order “to meet the needs of ethnically diverse students” (Gay, 2002, p. 107). Thus, Gay (2002, 2013) encourages educators to

fully address differences in student experience and to support understanding and knowledge building with factual information and accounts.

Ladson-Billings (1995a, 1995b) summarizes common characteristics shared by highly successful teachers of African American students into three broad categories: 1) teachers' belief in community and self as a participant within that community; 2) teachers' belief in class as community of learners and teacher as facilitator and member; 3) teachers' belief in knowledge construction and the fluidity of learning. Summarily, the teachers included within Ladson-Billings' work provided their students with opportunities to ask questions and to critically explore the purpose of learning. Osborne (1996) argues teachers should provide new learning that is connected to students' lived experiences and identities so they may operate successfully in a heteronormative world. Ladson-Billings (1995a) discusses this "critical consciousness" as Freirean in nature.

Emerging research into the convergence of self-regulated learning and culturally relevant teaching explains how the practices are complementary (Anyichie, Yee, Perry, & Hutchinson, 2016). "Theoretically, the sociocultural and situated perspectives of SRL align well with CRT in how they deliberately highlight the dynamic interaction between individuals and learning contexts" (Anyichie & Butler, 2017, p. 17). Culturally relevant teaching, stemming from the socio-cognitive perspective is concerned with the social aspect of the classroom. Whereas, self-regulated learning is associated with the learning process. In chapter five, I elucidate the possibility for future research into this area.

### **Self-Regulation**

Self-regulated learning (SRL) refers to a person's active process of goal setting, selection of learning strategy, and self-monitoring or self-evaluation of one's performance. The processes involved in SRL are not merely measures of one's aptitude,



but are indicators of one's self-efficacy and ability to self-direct oneself through completing an academic skill (Zimmerman, 2008). A 1986 American Educational Research Association symposium that investigated attributes of SRL was critical in creating a focused definition that referred to "students' proactive use of specific processes or responses to improve their academic achievement" (Zimmerman, 2008, p. 167). This focus shifted toward student-centered empowerment as it was realized that students could be taught to learn and control self-awareness, leading to better academic achievement (Butler & Winne, 1995; Zimmerman, 2002). Sternberg's theory of triarchic intelligence, identifies self-regulation as a facet of personality and motivation separate from mental capability or intelligence (Lozano, 2001). Sternberg (2001) elaborates on his theory of mental self-government, arguing there are styles of thinking, which he divides into *function, forms, levels, and leanings*. Each operates as a type of mental-self-government that applies to self-regulation (Sternberg, 2001; Sternberg & Wagner, 1991).

SRL is generally defined as "self-generated thoughts, feelings, and behaviors that are oriented to attaining goals" (Zimmerman, 2002, p. 65). It is often categorized as a form of metacognition. Bandura (1996) cites the setting of goals and their eventual attainment as key features to successful self-regulation. Sub-goals must be set and attained as proximal goal accomplishment leads to "personal efficacy" and "create[s] satisfaction and intrinsic interest" (Bandura, 1996, p. 23). Zimmerman (2002) subdivides the phases of self-regulation into three stages: *forethought* is where the student sets goals and approximates the learning targets; *performance* is concerned with the student's ability to exhibit self-control or self-monitoring while learning; and *self-reflection* relates to self-evaluation (p. 68).

Contemporary research tells us that self-regulation of learning is not a single personal trait that individual students either possess or lack. Instead, it involves the selective use of specific processes that must be personally adapted to each learning task. The component skills include: (a) setting specific proximal goals for oneself, (b) adopting powerful strategies for attaining the goals, (c) monitoring one's performance selectively for signs of progress, (d) restructuring one's physical and social context to make it compatible with one's goals, (e) managing one's time use efficiently, (f) self-evaluating one's methods, (g) attributing causation to results, and (h) adapting future methods. (p. 66)

Research into the difference between mastery and performance goal setting implies two major differences in the orientation of goals (Hastie, 2013; Hattie, 2012). Mastery implies a focus on learning and increasing competencies. Whereas, performance has more to do with performance compared to classmates and an attitude toward fixed abilities (Hattie, 2012; Wigfield, Klauda, & Cambria, 2011). Understanding the differences is important to understanding the motivation of efficacy that underlies each orientation. Mastery based goal setting implies a deeper value for learning and a higher sense of confidence. Performance goals convey students' sense of avoidance or dependence upon normative comparison (Wigfield, Klauda, & Cambria, 2011). Helping students navigate goal orientation and distal and proximal goals are important to each phase of Zimmerman's (2002) three-part model.

Several studies have been based upon Zimmerman's (2002) model of forethought, performance, and self-reflection. Hewitt (2011) used the three-part model to explore self-evaluation within a middle school music class. The study took place over an eight-week

period. The student group that received the self-evaluation treatment was taught to create a class rubric (setting targets for learning), the teacher modeled the use of the rubric, then students were allowed to practice evaluating each other using the rubric and finally, they evaluated themselves. Based on teacher feedback, students were allowed to adjust their music performance and assessed the degree to which they met their learning goals. Hewitt found that self-evaluation treatment did not significantly impact students' music performance in relation to those students who did not receive a treatment. Hewitt acknowledges these findings are inconsistent with those researchers who have seen positive correlations between performance and self-evaluation, especially in the humanities or math (Hewitt, 2011).

Conversely, Andrade and Valtcheva (2009) cite the positive correlations of several studies in writing and mathematics of which positive outcomes were found to exist between student self-assessment, which is a primary component of self-regulation, and achievement. Alvi et al. (2016) studied how self-regulated learning strategies offers a look at how researchers implemented a qualitative study designed with Zimmerman's (2002) three-part framework. Researchers conducted their study with college age students, asking them interview questions aligned to SRL: "What are the reasons for your current performance; what have you done to achieve your study goals this semester?" (p. 43). Researchers used focus groups to conduct group interviews with a pair of interviewers. They based their questions on Zimmerman's model and used nine open-ended questions. Coded results revealed characteristics of learners as well as common learning strategies that were often employed: "making notes," highlighting important notes," "elaborating," "chunking," "attention focusing," and "repeating," Their study found results consist with previously published work. High achieving students often use

more cognitive strategies than low achieving (Alvi et al., 2016). Results provide a qualitative understanding of what range of SRL strategies university students use as well as what motivating contextual factors play a role in SRL. Bose and Rengel (2009) suggest using computer assisted self-assessment within a self-regulation framework. They suggest that the use of computer generated self-assessment improves the efficiency of its use and timeliness of feedback as well as creates a consistent use of formative assessment that encourages self-regulation. The authors maintain that self-regulatory formative assessments must provide feedback that is quality and consistent with the SRL model that engages students in self-evaluation of learning.

Overwhelmingly, researchers have concluded that self-regulation is a positive predictor of performance (Alvi et al., 2016; Cellar et al., 2011; Greene & Azevedo, 2007; Hastie, 2013; Malmivuori, 2006; Zimmerman & Bandura, 1994; Zimmerman & Martinez-Pons, 1986; Zumbunn, Tadlock, & Roberts, 2011). Early research into self-regulation relied heavily upon questionnaires and surveys (Zimmerman, 2008). Pintrich and De Groot (1990) sought to examine motivational components that they argue underlie a student's self-regulation—they are beliefs about ability to perform a task, beliefs about importance of the task, and emotions concerning the task. Categorizing motivational factors and creating questions, they developed the Motivated Strategies for Learning Questionnaire (MSLQ), whose questions were based on Zimmerman and Martinez-Pons' (1986) Self-Regulated Learning Interview (SRLI), to measure seventh and eighth-grade science and English students' self-regulatory behaviors. They found that in addition to higher uses of metacognition and self-regulatory behaviors, students' success was also driven by their motivation. Other researchers have explored relationships of affect and student self-regulation, demarcating work in the field that

examines emotional stress and its implications for positive or negative self-regulatory behaviors (Diefendorff & Lord, 2008; Malmivuori, 2006).

Zimmerman and Kitsantas (2014) found favorable outcomes in a study involving the predictive nature of self-regulation. Focused on a group of 507 high school students, participants were asked to answer a considerable array of self-regulation questionnaires, which the authors suggest are reliable measures of the predictability factor. When comparing students' and teachers' measures of self-regulation, it was found that self-regulation "was more predictive of students' grade point average and performance on a state-wide achievement test" than a self-determination composite (p. 145). While the authors used a variety of self-regulation questionnaires, such as Junior Impulsiveness Scale (Eysenck, Easting, & Pearson, 1984), Brief Self-Control Scale (Tangney, Baumeister, & Boone, 2004), and The Motivated Strategies for Learning Questionnaire (Pintrich & De Groot, 1990), they mention that there was no account for real-time measures during classroom instruction, conceding real-time measures of self-regulation would have been helpful in determining its linkage to the learning process (Zimmerman & Kitsantas, 2014).

Dopkins and Supplee (2002) examined elementary children's display of self-regulation within different instructional settings: direct instruction, individual seat-work, and small-group. Citing other studies' use of a singular focus for self-regulation, the authors state they examined five behaviors: "attention to instructions, seeking help, monitoring progress, organization, and metacognitive talk" (p. 236). Monitoring progress and metacognitive talk are of special relevance. Dopkins & Supplee contend that students may be more likely to monitor their progress when given appropriate models to follow while engaged in seat-work or small-group work. Metacognitive talk should enhance or

inform student's monitoring during seat-work or small-group work (Dopkins & Supplee, 2002). Conclusions drawn explain that out of four student groups, only one showed consistent self-regulation in all five categories. Among the two other groups, there was variance and one group showed significant disorganization and difficulty in self-regulating behavior (Dopkins & Supplee, 2002).

A short meta-analysis analyzing two qualitative studies that sought to measure the effectiveness of self-regulation and self-assessment took a social cognitive approach (outlined by Zimmerman, 2002), and found that when evaluating the learning target, the performance, and self-reflection phases, there were positive signs of self-regulation shown by six and eleven year olds (Santos & Pinto, 2013). Information from this meta-analysis lacks the detail of Dopkins and Supplee's (2002) methods. Nonetheless, observation techniques were similar as the studies each highlighted the importance of metacognitive talk in relation to teaching self-regulation.

Jarvela and Jarvenoja (2011) focused on the nature of self-regulation when it is co-constructed or viewed from a socio-cultural perspective. Using categories such as "personal priorities," "teamwork," and "collaboration," they examined how self-regulation was co-created among groups. They further examined strategies that were used: "task structuring," "social reinforcing," and "handicapping of group functioning." The study indicated that group construction of self-regulated learning occurred when the students made efforts to collaborate and work together. Themes presented here are consistent with previous studies, illustrating that SRL strategies are often similar among study participants, but they may be enhanced or diminished by the context within which they emerge.

## Self-Assessment

Research into the impact of self-assessment has attempted to measure whether there are any positive impacts on learning. The research included here is intended to represent the wide-ranging variables in student self-assessment, which if applied broadly under the term metacognition could come to mean a measurement of self-evaluation, self-efficacy, self-monitoring, and self-scoring. Therefore, the following review of research into self-assessment was used to narrow the current proposed action research study and to better understand how self-assessment had already been investigated. While both traditional and action research studies that couple self-assessment with formative assessment do exist, there has been little success in determining a study that examines both self-assessment and formative assessment.

Ranging in complexity and methods, most research has determined that self-assessment does positively impact student performance (Boud, 1992; Boud, 2007; Harris & Brown, 2013; McDonald & Boud, 2003; Sadler & Good, 2006). Boud's (1992) early work in using self-assessment schedules with his master's level graduate students coincides with the rise in formative assessment work that acknowledged traditional assessments do not fully assess the learning process. Here, Boud (1992) contends that the learning context is important to create an environment appropriate for using self-assessment and that students must "have made a commitment to learning" (p. 196), which exercises an early bias that explored metacognition with older students. Later research explored the impact of self-assessment in high school or middle school and primary grades, suggesting that researchers began to explore self-efficacy skills and levels of metacognition at earlier ages. McDonald (2007) further contends that evidence from earlier studies all suggest findings complicit with the view that student self-assessment

improves student achievement, self-efficacy, and independence (Goodrich, 1997; Mercer, Dawes, Wegerif, & Sama, 2004; Rudd & Gumstove, 1993; Van Krayenoord & Paris, 1997). McDonald (2007) builds upon Sadler's (1989) point in addressing students' gaps, arguing future longitudinal research must be conducted in order to fully measure changes in a student's zone of proximal development (ZPD).

Sadler and Good (2006) found that when used within a middle school science class, student self-assessment was more reliable in scoring than peer-assessment. Unlike previous studies, the focus was not on metacognition or self-regulatory behaviors, but on students' abilities to self-grade after having contributed to the creation of a rubric. Scores were compared to those of the teacher and self-grading came closer to matching the teacher's score than peer-grading. Gholami (2016) investigated the impact of student self-assessment on learner autonomy and found that "self-assessment does not foster learner autonomy" (p. 48). His study, conducted with participants aged 18-35, required participants to complete a learner autonomy questionnaire, and results revealed only positive impact on four out of nine domains: *importance of class/teacher*, *role of teacher*, *objective/evaluation*, and *assessment/motivation* (p. 49).

Walser (2009), a university educator, conducted her action research project during one academic school year, studying the use of self-assessment in an undergraduate and graduate course. She asked students to use a rating scale and answer open-ended questions three times during the course: at the beginning, during the middle, and at the end. Walser (2009) had an 81% response rate (p. 302) and concluded, "The results of the action research study support claims that student self-assessment can facilitate the development of students' metacognitive skills, help them take more responsibility for their own learning, and support collaborative relationships between teacher and students"



(p. 305). In addition, she calls for more self-assessment research to be conducted in institutions of higher education and that future studies should investigate the impact of self-assessment on student learning (Walser, 2009).

Likewise, Tanner and Jones (1994) found positive results when investigating peer and self-assessments through modeling practices in a mathematics class. When teachers modeled specific metacognitive thinking with strategies like the “start-stop-go” and self-assessment reflection, the researchers found SRL improved in planning, monitoring, and evaluating (p. 424). Qualitative in design, they describe modeling exercises and student responses contextualized within an emphasis on a socio-cognitive atmosphere. These modeling practices support my research design that proposes using metacognitive formative self-assessments to improve self-regulation and self-efficacy.

### **Formative Assessment**

Since Sadler’s (1989) influential work in defining formative assessment, many theorists have studied the literature and conducted research on the use of formative assessment. Indeed, even *How People Learn* dedicates consideration to the use of formative assessment as they are “learner friendly” assessments that focus less on achievement and more so on targeting future instruction (National Research Council, 2000). Sadler (1989) offered the following definition: “Formative assessment is concerned with how judgments about the quality of student responses (performances, pieces, or works) can be used to shape and improve the student's competence by short-circuiting the randomness and inefficiency of trial-and-error learning” (p. 120). Additionally, Sadler (1989) asserts that formative assessments do not act independently as alternatives to the focus of summative assessments; rather they are part of a process of *assessment, feedback, and self-monitoring*. Literature from Heritage (2007) and Clark

(2012b) expands upon the concept of learning progressions and formative assessment as process. Both recognize the implications for lifelong student achievement when used to teach students to regulate their own learning. Recent analyses of formative assessment contend that it cannot be reduced to one task, but rather, it is process oriented and should focus not on whether or what the student understands but how a student understands (Trumbnell & Lash, 2013). Citing today's world of high stakes testing, Clark (2012a) maintains formative assessment is rooted in Dewey's Progressivism and is a response to "scientism" (p. 208). Many theorists have come to associate formative assessment with constructivist theory and with Vygotskian terms of cognitive theory, particularly ZPD, which refers to "the gap in student's actual understanding and the student's targeted or potential learning" (Trumbnell & Lash, 2013, p. 5). In addition, Vygotsky's work referenced psychosocial and language behaviors, making classroom transactions and cultural setting an important aspect of the formative classroom (Trumbnell & Lash, 2013). Effective classroom discourse occurs when students "are encouraged to articulate their tacit knowledge" (Clark, 2012a, p. 209); thus, creating a conducive environment for effective self-regulating feedback.

Kingston and Nash (2011) caution against the assumptions many appear to make concerning the impact formative assessment has upon student achievement. Citing Black and Wiliam's (1998a) seminal work, "Assessment and Learning," Kingston and Nash (2011) argue it is more so a summary of "different learning theories" and erroneously perceived as a meta-analysis on formative assessment. In their own meta-analysis of 42 studies, they concluded that formative assessment effect size is not as large as originally cited (Kingston & Nash, 2011). They also found no definitive formative assessment type that all studies implemented (Kingston & Nash, 2011). While noting these criticisms,

others suggest that the use of formative assessment has not been readily adopted by classroom teachers (Clark 2012b; Heritage, 2007). They also point to the subjective nature of formative assessments as they pertain to individual students' ZPD and teacher facilitated process for learning progressions (Heritage, 2007, 2008). Schneider and Andrade (2013) argue research still reveals teacher inconsistencies in the use of the formative process: ill-defined articulation of clear learning targets, poor or inconsistent qualitative feedback to students, and an inability to effectively utilize formative data to diagnose learning gaps.

### **Research in Formative Assessment**

Clearly there is literature to support what formative assessment is and how it can be used to enhance student learning and teacher practice, but research measuring the implementation of formative assessment is still growing. The following studies outline action research projects that have explored formative assessment as well as a three-year study within one school district that explored learning progressions and formative assessment.

Harry Torrance and John Pryor (2001), UK University researchers worked with seven Primary classroom teachers to increase understanding of classroom assessment practices and to test the practicality of these ideas in real classrooms. The impetus for the two-phase action research was their initial research of classroom assessment practices. They concluded that when following a constructivist approach to teaching, learning, and feedback, classroom dialogue deviated from the norm and students were more inclined to be engaged in the formative process (Torrance & Pryor, 2001). They also concluded that the “effectiveness of formative classroom feedback in helping children to improve their work could not be assumed” (p. 616) since such differences in student interaction with

and understanding of learning goals were apparent. Heritage (2008) espouses formative assessments should be implemented as part of learning progressions, rather than as daily activities, and that clear learning goals are essential for student engagement and effective formative assessment. Using a framework of their design, Torrance and Pryor (2001) recruited teachers to collaborate using a “divergent assessment” model. “Here, the important thing is to discover what the learner knows, understands and can do” (p. 617). Five classroom teacher researchers composed reports at the end of both cycles (one year to conduct each cycle) and two teachers each completed a report for one cycle. Findings concluded that the action research model was a sufficient model for collaborative research in formative assessment and the divergent assessment model allowed teachers to conceptualize their understanding and practice of formative assessment during phase two. Torrance and Pryor (2001) acknowledge that formative feedback “will be enhanced when opportunities are provided for students to enter into dialogue and make their own judgements” (p. 628) and that future research will be needed to investigate the role of self-assessment as a formative classroom assessment.

Similar to Torrance and Pryor (2001), Trauth-Nare and Buck (2011) explain that to conduct their action research in teacher reflection on formative assessments they had to first create a common language for understanding and defining formative assessment as well as set routine practices for reflection and collaboration. Brookhart and Moss (2009) report their findings of a three-year district model to improve teacher use of formative assessment. Both studies were interested in teacher attitudes toward use of formative assessment and report first-hand accounts of teacher growth and perceptions to suggest that when given time to reflect, formative assessment can be a powerful instructional model for teachers to implement (Brookhart & Moss, 2009; Trauth-Nare & Buck, 2011).

## Feedback

The role of feedback is central to the study of self-assessment, metacognition, self-regulation, and formative assessment. It operates as a key feature, without it there would certainly be a breakdown in the process of learning. Butler and Winne (1995) agree that a key component of the process of learning is student ownership of feedback. Traditionally, feedback comes from teacher, flowing back to student. However, with an emphasis on self-monitoring and assessment, it is essential the student provide the feedback to herself.

Studies conducted on formative feedback have led to varying degrees of positive results. Nonetheless, Hattie and Timperley (2007) agree that it is one of the most influential determiners of learning. They offer a synthesis of types of feedback and a model for conducting four types of feedback: 1) about the task, which they argue is the most effective, 2) about the processing of the task, 3) about self-regulation, and 4) about self as a person, which they argue is least effective (Hattie & Timperley, 2007, p. 90). Feedback can be self-regulatory in nature and Clark (2012a) maintains that formative assessment feedback can reinforce self-assessment strategies. Feedback in relation to self-regulation and metacognition can inform learners in self-control as well as provide them a means to measure their performance and learning processes (Zimmerman & Cleary, 2009). Butler and Winne (1995) argue:

For all self-regulated activities, feedback is an inherent catalyst. As learners monitor their engagement with tasks, internal feedback is generated by the monitoring process. That feedback describes the nature of outcomes and the qualities of the cognitive processing that led to those states. (p. 246)

## Conclusion

Theoretical and both quantitative and qualitative research into the way people learn has found its way into the classroom, broadly, by way of self-efficacy, self-regulation, metacognition, and formative assessment. This research purports these perceptions and behaviors can be taught by teachers in reaction to standardized testing rote memorization, drill and kill tasks. Social Reconstruction is particularly relevant to this study since it seeks to address historically marginalized groups, inequalities, and inequities in their schooling experiences.

Teaching students through the instructivist method requires standardized tests results to continue to rule the American educational system, boring students by silencing their natural inquisitiveness and devaluing teachers (Buoncristiani & Buoncristiani, 2012; Stiggins & Chappuis, 2005). The status quo will be maintained with a stratified school system where students are tracked and labeled with testing scores and their schooling is reduced to memorization (Gatto, 2003). Classrooms are microcosms for the world and daily discourse among teachers and students, however thought of as benign, actually maintains the status quo and stratification (Apple, 1986; Noddings, 1983). Daily, teachers and students are building narratives and identities that are enforced by an educational system that applauds summative assessment scores and disdains self-realized learning (Pryor & Crossouard, 2008). If cultural ideology and status define students, then they “...are shaped by the cultural norms of our society, its traditions and institutions...” (Pryor & Crossouard, 2008, p. 9). Standardized testing and summative assessments are culprits in this system as they create and reinforce student identities as well as shape teachers’ discourse (Pryor & Crossouard, 2008; Stiggins & Chappuis, 2005). Osborne

(1996) argues for “reconstructing curriculum” as a means for a “redistribution of power in society” to effectively empower students who have been marginalized.

If an overhaul of the educational system is unrealistic, then teachers, who are reflective practitioners, who are leaders in effective pedagogy and methods, will be the change agents so drastically needed to transform American schools and take back students’ education (Gatto, 2003; Mertler, 2014; Osborne, 1996). In addition to culturally relevant practices, theorists argue a metacognitive classroom can provide that atmosphere that promotes the neuroplasticity to enhance social mobility, self-perception, and critical thinking (Buoncrisiani & Buoncrisiani, 2012; Clark, 2012; Martinez, 2006). Teachers who teach students to think for themselves and to self-regulate can help students to participate and to govern their own learning versus remaining hapless receivers.

Society needs creative, flexible thinkers who understand how to analyze a problem, who have a wide repertoire of approaches to problem solving, and who can see problems from varying viewpoints. Living is a constant process of problem solving—within the family, the job, in government, in our practical day-to-day lives, and in our spiritual and philosophical responses to life. It is essential that we provide opportunities for our children to become skilled, elegant thinkers. (Buoncrisiani & Buoncrisiani, 2012, p. 9)

Founded on Vygotsky’s principles of language development, metacognition and skillful thinking will allow students an avenue to explore language as a way to explore ideas internally and externally rather than to just merely communicate mundane responses to the teacher or each other (Buoncrisiani & Buoncrisiani, 2012; Pryor & Crossouard, 2008). It will be imperative that students be taught how mindfulness and

their own language are essential to analyzing their learning and are key steps to beginning the self-regulation process.

### **Key Concepts**

The following terms are defined to clarify how they are employed within this DP and action research study: *formative assessment and feedback, metacognition, rigor gap, and self-assessment, self-efficacy, and self-regulation.*

#### **Formative Assessment and Feedback**

Black and Wiliam (1998a) describe formative assessment as “those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged” (p. 1).

#### **Metacognition**

“Metacognition is the conscious application of an individual’s thinking to their own thought processes with the specific intention of understanding, monitoring, evaluating, and regulating those processes” (Buoncristiani & Buoncristiani, 2012, p. 25).

#### **Rigor Gap**

Research into teacher’s beliefs has continued to reveal teachers’ biases concerning disadvantaged students’ academic ability. “A rigor gap emerges in which disadvantaged students are judged to require less rigorous curriculum than that afforded their more privileged peers” (Torff, 2011).

#### **Self-Assessment**

Boud (1986) has defined self-assessment as “the involvement of students in identifying standards and/or criteria to apply to their work and making judgements about the extent to which they met these criteria and standards” (as cited in McDonald & Boud, 2003, p. 211).



## **Self-Efficacy**

Self-efficacy is understood to mean students' beliefs in their ability to master their own learning through self-regulation that is impacted by motivation, perseverance, and interest (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996).

## **Self-Regulation**

Self-regulation pertains to one's ability to set goals, monitor one's skill level in attaining the goal, and self-assessing one's mastery or performance once a task is completed (Zimmerman, 2008)). Because metacognition is an attribute of skilled self-regulators, it is studied within the context of a self-regulatory model of goal setting.

## **Summary**

The chapter two literature review has provided both a review of relevant theories and studies that have been conducted in the field of education. Historical circumstances, ruling ideologies, themes, and social constructs have been highlighted to contextualize the need for self-regulatory metacognition. Concepts discussed were Vygotsky's (1978) critical theory of social cognitive language development, self-efficacy, and the National Academy of Sciences (2000) publication, *How People Learn*. Explanations of foundational research by Black & Wiliam (1998a, 1998b) on formative assessment led to research into student formative feedback and self-assessment. I have explicated primary and secondary research resources to set precedence and contextualize this current DiP. The literature has shown underlying principles of self-efficacy and self-regulation in relation to motivation and goal setting. Metacognition is understood as a cognitive process of self-regulation, while efficacy is relative to perception, and goal setting relative to behavior (Zimmerman, 1989).

Chapter three is in an explanation of the study design. It is a detailed look at data that support the problem of practice and research question. Chapter three provides a description of the methods of the research study and their relationship to the literature reviewed in chapter two.

## **CHAPTER THREE: METHODOLOGY**

### **Introduction**

Chapter three is a detailed description of the study including the research site, student participants, and research based methods that were used. The purpose, research question, and problem of practice are restated to contextualize the research plan. From the literature review, it is understood that metacognition plays an important role in both self-regulation and formative assessment practices. Metacognition is an important attribute of skilled thinkers. It is suggested that by first learning to monitor their own behaviors and learning progressions, students can actively control their critical thinking in other areas (Presseisen, 2001). Therefore, chapter three elucidates the mixed-methods used to understand the nuanced relationship between self-regulation, self-efficacy, and critical thinking.

Explorers School is located in Charleston, South Carolina and serves grades 6-12 with an official enrollment count of 538 students. The middle school (grades 6-8) is one of 24 middle schools within a large school district. The school has one of the most diverse middle schools in the district according to geographical, racial, and socioeconomic metrics. According to 2016-2017 testing data from the state, about 40% of the student population qualified as living in poverty. 2017-2018 PowerSchool data report that at least 50% of the entire student body qualifies for the free or reduced lunch program.

### **Description of Site**

The seventh-grade enrolled 84 students during the 2017-2018 school year

(PowerSchool, 2018). Out of those 84 students, 60 were enrolled in an advanced math course and/or an advanced English course. Sixty-eight percent of the students enrolled in these advanced courses were White or Asian. However, White students make up 38% of the total enrollment for the class of seventh-graders.

The 2015-2016 school year reported 43 enrolled Black seventh-grade students and 38 White seventh-grade students. Data from the 2016-2017 school year show 52 Black students enrolled and 27 White students enrolled. 2017-2018 school enrollment numbers are similar with 45 Black students enrolled and 32 White students enrolled. While the student population appears to be shifting, teacher demographics continue to be mostly White. Out of 23 employed middle school teachers, six identify as ethnically diverse. Two out of twelve seventh-grade teachers are ethnically diverse. Moreover, value systems and cognitive behaviors of mostly White, middle class teachers can clash with those of students of color (Jackson, 2001; Payne, 2001). Thinking that is taught through “mental models” and cultural references that a student can build upon can lead to abstract thought processes and the necessary scaffolding a student needs to gain proficiency (Payne, 2001, p. 232).

Explorers School does not have just one or two feeder schools. Students are selected through an open-enrollment lottery system and come from a large geographic location. The middle school student-body at Explorers comes with diverse schooling experiences and from many socio-economic backgrounds. Cultural relevancy proponents suggest that students who are exposed to multicultural curricula that encourages critical thinking, such as metacognitive monitoring and evaluation, should perform well or better on recall, knowledge based end of course exams (Lee, 1998, p. 270). Teaching that

acknowledges the learning that students bring with them will create a more cohesive, empathetic environment for all students (Richards, Brown, & Ford, 2004).

### **Purpose Statement**

The purpose of the action research study was to teach metacognitive goal-setting through a formative assessment framework in order to measure what impact self-regulation had upon students' self-efficacy. The overall goals were to improve seventh-grade students' self-efficacy and mental self-regulation in order to 1) discern how students are efficacious and how does it affect their output; 2) provide field-tested instructional strategies and assessment choices for the seventh-grade teacher team; 3) provide qualitative data to the school's administrative team to use for course scheduling and decision making.

The following research question guided the study: What are the impacts of a three-part self-regulation model and a weekly metacognitive self-assessment on seventh-grade students' perceived self-efficacy?

### **Problem of Practice**

The problem of practice is that course tracking at Explorers School has led to fewer opportunities for students to advance into higher level course offerings, such as honors and advanced mathematics at the high school level. Advanced course enrollment does not match school demographics. In seventh-grade, 68% of students in an honors or advanced math course are White. These numbers stay relatively the same at the high school. Within the Advanced Placement (AP) courses in English and math, 60% of enrolled students are White. Black students are underrepresented in these advanced courses at both the middle and high school level. None of the students who participated in this study were enrolled in the seventh-grade honors level English course.

Tracking decisions are primarily based upon reading scores, standardized testing scores, final course grades, teacher recommendations, and scholar statement of interest. These practices are contributing to racial imbalances in these advanced courses. Within the classroom, students tracked into lower level courses have fewer opportunities to show their understanding through balanced assessment practices that incorporate formative assessments, self-regulatory activities, and metacognitive thinking assessments. With limited opportunity to show how they understand and without access to higher quality feedback from teachers, the school runs the risk of misunderstanding how efficacy and motivation can impact a student's will to learn and grow. Low-efficacy can be mistaken for poor self-regulation. Students labeled low performing (LP) can be assumed to be disinterested, disengaged, unable to navigate the learning process, and impulsive. Research into self-efficacy suggests students base self-concept on the courses they take, the grades they earn, and their ability to perceive progress based on input (Schunk and Pajares, 2002).

### **Role of the Researcher**

One of the distinguishing characteristics of action research is the researcher's fully immersed role within the classroom (Mertler, 2014). I was involved with planning, leading, and implementing the design of this study. To fully immerse within the class, I co-planned lessons and team-taught. Additionally, I conducted observations, interviewed student participants, and administered the questionnaires. I was limited by "outsider" status, because the study was conducted within a colleague's classroom. However, I followed a fixed schedule to ensure students were familiar and understood my role. The relationship between researcher and participants had to be built upon trust, acceptance, and truth. While present in the classroom, I maintained an attitude that initiated

responsibility. It was essential that the student-participants witnessed a participatory process reflected in teacher practices. This would help students to fully recognize that self-assessment was not isolated to a classroom setting but rather is an essential skill necessary for life beyond school (McDonald & Boud, 2003).

### **Ethical Considerations**

It was my responsibility to maintain the ethical integrity of this study by remaining unbiased and by keeping confidential records private and student interests at heart. With any study, the validity of this research could have been compromised without careful record keeping of data (Mertler, 2014). Because I taught self-regulated learning (SRL), implemented weekly formative assessments, and coded both quantitative and qualitative data, I ensured unbiased objectivity by self-checking analyses against personal beliefs. To maintain the validity of results, I facilitated the survey distribution of the adapted versions of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich & De Groot, 1990) and the semi-structured interview. I facilitated the questionnaires and interviews outside of regular classroom hours. To limit distractors and misunderstandings, I administered the questionnaire with small class sizes of students in a separate room within the school building. I administered the interviews on an individual basis. Two particular students were absent on days I distributed the MSLQ and conducted interviews.

For this action research study to be conducted the principal at Explorers gave permission. Additionally, this research study was approved by the Internal Review Board at the University of South Carolina and was approved by the governing board of the charter school. Participating students returned signed parental permission forms and they were given an option to opt out, which several parents did (Appendix A). Confidentiality

and ethical considerations were of utmost importance. Student information was coded numerically and alphanumerically to ensure student privacy, and I reminded students that data I collected from instruments was for my use only.

### **Limitations**

The first limitation of the research design was my role as an “outsider.” It was inherent that I gain students’ trust as a full participant and as an observer. Even though I am an employee of Explorer’s School, students were still uncertain of my status within the classroom. Often during observational studies, the observer’s presence can disrupt the learning environment or can lead students to exhibit inauthentic behavior (Yin, 2014). Establishing trust and validity in the eyes of the students came through using culturally relevant teaching (CRT) and self-reflective practices that incorporated student experiences, thoughts, and knowledge to incite new learning and trust (Jackson, 2001).

The second limitation of the research design was time in the sense of where the study fell in the calendar year. Conducting the study at the start of the school year would allow for a more flexible calendar as there are fewer interruptions to the instructional calendar. There were lost instructional days due to the day-to-day reality of being in a school. I had to remain flexible due to testing, field trips, and guest speakers. However, most observations occurred on a Monday, Wednesday, Friday schedule.

Since the research was conducted in another teacher’s classroom, I was limited by the number of classroom visits that could be conducted. However, to ensure standardized practices, I followed an observation and team-teaching schedule that included time for two to three class visits each week during the first two weeks of data collection cycle. When I implemented phase two for goal setting and self-assessments, I was in the classroom almost three to five days a week for the final weeks of data collection. Lesson



planning and reflecting took place through face-to-face meetings and through online communication but qualified as additional time spent beyond the three to five weekly site visits for teaching and observing.

The third limitation of my design was the subjectivity that inherently accompanies qualitative data collection (Mertler, 2014). I maintained objectivity in two ways. I used the MSLQ instrument to check against the students' interview responses, and I coded by categorizing, analyzing, and synthesizing data using existing codes and themes from several studies and theorists (Hattie, 2012; Pintrich and De Groot, 1990; Zimmerman & Martinez-Pons, 1986). My process was cyclical and as I reflected with the teacher and analyzed my field notes, I monitored and adjusted my practices to ensure that my instruments were addressing my research question. The results and action plan are shared in narrative form and in tables, so objectivity is important for validity and comparison.

### **Student Participants**

The research was completed with one class of social-studies students, which met yearlong at fifth period during the school day. Eighteen students were initially enrolled in the course, which was heterogeneous and consisted of students with varying abilities and characteristics. Prior to the start of data collection, one student was moved from the course so that she could enroll in the honors level English course. After data collection began, another student was removed from the course for exhibiting physical aggression toward the classroom teacher. Thirteen of the 16 remaining students participated in the study. The data collected from the MSLQs, interviews, observations, and student artifacts are reflective of those 13 students.

The choice to conduct research with only one of the four seventh-grade social-studies classes was based on manageability of the qualitative observational data that was

collected. Seventh-grade social-studies classes were not tracked or grouped by ability. However, it should be noted that tracking still affected the class rosters, as students generally moved together from class to class due to the tracking of other classes. All ability levels were present within one class, making it a favorable sample of the larger population to understand high performing (HP) and low performing (LP) students' self-efficacy, self-regulatory behaviors, and motivation. Out of the original 16 students, none qualified for Special Education (SPED) services and the student who changed classes to move to honors English was the only English Language Learner (ELL) within the class. Only the student who was removed for physical aggression had been retained. Table 3.1 provides information about the class compiled as a quick data portrait (PowerSchool, 2018).

Table 3.1

*Class Demographic Breakdown*

Race	Gender	F/R lunch status	Reading Enrichment	Advanced math	Identified GT	Failing 1 or more quarters	1 or more discipline referral
9 B 4 W	7 F 6 M	9	4	4	3	6	8

Overall, there are consistent low achievement scores for the seventh-grade students taking SCPASS social-studies. Data from the 2017 test reports that Explorers' seventh-grade students underperform compared to state and district averages (SCDE, 2017). Averages denote the percentage of students who earned "meets or exceeds" on the SCPASS social-studies test. Table 3.2 depicts the average scores students earned and shows the disparity in scoring performance among ethnicity and socio-economic status.

Table 3.2

*SCPASS 2017 Social Studies End-of-Course Achievement*

	Explorers	District	State
All Students	42.3%	65.6%	63.5%
African American or Black	25.5%	37.3%	45.5%
Students in Poverty (SIP)	28.9%	46.2%	51.9%
White	73.1%	88.2%	74.4%

### Design of the Study

This action research study was a mixed-methods design that took place over a nine-week period during the second semester of the 2018 school year. Thirteen students from one social-studies class participated. The study was divided into three phases. Phase one identified students' initial perceptions of self-efficacy, metacognition, and self-regulation through interviews and questionnaires. I acclimated myself to the class by conducting observations two to three times weekly for two weeks prior to implementing reflective formative assessments and then goal setting.

During phase two, I used Zimmerman's (2002) model of self-regulated learning (SRL) to engage students in the cyclical actions of goal setting, monitoring learning, and self-assessing learning. As I reflected on the data collected, I also consulted and used model questions from Hattie (2012). Students were given daily and weekly formative self-assessments. I used inclusive practice to incorporate student voice, choice, and experience. During this phase, student work and samples were collected.

During phase three, students were given the MSLQ again and their responses were recorded to measure any changes in their efficacy, self-regulation, or metacognition. Students were interviewed again using a semi-structured format at the end of the nine-week period to find out if their perceived self-efficacy, motivation, and self-regulation

changed. The data were triangulated and synthesized to both quantitatively and narratively illustrate how a practitioner uses alternative assessments, student feedback, and metacognition.

### **Planning Stage**

The *Planning* stage of the action research study initially involved a narrowing down of the specific deficit in thinking behavior in students. Essentially, recorded behaviors and the analysis of standardized testing achievement were assumed to be the effects of low academic dispositions and self-efficacy. Conversations with seventh-grade teachers as well as the school principal and school counselor helped to uncover a growing mystification with reaching a new population of student. Prior methods to scheduling and pedagogy were no longer effective in helping all students to be their most successful or were offering all students the most rigorous and best educational opportunities.

When initially planning with the seventh-grade social-studies teacher, I used his responses to the 20-question Teacher Survey: Self Reflection on Our Own Models of Teaching (Appendix B) to refine the area of research and to target metacognition and self-regulation. The teacher responded that students “sometimes pose thought-provoking questions related to content;” they “sometimes spend time on projects or problems to solve;” students “sometimes reflect on their work, progress, and thought processes orally or in writing;” the teacher “sometimes uses a wide variety of assessment experiences;” and “we seldom work to build a community of inquiry in our class.” The classroom teacher’s attitude toward working with me to complete the study was one of willingness and collegiality. He articulated that he wanted to do a better job of teaching this particular class of students (Allen, personal communication, March 5, 2018), but he did have trouble connecting with them. His attitude toward the students varied and at times was

disparaging. He had an educational goal for the students to become better active readers and he had taught them specific reading strategies to employ, but he readily admitted that he did not think that many of the students had academic fortitude (Allen, personal communication, March 5, 2018).

Based on the Teacher Survey and conversations, emergent themes were identified. It was determined that my study would need to address the following: how to show understanding and monitoring of what one thinks and knows; how to measure how one knows; how to assess student evaluation and regulation of what one knows; how to create a community where all students feel empowered and valued. Therefore, plans emerged to study how formative self-assessments could create a feedback loop within the classroom to improve self-regulatory behaviors, motivation, and inclusion.

### **Action and Data Collection**

The *Action* stage was divided into three phases. At the start of phase one, I distributed letters of consent and letters explaining the research project to parents and students. Students and parents had the option of opting out, and therefore, information would not be collected or coded on those particular students. Prior to distributing the questionnaire, I piloted the MSLQ with 7 eighth-grade students during the early part of the spring semester to ensure that directions were clear and that the method for administering the questionnaire was valid and feasible.

**Quantitative data: MSLQ.** Once preliminary objectives were cleared, phase one began with an abbreviated version of the MSLQ. The entire survey is 52 scaled-response questions and the decision was made to only ask students questions that pertained to metacognition and self-efficacy. This reduced the survey to 14 questions on metacognition and nine questions on self-efficacy (Appendix J). The questionnaire asked

about students' perceptions of their own self-efficacy, motivation, and regulation. The metacognitive survey required the students to respond (1-not at all true of me to 7-very true of me) about students' self-regulating habits. Example questions were "I ask myself questions to make sure I know the material I have been studying" and "Before I begin studying I think about the things I will need to do to learn." The efficacy questions required a scaled response as well (1-not at all true of me to 7-very true of me) and asked questions such as "My study skills are excellent compared with others in this class" and "I know that I will be able to learn the material for this class." I administered these surveys with seventh-grade students in small groups outside of the social-studies class and within another classroom in the school building. The purpose of conducting these outside of class time and in a separate setting was to reduce factors that could negatively affect students taking the survey. A separate setting with a small group ensured there were fewer distractions and that students felt comfortable taking the survey. It allowed me to answer any questions in a timely manner. Motivated by the developmental stage of students, I wanted to be certain students understood the questions fully and could answer as honestly as possible as the future formative assessments and self-assessments were tailored based upon their responses. I used this quantitative instrument to better understand how students perceived themselves within the classroom and compared their self-reporting on the questionnaire to those responses given during the interview. The MSLQ helped me to identify specific areas of concentration particular to self-regulated learning strategies that were influenced by either metacognition or efficacy.

To ensure integrity in the results and process, the questionnaire was administered the exact same way at the end of phase three of data collection. It was explained to students that their responses to questions would not impact their grades or teacher

perceptions of them in social-studies class. I was the only one to view the student questionnaires. Student scores were coded and aggregated to identify themes that helped to form the sub-categories that informed the metacognitive reflections and goal setting that were used. To ensure ethical validity, students were coded numerically into a spreadsheet and copies were made of their collected work, questionnaires, and interviews. Copies were kept confidential in a data binder that was locked in my room and only available to me. This was an attempt to ensure confidentiality of student responses.

**Qualitative data: Observations and pre-interviews.** In addition to collecting preliminary demographic data and administering the MSLQ, I also conducted observations of the class two-three times a week for two weeks. During my initial two weeks of observations, I noticed that students were not fully engaged in the learning tasks. Many students would ignore directions for classwork and play video games or watch videos on their Chromebooks during class time. The Chromebooks seemed to be more of a distractor than an enhancement for learning. Additionally, the students would often try to self-segregate and sit by friends, ignoring the seating chart. A core group of students would often come to class tardy or initiate avoidance behaviors to prolong the start of class. They would remain standing, avoid taking out their materials, yell across the room, or make remarks to engage their classmates in a back-and-forth argument or discussion. Furthermore, during these two weeks, the classroom teacher lamented that the school's discipline policy was too lax and allowed the students to feel as if they were free to do as they pleased. He struggled to find a balance of handling classroom disruptions as he stated it took too long for disciplinary actions to be handled by administration (Allen, personal communication, March 5, 2018).

A third data set was recorded in the form of pre-interviews with 12 students (one student was absent and did not participate in the pre-interview). The self-regulated learning pre-interview (Appendix C) consisted of five questions modeled after those of Zimmerman and Martinez-Pons (1986) that addresses the different learning contexts of the classroom, motivation, and metacognition. Student responses were categorized using pre-determined themes (metacognition, self-efficacy, and motivation) as well as descriptive codes that emerged from student responses. I triangulated the data from student responses on the MSLQ and used it to identify trends, inconsistencies, and similarities among student self-reporting, interviews, and observational notes.

**Qualitative data: Student goal setting formative assessments.** Phase two was a six-week time period in which I began teaching metacognition, self-reflection, and acclimating the students to my presence as a co-teacher as well as the sequence of reflection and feedback. This time gave me an opportunity to establish a culture of learning, inquiry, and validation as I drew on CRT to engage students and to create an inclusive classroom environment. After initially teaching students to self-reflect, I then implemented SRL using Zimmerman's (2002) three-part model. The SRL model draws upon Zimmerman's (2002) three stages of self-regulation:

1. *forethought* is where the student sets goals and approximates the learning targets;
2. *performance* is concerned with the student's ability to exhibit self-control or self-monitoring while learning; and
3. *self-reflection* relates to self-evaluation (p. 68).

I completed three-five classroom visits each week for a total of 19 classroom visits over the six-week phase two. Class periods were 56 minutes long, and I spent about 25 minutes modeling or facilitating SRL to equal a minimum of 475 minutes of instruction



in metacognition and SRL goal setting. Hewitt's (2011) study consisted of 500 minutes of self-evaluation instruction. To establish the goal setting cycle, a learning goal was used as the opener to the lesson. I would ask a student to state the goal and we would briefly discuss how the learning goal fit in with the learning from the day before or we would discuss students' prior knowledge about the topic. I would then briefly model how the learning goal was broken into parts and ask students to self-assess how well they understood the learning goal and sub-goals as well as how comfortable they felt achieving them. I would then ask students to think through and choose methods for meeting their goal(s) that day. Methods varied from prioritizing work tasks to using rubrics or handouts as checkpoints for work guides. At this point, modeling had ended, and the classroom teacher and I monitored student work time. We would provide one-on-one instruction or feedback as needed. At the close of the lesson, I would ask students to self-reflect and to think critically about their learning that day. These self-assessments were used for reflection and provided a point of reference for the next day's feedback or continuation of the lesson. This framework created consistency in modeling as well as provided the formative feedback that I used to adjust instruction within the unit.

Examples of student artifacts or work collected during the unit included

- Metacognition Reflection (Appendix F),
- Entrance Tickets,
- Exit Tickets,
- Question Formulation Technique Activity Sheet,
- Student Goal Setting Self-assessment (Appendices G and I),
- Student Work Plan for Monitoring Goal Attainment (Appendix H), and
- Metacognitive Reflection Questions.

The metacognitive questions that monitored learning and influenced adjustments to learning included: “How do you know” or “What were strategies you used that were helpful” (Buoncrisiani & Buoncrisiani, 2012; Hattie, 2012), which are examples of the metacognitive questions that elicit self-regulation and metacognitive responses from students. Metacognitive questions that invite students to discuss their self-regulation and monitor their learning were modeled and included as part of the formative assessments that measured students’ understanding. Reflective questions, such as “How did I get unstuck today” and “To what extent do you understand today’s objective” allowed students to provide formative feedback (Appendix H; Appendix I). The goal was to create a well-rounded portrait of a metacognitive classroom, to examine what students believe provides them with an academic voice in their learning, and discern what teacher behavior best elicits this student engagement. Sample metacognitive questioning included:

1. Did you achieve today’s learning goal?
  - a. How much effort did you put into to it?
2. When I got stuck or distracted, I...
  - a. If I were given a similar task, I would do the following differently...
3. What have I learned about myself as a problem solver?

**Final quantitative and qualitative data collected.** During phase three, I gave students the same MSLQ to take again to measure any differences in their answers. Students were also interviewed a second time with different semi-structured interview questions (Appendix D) to measure whether students perceived if using metacognition and self-regulation had an impact upon their motivation and their self-efficacy. The post-interview questions consisted of questions relating to themes of metacognition,

monitoring, motivation, and self-efficacy. Both the survey and the interview were given on separate days outside of class time in a separate room in small groups to ensure students give honest answers. Interviews were conducted one at a time to ensure student confidentiality and honesty. Interviews were audio recorded and transcribed by me. Part of the premise for the research was based on the idea that students must be involved with and given voice during assessment and the student interview was a way to measure whether students actually perceived the self-assessments as valid ways of empowering their personal efficacy. Furthermore, I used videos of lessons, student formative feedback, and student work to perceive what impact they had upon learning.

### **Data Analysis**

This study utilized principles of mixed-methods design. The MSLQ (Pintrich & De Groot, 1990) and semi-structured interview were diagnostic assessments that helped plan for the coding of categories of motivation, self-regulation, and self-efficacy. Coding began by organizing and categorizing student responses to get an initial understanding of the students' ranges in exhibiting metacognitive behavior and their perceived self-efficacy. Then I used cross-tabulation and frequency counts to help analyze student perceptions to look for trends and common ideas and behaviors. This informed the coding of the responses into themes for future formative assessments. Analysis and synthesis of the data and its emergent themes and trends informed the developing and reflecting stages where an action plan was created. Keeping student identities confidential was important. Student names and identities were coded numerically and students were given pseudonyms. I analyzed and coded all pre-interviews, pre-questionnaires, observations, artifacts collected, interview data, post-questionnaires, and post-surveys. I had to triangulate the different data points to best explain what classroom instruction best

promotes student self-reflection, metacognitive behaviors, and supports student voice. Additional themes became evident as I began to discover the nuances of motivation and self-efficacy. These themes are elaborated on in chapters four and five.

I used several different files to record data digitally. Scores from the MSLQ were aggregated using Microsoft Excel. I used tables in Microsoft Word to code themes and color code student evidence and my own reflection. SRL umbrella themes (*understanding, monitoring, evaluating, and regulating*) became evident as I gathered data on SRL and goal setting. Umbrella themes of motivation and efficacy became evident as I analyzed responses for language that suggested something inspired a student, something was present that they like to do, or they articulated the belief that they could accomplish something. The recorded student data was used to inform instruction and to code student performance in relationship to their self-efficacy surveys and classroom achievement. Thus, a triangulation of several data points indicated whether students' thoughts (quantified and qualified data) are supported by the teachers' observations and student output (qualitative data). All classroom observations and lessons were videoed and used for accuracy. Interviews were audiotaped and transcribed for accuracy.

### **Reflecting and Developing**

Reflection essentially occurred at every phase of the action research study. My reflection was not isolated either. I was able to have reflective conversations with each stakeholder along the way. When designing the study and plan, I used my administrative team and the seventh-grade social-studies teacher to best design a study that would benefit Explorers students and would complement the values of the school. I reflected orally through conversations and quick meetings and I used my observations to take reflective field notes. I reflected with the students via feedback and made adjustments in

class based on these reflections. Analysis was part of this reflective process, yet it encompassed looking for trends and themes while remaining as objective as possible. I analyzed my field notes daily to ensure that my thoughts and descriptions captured the classroom and were addressing the guiding research question. Through this process, I refined my question and was able to elucidate future topics for research. Insights arose from the initial observations that relayed a class that needed more culturally relevant, inclusive practices to create collective efficacy. In my reflections, I soon realized that a portion of time would need to be devoted to developing relationships but also a pattern for self-reflection. This meant that I spent time developing motivation through relationships, but also meant that I would need to reconsider how to better measure critical thinking through metacognition in a different study. The tools and measures I created were suitable to measure impact on efficacy, but future research should elaborate on the role of metacognition within the three-part goal setting cycle.

Developing and implementing an action plan is ultimately what makes an action researcher a change agent (Mertler, 2014). Chapter five relays my action plan and the steps I will take to implement it. Based on my reflections and analyses, I was able to discuss with both the administrative team and the seventh-grade team what action steps should be taken next. All parties are enthusiastic about continuing field testing strategies to develop efficacy, motivation, and self-regulation. I look forward to developing more CRT practices and curricular pieces that teachers can use.

### **Summary and Conclusion**

As a whole, seventh-grade students at Explorers School underperform in all academic areas. Because of criteria that focuses on normed data and teacher recommendations, not all students are given the chance to enroll in advanced level

courses. Biases and misunderstandings of what self-regulation is has prevented low performing (LP) students of having the opportunity to experience more assessments that can build efficacy and motivation. It is assumed that high performing (HP), self-regulatory students are more intrinsically motivated to work harder and that LP students are more extrinsically motivated and not as hard working. Furthermore, research suggests that LP students often have low self-esteem and poor self-efficacy, which induces them to appear to be apathetic and disinterested. The school itself does not have a climate that promotes controlled, systematic approaches to improving the seventh-grade students' learning. Through participatory action research, I have examined the following research question: What are the impacts of a three-part self-regulation model and a weekly metacognitive self-assessment on seventh-grade students' perceived self-efficacy? Using Mertler's (2014) action research model for *planning, acting, developing, and reflecting*, I have sought to grow as a practitioner in understanding how to promote metacognitive thinking, self-regulation, and to improve students' self-efficacy as well as how to improve equity and access within a public school setting.

## CHAPTER FOUR: FINDINGS FROM THE DATA ANALYSIS

### Introduction

In this chapter the findings of the study are presented. The research question, problem of practice (PoP), and purpose of the study are restated. I first include detailed descriptions of the 13 participants. I then describe the coding process and detail the data that were collected during the nine-week study. Finally, I end with an analysis of the findings in relation to the major themes of self-regulation, motivation, and self-efficacy.

The data were collected and analyzed in response to the research question proposed in chapter one of this dissertation. That research question was: What are the impacts of a three-part self-regulation model and a weekly metacognitive self-assessment on seventh-grade students' perceived self-efficacy? The research question and data analysis were influenced by the problem of practice of course tracking and opportunity gaps.

The PoP was that course tracking at Explorers School has led to fewer opportunities for LP students to advance into higher level course offerings, such as honors English and advanced mathematics. Tracking decisions are primarily based upon standardized testing scores, final course grades of an 85 or higher, teacher recommendations, and scholar interest. At Explorers there was often teacher talk about work ethic, attitude, and behavior as signs that students have earned their place in an advanced course. In fact, students who wished to enroll in an advanced level English class were asked to complete a "Scholar Statement of Interest," which asks questions

such as “Have you given serious thought to coursework and the rigor that will be required to succeed in an advanced course;” “How do you anticipate succeeding;” and “How does advanced-level coursework affect your academic goals.” The school needs to ensure that it has done its due diligence to provide students with opportunity to have an equitable chance at answering these questions. The implicit bias in assumptions about the educational worth of a student has severe implications for those students left out. What the criteria for course tracking does not take into account is the different ways students may show what they know and specific means to motivate and inspire marginalized students. Within the classroom, students tracked into non-honors or regular courses have fewer opportunities to show their understanding through balanced assessment practices that incorporate formative assessments, self-regulatory activities, and metacognitive thinking assessments. With limited opportunity to show how they understand, and without access to higher quality feedback from teachers, these students are not given the opportunity to develop higher self-efficacy. They are labeled as having a lack of self-regulation and motivation.

### **Purpose of the Study**

The purpose of the action research study was to teach a three-part self-regulation cycle through metacognitive goal-setting within a formative assessment framework in order to measure what impact self-regulation had upon students’ self-efficacy. The overall goals were to improve seventh-grade students’ self-efficacy and mental self-regulation in order to 1) discern how students are efficacious and how does it affect their output; 2) provide field-tested instructional strategies and assessment choices for the seventh-grade teacher team; 3) provide qualitative data to the school’s administrative team to use for course scheduling and decision making.



An intended outcome of the action research study was the development of an action plan for the seventh-grade teaching team, which would enable other teachers to use common metacognitive and assessment strategies that would facilitate self-regulation of academic skills and cultivate metacognition.

## **Findings of the Study**

### **Participants in the Study**

Pseudonyms and alphanumeric codes are used to protect the identity of participants. Thirteen students participated in the study. Below I provide descriptions of students based on demographic information obtained from PowerSchool (2018), an online database tool used by Explorers to note attendance, grades, and record keeping. Descriptions include information obtained from field notes taken during initial observations from a two-week period, the first phase of interviews, and the first time students took the Motivated Strategies for Learning Questionnaire (MSLQ). The questionnaire asked students 23 questions related to metacognition and self-efficacy (under the auspices of self-regulation). Students self-selected their own responses using a Likert scale of 1-not at all true of me to 7-very true of me. Using a triangulated mixed-methods design, I collected the MSLQ data simultaneously with field notes and interviews (Mertler, 2014). I created a qualitative profile of students' initial metacognition and efficacy based on these first initial field notes, interviews, and questionnaires and used the Likert scale as a quantitative data point later to report differences between the pre- and post-MSLQ scores. I began with umbrella themes of metacognition, efficacy, and motivation, and I then used provisional and descriptive coding during my first phase of collecting data (Saldana, 2016). I reference student's observed behavior as well as their self-reporting from the questionnaire and interview.

1. Kate (S1) is a 12-year-old Black female, who at the start of the study was prone to outbursts, name calling, and yelling. Kate was asked to leave the class twice during initial observations because of inappropriate outbursts. Kate has six referrals. During her initial interview, she stated, “I set goals for myself because I’m trying either to get somewhere in life or either try to get a head start in what I’m doing.” When asked if she monitors herself in class, she stated, “...sometimes I catch myself. Then I have to think back and ask myself was it worth it to do that.”
2. John (S2) is a 13-year-old White male. He is identified as Gifted and Talented (GT) and enrolled in Algebra I. He has no discipline reports. He is quiet and attentive in class. John self-reports high metacognition and self-efficacy. When asked how he sets goals, he stated, “I talk with my mom a lot. My parents a lot about how or what I’m doing in class and how I can do better.” When asked how he monitors himself in class, he stated, “Like, I look around and see what everyone else is doing and make sure that I’m doing the right thing.”
3. Fred (S3) is a 13-year-old Black male. He is quiet during class and often off-task as he is found to be playing video games on his Chromebook during class time. He has two referrals. He scores himself low in both metacognition and self-efficacy. When asked how he sets goals, Fred referenced his friends: “I would tell my friends and they would probably tell me if I could do it or not, which would probably build my confidence up to do the task.” When asked how he monitors himself in class, he stated, “When I listen to music, it helps me to work more efficiently.”

4. Ashlyn (S5) is a 13-year-old Black female. She is enrolled in Reading Enrichment, an intervention reading class. Ashlyn has six referrals. She reports feeling controlled by the teacher and also is one of the lowest scoring in self-efficacy and metacognition. When asked how she sets goals, she stated, “When I set my goals, I say what I would like to do and what I know I can do.” She acknowledges the following self-monitoring strategy: “I’ll go over my work and make sure I have it done before I do anything else.” Her classroom behavior is erratic—sometimes she is on task, other times she is talkative and distracted by others or is the one distracting.
5. Malik (S8) is a 13-year-old Black male. Malik has six referrals and self-reports he “doesn’t really follow directions.” His teachers believe him to be unidentified gifted and talented (GT). His metacognition scores are lower than his classmates. When asked how he sets goals, Malik said, “Sometimes I set goals. I don’t really set goals. I guess I set goals for the week, like to pay attention and don’t have anything on Kickboard or anything.” He perceives himself to be different from classmates as he reports he likes to move to learn, and he monitors himself by wearing noise proof headphones to concentrate.
6. James (S9) is a 13-year-old White male. He has one referral. During his interview, James gave vague answers. In class James is quiet and sometimes off-task reading books or playing games on his Chromebook. “I set small goals for myself because I find them easy.” He said he does not do anything to monitor himself.
7. Pam (S10) is a 12-year-old Black female. She has no referrals. Pam is enrolled in Reading Enrichment. Her self-report scores in metacognition and self-efficacy seem higher than her classroom output and cognition. Her interview answers were

- vague. She said she “keeps goals in her head” and answered “no” when asked if she monitors herself in class.
8. Sam (S11) is a 12-year-old African male. He has no referrals. He was moved ahead a grade upon entering the United States in second grade, and Sam is the youngest in the class. He is GT identified and enrolled in Math 7 Honors. Sam has no referrals. He reports high self-efficacy and metacognition. He states, “Sometimes I set goals, like, for sports and academics.” When asked how he monitors himself in class, Sam answered, “Sometimes I ask the teacher.”
  9. Taylor (S12) is a 12-year-old Black female. She has two referrals. Taylor is often talkative, impulsive, and distractible in class. She self-reports low levels of metacognition but high levels of efficacy. She was absent for the pre-interview.
  10. Tyler (S13) is a 13-year-old White male. He has no referrals. Not GT identified, but Tyler is enrolled in Algebra I. When interviewed, he referenced specific strategies for goal setting: “I set goals for myself based on what the teacher wants us to do and how much I feel I can do.” When asked how he monitors himself in class, Tyler said, “I’ll, like, I’ll set things aside that I can do later and make sure I do things that need to be done sooner first.”
  11. Lauren (S14) is a 12-year-old White female. She has no referrals. She is GT identified and enrolled in Math 7 Honors. Lauren reports the lowest self-efficacy scores out of all students, and she reports low metacognition. Lauren views herself as artistic and cites this as a difference she sees in herself. She is often quiet in class. She says, “I just kind of, like, put them [goals] in my head and, like, think them often. I usually achieve them if I really want to do something.” When asked how she monitors herself in class, she stated, “I’ll check into myself and

make sure I'm doing the work and not just, like, sitting there. Like, often, I just find myself daydreaming and I'm not really good at self-monitoring, so..."

12. Jamila (S15) is a 13-year-old Black female. She has 15 referrals and is the fourth highest "offender" in the seventh-grade class (Educator's Handbook, 2018).

Jamila can be defiant in that she will ignore teacher requests to stop talking, change seats, or take out her earbuds so she may hear instruction. Jamila is enrolled in Reading Enrichment and has a 504 plan for ADHD. She reports low levels of metacognition and low levels of efficacy when comparing herself to classmates. Her interview answers were vague. When asked how she sets goals, she stated, "I just think about what would happen if I don't do my work." She stated "yes" when asked if she monitors herself in class.

13. Netta (S16) is a 13-year-old Black female. She has 20 referrals and is the third highest "offender" in the seventh-grade class (Educator's Handbook, 2018). Netta is enrolled in Reading Enrichment. Her behavior is erratic. At times she is on-task and at times she is distracted and talkative. She reports low levels of metacognition and low levels of efficacy when comparing herself to classmates. When asked how she sets goals for herself, Netta stated, "[I] think about grades and if I want to pass and try to ignore friends. Sometimes I get distracted, off-task and I don't reach [them]." When asked how she monitors herself, she stated, "I try. I get off-task and I just stop. When it's time to study, I just read and call that studying."

Summarily, student responses pointed to some internal motivation (Ashlyn and Tyler), social comparison (John, Fred, Netta), self-consequence (Kate, Lauren, and Jamila), environmental supports (Fred and Malik), self-limiting (Malik, James, Lauren,

and Netta), and social assistance (John, Sam, and Fred). Each of these sub-themes of self-regulated learning provides a varied sense of the range of efficacy and SRL that was initially present in the class. The data I present reflects the nuances of motivation and the variance of efficacy. SRL is shown to have an impact on efficacy. It is the relationships between goal setting, feedback, and motivation that reveal an interconnectedness of each concept.

Outwardly, the collective behaviors of Kate, Ashlyn, Malik, Taylor, Jamila, and Netta were disruptive to the class. Based on the demographic data collected, this was a snapshot of students who were building profiles of “troubled,” “non-compliant” students. All of these students were either labeled as behavior problems, low performers, or both by their teachers and data sources. Malik was the only exception as his teachers thought him to be unidentified gifted and talented (GT). Labels such as these are detrimental to their development as young scholars and may inhibit their access to more advanced coursework. None of these students were enrolled in either honors or advanced courses. Three of six were in Reading Enrichment, an intervention class that substituted one of their elective classes. Two were top “offenders” in the referral system. Ashlyn, Taylor, Jamila, and Netta all had D averages for the course. In the formative years, identities and efficacy are influenced by the classes one takes and the grades one earns (Ryan & Patrick, 2001). Interestingly, when asked questions to prompt their metacognition, Kate, Fred, Ashlyn, Malik, Jamila, and Netta all referenced “environment” as a specific need for their success. Either they referenced the importance of a distraction free environment or that they take a specific action to isolate themselves from distractions.

## Data Collected

Data were collected within three phases of the nine-week study. Table 4.1 demonstrates the data schedule, including timeframe and types. All data were coded, themed, and triangulated to best illustrate how efficacy and self-regulation were influenced. While I do provide averages of the MSLQ pre- and post-questionnaires, I used student self-scores to compare with field notes, student work, and interviews. I wanted to discern whether there was a difference in student self-reporting and actual student performance as well as use some of the questionnaire categories as a basis for the goal setting formative assessments. Essentially, I had four different types of data to triangulate to best capture how student behavior and thinking changed.

Table 4.1

### *Data Types and Collection Schedule*

	Phase One	Phase Two	Phase Three
Timeframe	2-weeks	6-weeks	1-week
Types of data collected	<ul style="list-style-type: none"><li>• MSLQ pre-questionnaires</li><li>• Semi-structured pre-interviews (audiotaped)</li><li>• Observation field notes</li></ul>	<ul style="list-style-type: none"><li>• Observation field notes (videotaped)</li><li>• Goal setting formative assessments (student work)</li></ul>	<ul style="list-style-type: none"><li>• MSLQ post-questionnaires</li><li>• Semi-structured post-interviews</li></ul>

## Coding

My process for coding was recursive because each round of data collection was influenced by the prior phase. I used the reflective process outlined by Mertler (2014) to guide my thinking and to adapt my process as different themes emerged or grew in scope.

Knowing my objectivity could be swayed by my biases as teacher and researcher, I first used provisional codes by Zimmerman and Martinez Pons (1986), because I wanted to use codes that had been well defined and used to identify self-regulation strategies. When I began to implement self-regulated goal setting, I used descriptive coding methods to identify new themes and I added evidence to existing provisional codes. Using eclectic coding, I combined my use of provisional and descriptive codes as themes were modified and synthesized (Saldana, 2016). I cross referenced student work and the final semi-structured post-interview with my phase one data. Using color coding and reflective notes, I captured the emergence of themes at the phase they presented themselves. I used a table to visually depict the color coded themes. I tabulated responses and used frequency counts to label the number of times students reported using a self-regulating strategy, referenced goal setting as a means of regulating themselves, and reported motivation. Finally, I consulted Hattie (2012) to further breakdown sub-themes of SRL, goal setting, motivation, and self-efficacy.

I maintained a system for confidential record keeping. I kept a binder with photo copies of student work and my field notes. This binder was kept locked in my classroom and was not available for others to use. I kept digital copies of demographic data, coding spreadsheets, and tables on my computer, which was only available for my use. The computer was password protected and was issued by the school for my personal work use. In the proceeding portions of chapter four, I include an analysis of the triangulated data to provide an example of how one practitioner was able to model and teach goal setting. Where applicable, I provide quoted responses from students. These quotes attempt to maintain the integrity of student voice.



## Phase One Data Reflection

**Self-regulated learning.** Before beginning co-teaching and the self-regulation goal setting cycle, I reflected on three data points: responses to the MSLQ, answers to the first semi-structured interview, and field note observations. The MSLQ asked students 14 questions pertaining to self-regulation under the sub-category of metacognition and nine questions under the sub-category of self-efficacy. Twelve students were present to take the pre-MSLQ. Students responded 1 (not at all true of me), 3 (mostly true of me), 5 (true of me), or 7 (very true of me). Table 4.2 represents questions that directly related to either the act of monitoring oneself (question one, question six, question seven, question nine), self-assessing oneself (question one, question two, question 12), the role of feedback (question 11, question 12), or an inclusive, productive learning environment (question eight).

Questions one, six, seven, nine, 11, and 12 were important to review at the beginning as they related closely to the goal setting cycle and metacognitive behavior that directly related to an SRL strategy I taught. Students' self-reporting were lower in these categories but were also consistent with the students' responses to question two of the semi-structured interview.

Students were not reporting the use of similar monitoring strategies on a consistent basis, nor were they (as a whole) displaying these metacognitive behaviors in a deliberate fashion throughout class.

Table 4.2

*Representation of Questions that Relate to SRL Strategies*

Question from Motivated Strategies Learning Questionnaire	Average Score Response
Q1 I ask myself questions to make sure I know the material I have been studying. (metacognition)	3.9 Mostly true of me
Q6 Before I begin studying I think about the things I will need to do to learn. (metacognition)	3.9 Mostly true of me
Q7 I often find that I have been reading for class but I don't know what it is all about. (metacognition)	4.0 Mostly true of me
Q8 I find that when the teacher is talking I think of other things and don't really listen to what is being said. (metacognition)	4.0 Mostly true of me
Q9 When I'm reading I stop once in a while and go over what I have read. (metacognition)	3.6 Mostly true of me
Q11 When my teacher or classmates give me comments on my work, I think about how to incorporate their feedback. (metacognition)	4.3 Mostly true of me
Q12 When I find a mistake in my work, I correct it or find a way to fix it. (metacognition)	5 True of me

Question eight was important as it related to the lack of inclusiveness within the classroom environment itself. Students reported a low level of thinking when the teacher spoke and their behavior was consistent with this scoring. They were talkative and dismissive. I knew culturally relevant practices of validation, student voice, and inclusion would be important to creating an atmosphere where students would listen to the modeled metacognition. If students saw little value in what the teacher was relaying, then I inferred the goal setting activities would be of little consequence.

**Semi-structured pre-interview responses.** From the first semi-structured interview, I focused on two questions because they also directly related to the self-regulated learning cycle that I was to implement next during phase two.

1. Tell me about how you set goals for yourself and if you often achieve them.
2. Do you use any self-monitoring strategies to monitor your work in class?

Question one related directly to the act of formulating and implementing goals. Student responses related to either setting a distal (long-term goal) or a proximal (short-term goal). Figure 4.1 illustrates that fewer LP students described using proximal goals, meaning that their responses were either very wide in scope (“I set goals to get somewhere in life.”) or vague. It was important to delineate among the two as students who set proximal goals are often more likely to achieve the learning because they are guided by criteria and a process whereby progress is realized (Hastie, 2013).

When asked if they monitored themselves during class, eight students were able to cite something that they were conscious of that helped them monitor themselves, while four were unable to name something specific. Figure 4.1 and Table 4.3 illustrate the pre-interview data.

Articulating a specific SRL strategy meant the student referenced one of the following themes: environmental structuring (emphasis on rearranging the environment to be conducive to learning), self-consequence (allowing oneself a reward for task completion), organizing (planning or managing work to ensure progress is made), social assistance (reliance upon the teacher), peer approval (reliance upon peers or social group to influence actions), or self-evaluation (using organization or planning to assess one’s progress).

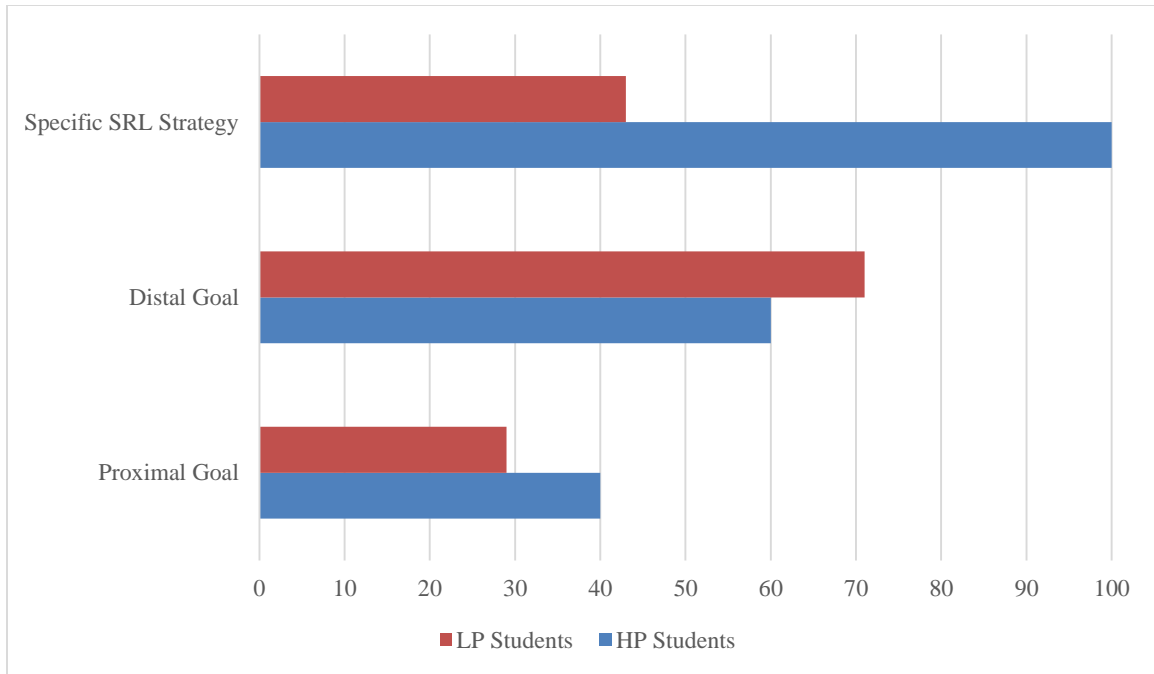


Figure 4.1 A comparison of High Performing Students and Low Performing Students in Terms of Goal Setting and SRL Strategy

Table 4.3

*Visual Depiction of Self-Regulated Strategy Coded in Pre-Interview*

	Peer Approval	Self-evaluation	Environmental Structuring	Organizing	Self-consequence	Social Assistance
Kate			X		X	
John	X					
Fred			X			
Ashlyn		X	X			
Malik			X			
James			X			
Pam			X			
Sam						X
Taylor						
Tyler				X		
Lauren		X	X			
Jamila			X			
Netta			X			

**Self-efficacy.** Students' self-scores for efficacy were significantly higher than the metacognition scoring averages, and some observed in-class behavior did not seem to match perceived beliefs. For instance, Kate had scored herself as being high in self-regulatory behaviors on the MSLQ. Kate was able to articulate specific strategies she used to monitor herself during the interview: "I question the book, the clues, the context, and I go back and reread." Kate's interview responses also displayed a mix of extrinsic and intrinsic motivation, which contributed to her high efficacy. However, Kate's in-class behavior was disruptive. She was not applying her academic self-regulation to her impulses for outbursts. This disruptive behavior seemed to overshadow the self-regulation and efficacy she already displayed.

Another student, Ashlyn, scored herself low in the metacognitive and when asked to compare herself to classmates on the self-efficacy questions, she always scored herself lower. However, she was able to provide examples of how she couples extrinsic motivation with self-regulation: "While I'm reading I just think about why I'm reading it and what the grade is that I want to get on what I'm reading, and why it's important to be reading." However, like Kate, her behavior in class was often off-task and disengaged.

A third student, Lauren, scored herself extremely low on both the metacognitive and self-efficacy measures. Her self-efficacy score average was a three, while the class average was a five. However, she was able to articulate self-consequence as a way she regulates herself: "I kind of think if I, like, have to do it for homework or if I'm going to finish it on time, or if I'll have enough time to listen to music and not get distracted."

Lauren's behavior in class was the opposite of Kate's. Lauren was quiet, passive, and not always off-task, but sometimes she would disappear into her Chromebook and disengage, suggesting she did have low-efficacy. Because her behavior was not as disruptive, she was often overlooked in class.

The triangulation of efficacy seemed to relay inconsistencies but also motivational themes behind efficacy became apparent. Students were citing three factors as important to them: 1) class grades or task completion to earn a grade; 2) environmental structuring that would improve their learning; and 3) the role of time as an inhibitor or stressor. It was apparent that the latter two often were handicaps or excuses for behavior or non-completion. Hattie (2012) describes "self-handicapping" as when a student allows something or themselves to deflect ownership of failure (p. 46). Therefore, this data informed my inclusion of specific criteria and self-evaluation to delimit the limitations and excuses students were self-imposing. Additionally, as I provided more concrete, proximal goals, this attributed to the lessening of the importance of environment for some and time was no longer seen as a stressor to many.

What the self-efficacy scores also revealed was a sense of the importance of the social aspect of the classroom. When asked to compare themselves to classmates (question two, question four, and question seven), these scores were almost a point lower than the questions that asked just about the student. These responses point out that students seemed to have lower efficacy when it came to social comparison. A question I asked as I continued to analyze and collect data was if this social comparison were a crutch and did it negatively impact goal setting? The emergence of the social impact on students' efficacy was not surprising given the understanding that social acceptance and peer influence are extremely important to the adolescent.

Triangulating these three data points, I was able to qualify the class, which informed the formative assessments and self-assessments, the social-studies project that was given, and the culturally relevant teaching strategies implemented. I aggregated students' self-report scores on the MSLQ to assess how students perceived their own level of metacognition and self-efficacy and identified several areas that I wanted to address in the goal setting cycle. I focused on asking students to generate prior knowledge and to reflect on what they were learning because their metacognition self-scoring was low in these areas. I needed to establish the cycle of goal setting and self-reflection because none existed. The average self-report score on the MSLQ showed students disengaged when the teacher was talking. Additionally, field note observations showed a class at odds. I de-emphasized the role of teacher-talk and increased the time students were given to openly share ideas aloud. Before I could effectively establish the routine of monitoring ones' work within the goal setting cycle, I first needed to establish expectations and class community.

### **Phase Two Data Reflection**

Phase two consisted of six weeks of data collection. I collected metacognitive self-assessments, which captured the cyclical process and refinements I made as I reflected and adjusted the formative assessments. Figure 4.2 is a visual representation of the process I followed to implement each part of the research.

I introduced culturally relevant practices to establish collective efficacy within the classroom while acknowledging individual student experience and voice. I used an emergent CRT and SRL framework from Anyichie and Butler (2017) to establish clear classroom expectations for participation and structure, to engage students'

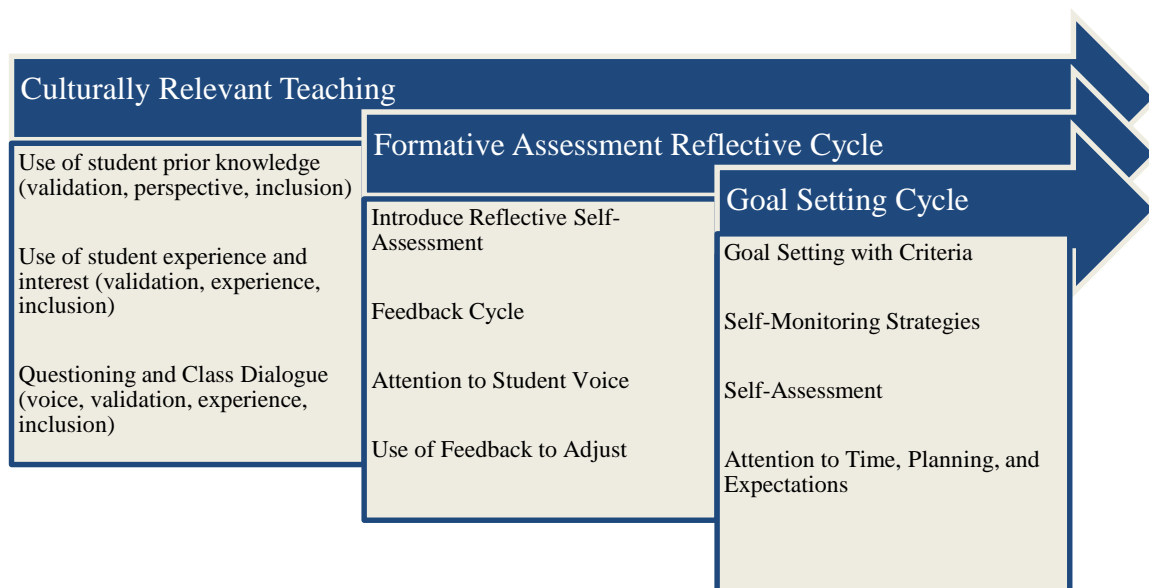


Figure 4.2 Process for Implementing Major Study Elements

metacognitive reflection, to engage students' lived experiences, to provide students with choices, to chunk learning targets, and to provide opportunities for feedback. I knew that this process would require students to adapt their behaviors and thinking. Students needed to be taught to self-reflect and to understand their own role in creating a positive classroom environment, I first utilized CRT methods and created a pattern for self-reflection. I established a classroom dialogue using metacognitive questioning techniques that drew on students' prior knowledge, experience, and interests.

1. What is one thing you can do that would make class more productive?
2. What is one thing the teacher can do to make class more productive?
3. Predict: What do you think the Cold War will be about?
4. What were you thinking as you completed this activity?
5. How do you feel after today's class session?



This method asked students to consider their learning more deeply and it made their thinking and experience a more prominent component of the classroom (Anyichie & Butler, 2017; Richards, Brown, & Forde, 2004). Using classroom dialogue, student voice, and feedback, I created a cycle of dialogue that began with a review of the learning goals for the day and a review of previous class learning and conversations. During this cycle, students began to engage and were productive as a class. When given the consistency and opportunity, students who had not been vocal or contributing before, began to engage and offer ideas and answers to questions.

Our unit was on the Cold War, which collectively the students knew little about. Students were given opportunity to explore parts of the Cold War that interested them. I introduced a questioning method and encouraged students to consider what was important to them. Ashlyn expressed she would want to research racism, and she and Taylor connected the female heroines behind *Hidden Figures* to the Cold War space race. We used a scene from *Rocky IV* to introduce students to the dichotomy drawn between the United States and Soviet Union. This sequence was visually appealing and supplemental to the readings as it introduced American culture through the music of James Brown and the character of Apollo.

Formative pre-assessments generated thinking and asked students to set goals for learning. This began the formative feedback cycle by introducing students to self-reflective metacognition using different types of questions related to goal setting and learning. I used my field notes and student work to gauge how well my data and methods addressed my research question. Because my process was cyclical, each phase and formative assessment implemented was a building block to eventually get to the self-regulated goal setting. From the first four weeks of phase two, the differences between

proximal and distal goals began to emerge through students' responses to the formative assessments.

**Self-regulated goal setting.** Student responses provided in Table 4.4 are representative of the themes of extrinsic motivation, intrinsic motivation, performance goals, and proximal and distal goals. Students who set proximal goals, or goals that involved a specific, short term task, were more successful in achieving them than those who set distal, or broader, vaguer goals. Kate and Lauren were two students whose behaviors in class were positively changing. Kate became less disruptive and Lauren became less withdrawn. Both of their responses point toward a more proximate goal. While Tyler, John, and Netta gave more distal goals, Tyler and John were high-functioning students, and Netta was not. John's answers are representative of more intrinsic value he saw in the work. Whereas, Tyler's responses were still focused on grade rewards.

At this point, there was not a clear distinction between who set a proximal goal and their motivation. In fact, the most productive students seemed to have a balance of both intrinsic and extrinsic motivation. Upon considering that distal goals were not conducive to the specific SRL I wished to cultivate, I reflected and realized that I needed to provide more support to students so they would have criteria by which to measure themselves.

This would provide them with monitoring guidelines and help them evaluate themselves as learners according to Zimmerman's (2002) model of goal setting, monitoring, and self-assessing. When I provided a learning goal that was broken down into parts, students were better able to meet that goal and answer mastery based questions. When given specific criteria by which to measure themselves, it could be

discerned where students were inciting self-limiting or avoidance behaviors that were impediments to their success (Hattie, 2012). Examples of this goal setting and criteria can be found in Appendices H and I.

Table 4.4

*Student Responses to Metacognitive Formative Assessment Questions*

Sample Questions	Purpose for Assessment	Student Responses
What is one thing the teachers can do that would make class more productive?	CRT to engage students in providing their feedback and perspectives	Netta, "Just relax and make me feel at home."  Pam, "Help students more."
If you had to set a goal for yourself on the next project, what would it be?	Reflective goal setting to engage students in metacognition establishing a pattern for students to reflect and set goals	John, "To make it very information filled and to make it more colorful."  Jamila, "Get more information."  Tyler, "I would want to get a 95%."  Netta, "Give more information and be specific."
What do you most want to accomplish this week?	Reflective goal setting to engage and establish a pattern for students to reflect and set goals	Lauren, "To know what the Cold War is. Do my homework in this class."  John, "I want to learn in-depth about the Cold War."  Tyler, "I want to finish all of my work and get good grades."
What is your weekly goal?	Reflective goal setting to engage and establish a pattern for students to reflect and set goals	Netta, "To complete everything."  Kate, "My goal is to finish lesson 24."  John, "I want to learn in-depth about the Cold War."

**Sub-themes of self-regulated goal setting.** At week five of phase two, I saw a shift in student behavior and output in their formative assessments. Because I was breaking the learning goal into sub-parts of simple criteria, students were better able to discern how or what to do reach the learning goal for the day and week. After reviewing the learning goals and their parts, students were motivated to answer their own research questions and to create their understanding of the Cold War. Additionally, students were able to articulate specific questions about the learning, to specify needs they had in response to how they were finishing their assignments, and to utilize a specific strategy (self-evaluation, planning, organization) to complete their Cold War projects.

By week six of phase two, I was able to specifically model the second part of the three-part goal setting cycle, which was monitoring one's attainment of goals. I provided students with a timeline and modeled how they could choose specific tasks or strategies to create and complete their own work plans. The timeline was created since time had been mentioned as a significant factor to students. I asked students to self-assess using reflective questions, checklists, and the rubric as well. An example of this document can be found in Appendix H. Students were beginning to connect their goal setting to specific self-regulated behaviors: organizing and self-evaluation. I was able to capture some of their final thoughts in a self-reflection document I gave them at the close of the unit. Below are two example questions with student responses from those who completed the reflection.

1. What was the best strategy I used to help myself complete this project?

Tyler: "I checked over my work when done."

Fred: "Look up what I need and get what I need first."

Kate: "The best strategy I use were writing out my plan to organize."

Netta: "Leaving the room where I can function" (This comment alludes to the fact that on two occasions the classroom teacher and I separated the class for small groupings.)

John: "I kept going back over the rubric to see if I was missing anything."

Ashlyn: "The strategy that I used was by using all the help I could get from the teacher and being out the classroom."

James: "Researched interesting topics and videos because I am a visual learner."

Sam: "I tried to keep myself from talkative people."

Pam: "I didn't talk to S13." (S13 is reference to a student.)

## 2. What motivated you most about this project?

Tyler: "I was interested in the subject."

Fred: "To pass and get my grades up."

Kate: "That I learned more about the Cold War. Grade."

Netta: "Research."

John: "I wanted to learn more about nuclear weapons because I don't know those kinds of things."

Ashlyn: "What motivated me most was knowing that I had help when I needed it."

James: "That it was going to be online."

Sam: "So that I could get good grades."

Pam: "To pass."

Student answers still point to a variety of themes that were present during the entire study: extrinsic and intrinsic motivation, self-limiting, environmental structuring,

self-evaluation, organizing, and social assistance. A few responses point to the work I did to make the class developmentally responsive: offering choice and allowing students to voice what they needed to help them succeed.

### Phase Three Data Reflection

**Post-interview sub-themes.** At the close of data collection, I spent one week re-interviewing students using the semi-structured interview format but using new questions. The interviews were audio recorded and were conducted one student at a time to maintain honesty and trust. Table 4.5 is a visual summary of each students' interview response in relation to first emergent themes and additional themes that were coded.

Table 4.5

#### *Visual Depiction of Themes Coded in Post-Interview*

	SE	SC	Org	Mot	ES	Time	Exp	Eff
Kate	X	X	X	E/I				X
John			X	E	X	X		
Fred	X	X	X				X	X
Ashlyn			X			X	X	X
Malik				I			X	
James				E		X	X	X
Pam	X			E	X			
Sam				E/I	X			
Taylor	X		X	I		X		
Tyler	X		X	E/I			X	
Lauren	X	X	X	E		X		X
Jamila	X					X	X	
Netta	X	X	X		X		X	X

*Note.* The abbreviations for provisional and descriptive themes that emerged: SE = self-evaluation, SC = self-consequence, Org = organization, Mot = motivation, ES = environmental structuring, Exp = expectations, and Eff = efficacy.

Important values for students were self-evaluation, organization, motivation (both extrinsic and intrinsic), time, expectations, and efficacy. When first given the pre- semi-structured interview, more student responses cited environmental structuring and self-evaluation as ways they monitored or regulated themselves. Expectations was an emergent theme that was only present in answers at the end of the study. It came from student responses: “More of an idea of what I needed to do in class.” Time was important also as many students referenced working more efficiently: “I get a lot more work done than I used to.” Answers that referenced environment were fewer during the second round interview. I attribute this to the work I did to create an inclusive environment and the self-reflective questions that consistently asked students how they had performed in class, how did they know, and to what degree had they met their learning goals. Thus, allowing the student to take more ownership and to be more introspective when considering class time.

**Post-MSLQ changes to metacognition.** I also gave students the MSLQ questionnaire again with the same set of questions and directions. These were administered in small groups outside of social-studies class time. Table 4.6 is a depiction of the averages of pre- and post-MSLQ scores reported by students. There were three questions that saw a significant positive increase in average student score. Question one: “I ask myself questions to make sure I know the material I have been studying;” question eight: “I find that when the teacher is talking I think of other things and don’t really listen to what is being said;” and question 12: “When I find a mistake in my work, I correct it or find a way to fix it.” I can correlate the positive increases in question one and question 12 to the metacognitive goal setting and self-reflection I implemented with the daily formative assessments. Students were taught to question and assess themselves using the

self-reflective questions given to them daily. Several formative assessments addressed students' prior knowledge of the Cold War. Every day during phase two we began with a reading and breakdown of the learning goal, which reflected the use of prior knowledge and the asking of questions.

I implemented the feedback loop and was providing students with feedback (oral, written, and environmental). Students were given rubrics and criteria by which to measure themselves, which again, I attribute to contributing to the positive gain in question 12. Question eight saw the largest average increase. I attribute the increase to two measures: First, the time I took to establish myself as a facilitator but also drew from students to validate their ideas and engage them in the learning. Second, I implemented the think-aloud and class discussion times where I would model for students how to approach their self-assessments or how to assess themselves using criteria. This required students to focus on what the teacher said but also allowed opportunity for students to question, comment, and contribute to the class dialogue.

There were three questions with negative decreases. Question five asked, "After I learn material for class, I seek out more information to learn more than what has been taught." One reason for the drop in average score may be tied to extrinsic motivation, which I determined was important to many students in the class. For instance, throughout class, I recorded 14 instances where students responded they were motivated by a reward, often a grade. From Netta: "I think about grades and if I want to pass." It can also be attributed to the proximal nature of the goals students were setting. They were short term and dealt more so with daily or weekly tasks rather than long-term goal setting. This drop in average perhaps points to a lesser focus on mastery goals and a primacy for more performance orientation.



Table 4.6

*Comparison of Pre- and Post-MSLQ Averages*

Metacognition	Pre	Post	Difference
Q1 I ask myself questions to make sure I know the material I have been studying.	3.9	5	1.1
Q2 When I do not understand the class material, I ask questions so that I can understand.	5.4	5.7	.3
Q3 When work is hard I either give up or study only the easy parts.	2.7	2.9	.2
Q4 Even when the classwork is dull and uninteresting, I keep working until I finish.	4.7	4.3	.4
Q5 After I learn material for class, I seek out more information to learn more than what has been taught.	3.9	3.1	.8
Q6 Before I begin studying I think about the things I will need to do to learn.	3.9	4	.1
Q7 I often find that I have been reading for class but don't know what it is all about.	4.0	4.3	.3
Q8 I find that when the teacher is talking I think of other things and don't really listen to what is being said.	4.0	2.3	1.7
Q9 When I'm reading I stop once in a while and go over what I have read.	3.6	2.9	.7
Q10 I work hard to get a good grade even when I don't like a class.	4.8	4.8	--
Q11 When my teacher or classmates give me comments on my work, I think about how to incorporate their feedback.	4.3	4.1	.2
Q12 When I find a mistake in my work, I correct it or find a way to fix it.	5	5.6	.6
Q13 I ask myself questions while I am working on a class assignment.	4.1	3.1	1
Q14 I am done learning when I get a grade on my assignment.	3.4	3.7	.3
Self-efficacy	Pre	Post	Difference
Q1 Compared with other students in this class I expect to do well.	5.7	5.1	.6
Q2 I'm certain I can understand the ideas taught in this course.	4.9	5.6	.7
Q3 I expect to do very well in this class.	5.9	5.6	.3
Q4 Compared with others in this class, I think I'm a good student.	4.7	5	.3
Q5 I am sure I can do an excellent job on the work and tasks assigned for this class.	5.3	5.6	.3
Q6 I think I will receive a good grade in this class.	5	5.4	.4
Q7 My study skills are excellent compared with others in this class.	4.6	4.1	.5
Q8 Compared with other students in this class I think I know a great deal about this subject.	5.1	4.6	.5
Q9 I know that I will be able to learn the material for this class.	4.7	4.9	.2

There were also decreases in averages for questions nine and 13, which could be attributed to the limited time frame of the research. Question nine asked, “When I’m reading I stop once in a while and go over what I have read,” and question 13 asked, “I ask myself questions while I am working on a class assignment.” Had there been more time, I could have better addressed the metacognition needed to monitor oneself during task mastering and learning time. However, due to the fact that I spent time restructuring the pace and class environment, I think this negatively impacted the amount of time I could devote to further exploring metacognition that occurs in between setting a learning goal and assessing one’s attainment of it.

**Post-MSLQ changes to self-efficacy.** Under the category of self-efficacy on the MSLQ, four questions saw average decreases, suggesting a drop in efficacy. This may actually be consistent with other research in that students often inflate or seem to be overly efficacious in self-reporting (Schunk & Pajares, 2002). The new averages that dropped could point to the students having a better understanding of task attainment or grasp of their own abilities. Interestingly, three of the four questions are “comparative” questions, which could also indicate a dependence on performance goals. The goal setting could have lent itself to more performance-based thinking rather than mastery based orientations.

## **Interpretation of Results**

### **Classroom Environment and Metacognitive Reflection**

When I first began observations and initial field notes to capture the climate and organization of the classroom, I observed a class of students and teacher who were disconnected from each other. Interactions between a core group of students were at times hostile and mean. Kate and Malik would often antagonize each other by hitting,

throwing things, or calling each names. Ashlyn, Netta, Taylor, and Jamila would sometimes engage in a back and forth with each other, talking about their social lives. Their voices and social interests seemed to drown out the other students who were mostly quiet and kept to themselves. Lauren, Sam, James, John, and Tyler were often quiet and kept to themselves, but while they were not as loud as the other students, they were often off task on their Chromebooks or having quiet conversations among each other.

The teacher reportedly felt defeated with this class and was not able to establish relationships with a core group of Black females whose personalities and outwardly negative behavior were overshadowing their academic talents. Other theorists and researchers have reported discordant relationships between teachers and female students when the student is not perceived as the “proper” version of a schoolchild (Brown, 2002). Stereotypes of the “angry black girl” also exist to perpetuate judgment: “It results in them being cast as deviant or defiant” (as cited in Flannery, 2016).

The class, at times, was chaotic, meaning some student behavior was not conducive to learning at times. Students would shout over the teacher and one another to be heard. Sometimes they would yell “shut up” at each other. Students would stand out of their seats congregating in the middle of the classroom, or at times, there was shouting and physical confrontations among students. Quieter students would retreat to their Chromebooks and be completely disengaged from their classmates watching movies, listening to music, or playing video games. The teacher would use his own disciplinary actions to redirect students, but he was openly frustrated by the discipline policy and procedures at the school (Allen, personal communication, March 5, 2018).

I observed a class cycle where teacher assigned passages to be read and answered from SCPASS Coach books. These are standardized test books used to prepare students

for the end-of-course state exam. Rote memorization characterized the classwork. Students had been taught active reading strategies that required them to define vocabulary, turn questions into statements, and to answer multiple choice and an extended response question. However, there was no classroom dialogue or student voice to review or to engage students in building or constructing knowledge together. There was no self-reflection, self-assessment, goal setting, or engagement of student prior knowledge. The teacher was providing feedback in the form of individual conferencing, but it consisted less on providing guidance on the learning and more so on grade reports and which assignments were missing or had been completed. The class community and environment felt somewhat toxic. It became apparent that there was a clear behavioral divide among students.

Beginning with the use of prior knowledge to create reflective thinking, this study finds positive findings when there is an established pattern of consistency in expectations and a flow for reflection and feedback. By using reflective metacognitive questioning and inclusive practices, there was a positive gain in class environment through several measures:

- 1) students reported an increase in listening to the teacher when given instructions as measured on the MSLQ;
- 2) students were less apt to blame the environment for limiting their performance as evidenced in their post-interviews;
- 3) students were more apt to take ownership of behavior as evidenced in Taylor's remark from her post-interview: "Before I was just shouting out, but now I can raise my hand and be called on and actually say what is actually important to the class;" and

4) During the final interview, eight of the 13 participants stated they felt that self-reflection gave them more voice and ownership in class.

### **Motivation**

It was evident from the first interviews and first rounds of formative assessments that students as a whole were motivated either by a grade, choice, time, peer appraisal, or some other extrinsic reward. It is important to recognize the role extrinsic motivation plays in helping students to feel accomplished. While it cannot be the only motivation students experience, it is a valuable first step in helping students to find value in their learning (Hattie, 2012). While the data do not show that students made tremendous growth in intrinsic motivation, Kate's, Malik's, Sam's, Taylor's, and Tyler's final interview responses all indicate intrinsic motivation underlies their task values.

Reflections and goal setting, if done for an extended period of time, could slowly build to a higher level of intrinsic motivation. The scaffolds and goal setting did impact student motivation by way of understanding and efficacy. It is important that teachers do not discount the power motivation has for students and their own agency.

### **Self-efficacy**

The majority of students verbalized an increase in self-efficacy as evidenced in the final interview. Nine of the 13 participating students said they viewed themselves differently. Comparison of efficacy scores from the pre-MSLQ to the post-MSLQ were interesting as five students' efficacy score averages increased, four decreased, and three stayed the same (one student was absent from the post-MSLQ participation). Kate, John, Ashlyn, Lauren, and Netta all reported higher efficacy scores, which I attribute to some of their post-interview responses. Their responses stated they felt as if they understood what was expected of them, and they each referenced an item or strategy I had used to

teach them to self-monitor or to goal set: “self-reflection and checklists,” rubrics,” “I had a track of what I was supposed to do.”

It is important to recognize the influence of learning targets on students’ belief in themselves. Clear learning targets provide clear expectations and helped them to understand what was expected. “The more transparent the teacher makes the learning goals, the more likely the student is to engage in the work needed to meet the goal” (Hattie, 2012, p. 51). Some of the students whose efficacy scores dropped or stayed the same still mentioned specific monitoring strategies or that goal setting positively impacted their learning, but I attribute their self-reporting to social comparison and existing positive efficacy. On average students’ self-scores dipped on the post-MSLQ when comparing themselves to classmates. It is important to remember the social anxiety that can come along with adolescence, and often students are setting their performance standards based on peer or social influence (Hattie, 2012). I will address the role of social goals in chapter five, as it is important for future research to distinguish between which type students are setting. Their motivation influences how and why they approach certain goals and types of learning. It is also important to recognize how self-limiting can play a role in students’ efficacy. Students may be creating impediments when they blame poor performance on their environment, avoid learning activities, procrastinate, or find ways to diminish the challenge in the classroom (Hattie, 2012).

### **Self-Regulated Goal Setting**

The three-part cycle implemented had an impact on student efficacy and performance. The SRL did affect efficacy because it increased students’ expectations and confidence in knowing what to do and how to make choices on their own. Students stated they had a better understanding of expectations for learning, which I attribute to the

learning targets and criteria used to illustrate learning expectations. Furthermore, students were able to articulate a specific monitoring strategy when prompted in the post-interview: self-consequence, self-evaluation, organizing, goal setting, self-reflection, and self-direction. Students also named artifacts that were given to them that they found helpful: exit tickets, self-reflection sheets, checklists, and rubrics.

What is important to remember is that goal setting and self-reflection are cyclical processes that teachers must implement methodically to scaffold the skills they wish to address. Part of the limitations of my research were time and addressing metacognition. My research tools from formative assessments do not necessarily show the specific metacognitive critical thinking that I would like to see for future research. However, my research does show that when given proximal goals and specific criteria, students are better able to assess their own learning as well as regulate their own progress toward meeting the goal. When learning was chunked (which is also a CRT method), the learning was not as overwhelming and students were better able to navigate their own learning progression. As phase two continued, students were less likely to use avoidance behaviors or to blame other factors for impeding their progress. When asked if goal setting and self-monitoring had changed their learning or behavior, all 13 students responded that it had.

### **Conclusion**

This action research study investigated the impact a three-part goal setting cycle had upon students' self-regulation and self-efficacy. Self-regulation and self-efficacy were measured qualitatively through four primary means: pre- and post-MSLQ instruments, pre- and post- semi-structured interviews, goal setting formative assessments, and classroom observations. Holistically as a class, students' efficacy

improved when their schema and experiences were validated. Some students' efficacy improved as recorded by the MSLQ, and the majority of students affirmed they saw themselves differently after the study. Self-regulatory behaviors did have an impact upon self-efficacy as students were able to display more persistent behavior in class, articulate a self-monitoring strategy they found beneficial, or they articulated that they found value in the learning. The interrelationship that motivation and efficacy share was an important finding of the study. SRL impacted students' efficacy in that students felt they had a clearer understanding of expectations for learning. Efficacy was shown to fluctuate on the post-MSLQ averages, suggesting that students better understand their own learning progressions and ability. What is elucidated within the research are the nuances of goal setting, self-monitoring, and motivation, which are consistent with other research provided in chapter two. Codes and emergent themes have been used to address these findings and will be further explicated as part of the action plan explained in chapter five. Chapter five will also clarify future research questions and suggest improvements to be made for future action research at the school. The findings will be summarized as well as the implications for conversations with school administrators.



## CHAPTER FIVE: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

### Introduction

The problem of practice was that course tracking at Explorers School has led to fewer opportunities for LP students to advance into higher level course offerings, such as honors English and advanced mathematics. At Explorers there was often teacher talk about work ethic, attitude, and behavior as signs that a student has earned their place in an advanced course. The implicit bias in these assumptions about the educational worth of a student has severe implications for those students left out. What the criteria for course tracking does not take into account are the different ways a student may show they know and an uncovering of ways to motivate and inspire marginalized students. Within the classroom, students tracked into non-honors or regular courses have fewer opportunities to show their understanding through balanced assessment practices that incorporate formative assessments, self-regulatory activities, and metacognitive thinking assessments. With limited opportunity to show how they understand and without access to higher quality feedback from teachers, these students have fewer opportunities to build self-efficacy and are labeled as having a lack of self-regulation and motivation. Research into self-efficacy suggests students base self-concept on the courses they take, the grades they earn, and their ability to perceive progress based on input (Schunk and Pajares, 2002).

### **Purpose of the Study**

The purpose of the action research study was to teach a three-part self-regulation cycle through metacognitive goal-setting within a formative assessment framework in order to measure what impact self-regulation had upon students' self-efficacy. The purpose of creating a culturally relevant and inclusive environment was to create an efficacious classroom where students felt comfortable to learn. The goals of the study were meant to address issues of access to high quality, metacognitive thinking activities, balanced assessment practices, and culturally relevant opportunities in the classroom. Each of these are addressed within the action plan recommended to the administration and the seventh-grade team.

### **Research Question**

The following research question guided the study: What are the impacts of a three-part self-regulation model and a weekly metacognitive self-assessment on seventh-grade students' perceived self-efficacy?

### **Summary of the Study**

The study took place over a nine-week period in the spring of second semester. Thirteen students chose to participate in the study. Over the course of the nine-week period, goal setting was found to have a positive impact on self-regulation, self-efficacy, and motivation. Inclusive practices were found to have a positive impact on the classroom environment. There was an increase in students' organizing and planning, and students overwhelmingly referenced knowing that expectations for learning were clearer. By the end of the study, students were able to articulate a specific strategy or artifact they found helpful to guiding their learning. The study also illustrates the nuances of goal setting and student motivation. Data show that distal and proximal goals emerged in

student work and responses. Additionally, the nuances of motivational effort can be perceived through performance and mastery oriented goals.

### **Action Plan: Implications of the Findings of the Study**

The overall goals of this study were to improve seventh-grade students' self-efficacy and mental self-regulation in order to 1) discern how students are efficacious and how does it affect their output; 2) provide field-tested instructional strategies and assessment choices for the seventh-grade teacher team; 3) provide qualitative data to the school's administrative team to use for course scheduling and decision making. My role within the school allows me agency to communicate and bring relevant experience to decisions that affect the entire student body and faculty. As a member of the administrative team who is responsible for the professional learning of the teaching staff, I have the ability to share in leadership and to provide education on the topics of this dissertation. Implicit bias underlies and is embedded within thinking constructs and systems. Therefore, it is my job to help coach my colleagues to see and understand that we all carry bias. Additionally, it is important that I help teachers see their own agency and adopt practices of action research. My colleagues at Explorers are excited about teaching and learning and they want to carry out the mission of the school. I have to help frame the professional learning I share by helping teachers to see how goal setting, self-regulation, and efficacy will improve teaching and learning within their classrooms. Below I detail the actions I will take to address each of the goals outlined.

### **Efficacy and Self-Regulation in the Classroom**

Part of my role at Explorers is to lead professional development (PD) for our teaching staff. As part of my action plan, I intend to develop PD that provides explicit models of student self-regulation, self-efficacy, and motivation. The PD will follow these

four steps: 1) define and label concepts and how we know they affect teaching and learning; 2) develop and apply these teaching concepts to the classroom; 3) review student work and teacher actions; 4) refine the process based on student work; 5) repeat the process. Called “explicit” teaching, I will frame the concepts and examples as a teaching strategy to improve student learning (Kistner et al., 2010).

Many of the teachers at Explorers are curious, reflective, and concerned with student learning. We have already had many conversations concerning motivating students and self-regulation. These are important topics to teachers as they relate to our conversations over “soft-skills,” critical thinking and problem solving, as well as are indicators on the South Carolina 4.0 rubric. Motivation, goal setting, efficacy, culturally relevant, and formative assessments are not only hallmarks of active, agency teaching, but they are also present in the document by which teachers are evaluated. This creates many opportunities to examine these concepts from different perspectives.

To practically implement goal setting in the classroom, teachers need to understand how and why students are motivated. Teachers often want practical applications they can implement readily into their classrooms. Therefore, I intend to provide profiles or examples of student responses that illustrate types of efficacy, self-regulation strategies, and motivation. “Soft skills” and executive functioning skills are relevant and important to the teaching staff at Explorers. Therefore, this PD would be designed with all of the staff in mind. Oft cited areas of concern are how to effectively motivate students and how to read or understand self-assessment responses. In other words, teachers need clarification on how to recognize motivation and cultivate authentic self-assessment.

Self-efficacy and qualities of independent learning are effects of the productive use of self-regulatory behavior. Formative assessments offer a likely vehicle for measuring metacognition and self-regulation. I will offer examples of the formative assessment templates and metacognitive goal setting as part of my PD plan for teacher. I will model for teachers how to develop learning targets and criteria specific to their discipline so they may engage students in goal setting, monitoring, and self-assessing. Providing teachers with banks of examples and helpful tips on what student output means will be important to the process. Teachers need to practice developing, implementing, reflecting, and giving and receiving feedback.

As part of this plan, I will provide teachers with concrete examples of how motivation shows up in the classroom. To help eliminate biases, I want to dispel assumptions about extrinsic and intrinsic motivation. Teachers need time to develop practical applications of both, and they need to understand how extrinsic motivation can be an initial way to motivate and build efficacy with students. I especially want to work with teachers to find a balance and scaffold learning so that extrinsic motivation is slowly replaced by intrinsic. This work is very important to goal setting as it is foundational to building relationships, rapport, and a supportive environment. Students need to feel success for what they do know and can do as well as support for when they do not know. Efficacy in turn affects self-regulation. As evidenced in results, most students have the ability to self-regulate, but what motivates them to do so may differ.

Finally, the PD would provide practical pacing and scaffolds to creating the cycle of goal setting. The focus would be setting a goal or learning target, attaining or monitoring attainment toward meeting that goal, and self-assessing or self-evaluating ones' learning. I would include examples of metacognition that are present at each phase

of goal setting and promote the presence and importance of student voice: questioning, monitoring, discussing, thinking (Costa, 2001). Student agency and formative feedback are integral to the goal setting process. I will provide the self-assessment questions and interview questions as models for teachers to use in their own classes. Teachers will be given examples of possible student responses to illustrate what responses might indicate about a student's frame of reference, efficacy, motivation, or metacognition. I will use these student samples to create profiles of thinking and what self-regulation can look like in the classroom. Feedback "is conceptualized as information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (Hattie & Timperley, 2007, p. 81). Therefore, self-assessment will be the focus of the formative feedback process. Materials for teacher analysis and development will focus on students' self-assessments as a form of feedback to guide and adjust instruction, to monitor participation, and to assess students' perceptions of their academic abilities.

### **Field-Tested Instructional Strategies and Assessments**

I will continue working with the seventh-grade team to field test goal setting to best understand the difference between proximal and distal goals and how to motivate students toward mastery. I will reflect and plan with the team of core subject-area teachers to develop learning targets and criteria for measurement and student self-assessments. This is important as we shift our attitude from a culture of achievement to one of a culture of teaching and learning. Here we can take the emphasis off of the deficit language and emphasize the learning and how students can show what they know. This team reflected with me during data collection and they are excited to continue the work.

We plan to begin the following school year with goal setting and culturally relevant

practices from the outset. Using our calendar year and building self-regulation as a team, we will continue to refine the process of goal setting with students and to document what intentional practices improve students' efficacy.

With the seventh-grade team, I will work to help them understand the cyclical process of goal setting. We will begin first with creating an inclusive environment primed for metacognitive thinking, and we will then work to introduce goals and reflection. Following the same sequence that I used for this research study, we will implement the three-part goal setting cycle last.

### **Qualitative Data for Course Scheduling and Decision Making**

Course tracking is a practice that Explorers uses to offer honors and advanced level academics and to serve its gifted and talented (GT) population. However, course tracking also has negative consequences as it sends implicit messages about ability. If only some students are given the opportunity to advance into these courses, then it becomes an issue of access and equity. The final part of my action plan will inform the administrative team in determining more equitable criteria for who is eligible for which courses. Just the practice of understanding who is enrolling in these courses and why is a start for examining whether we are being socially equitable. The following list is of suggestions for improving the course scheduling policy:

1. I will suggest that there needs to be a more comprehensive method that all teachers and departments follow to recommend students for advanced courses.
2. There should be published criteria for what constitutes an advanced level course and what types of knowledge or expectations create success within that course.

This information should be communicated with teachers teaching within the discipline.

3. All teachers should be trained in gifted and talented education with an understanding of social justice.
4. In addition to using testing scores, classroom samples of student work should be assessed for possible enrollment.
5. The school should delineate what are other acceptable ways of measuring student's cognition, creativity, thinking, and problem solving.
6. Our policy should be available to all parents and reviewed at every students' Individual Growth Plan (IGP) meeting held with our school counselor.

Not only do we need to review our access policies but we also must review our expectations for teaching and assessment. Metacognitive, critical thinking is good for all and the administrative team is responsible for ensuring that quality assessment for learning is occurring. I plan to use the three-part metacognitive goal setting assessments as a model for how to track and retain information about what students know. This data would be used to make informed decisions for curriculum and scheduling. I will recommend that the instructional leadership team adopt language that is based on growth, teaching, and learning rather than achievement. The instructional leadership team is responsible for evaluation data, professional learning plans, hiring, development, and retention of teachers. We are responsible for ensuring that equitable assessment practices are occurring throughout the school in all classes. Additionally, it is important to hire and coach teachers to understand different aspects of assessment and to develop an understanding of balancing assessments for different types of learning.

### **Culturally Relevant Teaching**

This particular part of my action plan will address the need for cultural sensitivity for our diverse student body and their families. Our administrative staff need to first



measure its policies and practices against equity and access to ensure that we are being unbiased. The messages embedded within the school's policies and practices need to be vetted for implicit biases. Our discipline policy has been a source of contention among staff, administration, and students. Its inconsistent implementation has created confusion and distrust, which has led to some issues among staff and students. To create a healthier culture of trust, empathy, and learning, Explorers should review its disciplinary actions. I will advise the administrative team to share discipline data with the staff monthly to help deter certain behaviors, to elicit healthy conversation over school environment and relationships, and to be transparent as well as communicative if there are disparities or inconsistencies among who is being disciplined and for what.

I also will share resources with the entire school so that teachers understand what culturally relevant really means and how it is foundational to building healthy, respectful relationships with students. Demystifying CRT will be helpful as some may not fully understand what it means. The following will be recommended that the school adopt:

1. Have an appreciation for all of the students at Explorers;
2. De-emphasize achievement and emphasize growth and learning;
3. Make commonalities prominent and acknowledge differences, but do not let them overshadow;
4. Validate the non-heteronormative narratives by offering culturally rich resources that celebrate cultures and are not prejudicial;
5. Use student's prior knowledge and experiences to build learning;
6. Do not reserve higher order thinking for only the honors students or "those who can handle it;" and

7. Challenge your understanding of linguistics in the classroom and allow more opportunities for students to speak and listen.

### **Suggestions for Future Research**

There were several limitations to my study that future research should address. Namely the timing of the study. Beginning metacognitive goal setting toward the end of spring semester was not most opportune. If I were to complete the study again, I would begin it at the start of the school year and model the same processes in the same order, which is what my action plan suggests. Time to establish cultural norms and classroom expectations would most likely not have taken so long had we started the study at the beginning of the school year. Focusing effort on establishing a pattern for self-reflection and the use of goals as learning targets took attention and focus. If more time were available, I could have continued refining the critical thinking piece that is necessary to achieve full self-regulation. The middle phase or the monitoring of the task or strategy is a key feature of the three-part cycle, and I would take more time to model how to think and to use tools to observe this in the classroom. Since I did not see the entire class able to articulate a specific SRL strategy by the end, this would be a point I would wish to address in future studies. Additionally, future research could address content-specific metacognitive strategies that relate to self-regulatory behavior. To make research applicable to the classroom, practitioners want and need clear examples of what these concepts look like in a classroom.

I would adapt my tools to measure metacognition in relation to mastery goal setting for future research. Because of time constraints, I emphasized parts one and three of the goal setting cycle more so than part two, which requires the monitoring and task attainment. With more concentration on the middle portion of the cycle, I could better

measure metacognition and what happens to gain mastery of goals. This would be helpful as the findings indicated students still emphasized the social aspect of goal setting, and I would want to further explore this to understand the nuances of performance goals versus mastery goals. Once the goal setting cycle is fully implemented, future research could look to distilling and examining proximal versus distal goals and mastery, performance, and social goals (Hattie, 2012).

Other findings in the nuances of efficacy and motivation are important to the future implications of goal setting research. Given more time, I would want to document the changes to motivation that are first tied to extrinsic value and that is adapted over time to incorporate intrinsic self-motivation. Future research into this would be beneficial for teachers to understand how to practically balance extrinsic and intrinsic motivation in the classroom. My findings suggest that even students with high self-regulation and high efficacy are still motivated extrinsically. However, teachers tend to assume that high self-regulation or high efficacy is always equated with high intrinsic motives. Part of this research and future research is to demystify what motivates students so that schooling can be done with them not to them.

An additional subject that arose from my research into efficacy is the role motivation plays in one's self-concept or perception of efficacy. My interest in culturally relevant teaching inspires me to continue researching how CRT impacts students' motivation, and in turn, may impact their efficacy and self-regulation processes.

Using broad tenets that define the classroom as community, the teacher as believer in all students' abilities, and the belief in the social construction of learning, I established feelings of inclusion, validation, and choice as methods for culturally relevant instruction (Ladson-Billings, 1995a, 1995b). Some of the qualitative data from this study

shows that by drawing on the social nature of learning, students can feel comfortable and engage in the reciprocal process of metacognitive reflection.

In the future, I intend to research the confluence of CRT and SRL in the classroom. This is an emerging area of interest (Anyichie, Yee, Perry, & Hutchinson, 2016; Anyichie & Butler, 2017). Future research into actual implementation and practices is important to looking at self-regulation through the critical lens of diversity and the cultural and social nuances of classrooms.

### **Conclusion**

The problem of practice this research study addressed was concerned with the ways in which opportunity gaps presented themselves at Explorers School, whether it be in course enrollment in advanced and honors courses or it be a dearth of exposure to quality critical thinking and motivating curriculum. To be high performing efficacious learners, students need opportunity for success and access to high quality learning. This study found that when taught to set goals with clear, explicit criteria, students were better able to regulate their learning and most students were able to articulate a specific strategy. Efficacy and motivation were affected by SRL goal setting and the establishment of an efficacious classroom environment where students felt supported.

Through this study my understanding of the effects of motivation and efficacy in relation to SRL has grown dramatically. This work is emancipatory and I feel encouraged by the results. Even though, there were different affects for different students, this work has only encouraged me to understand the nuances of adolescent behavior and development in the classroom. Too often, children are dismissed or overlooked as adults make assumptions about what the child feels and knows. This reflective, feedback cycle combats that version of schooling. My action plan intends to address the biases inherent

in some of Explorers systems and intends to provide PD for the educators so they may better understand the humans in their classrooms.

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## APPENDIX A

### PARENTAL LETTER OF CONSENT

March 2018

Dear 7th Grade Parent,

I am writing to ask your consent for your student's participation in an educational research study that I am conducting that investigates students' self-regulation. This research study is endorsed by the University of South Carolina where I am seeking a degree in Doctor of Education in Curriculum and Instruction.

Consent for participation is not mandatory, so I am providing a brief description of the study. I am investigating how self-regulation and metacognitive strategies impact seventh-grade students' belief in him/herself and motivation. I plan to work with the 5th block social studies class to team-teach and observe. I also plan to collect some student work as artifacts. None of your student's identifying information will be used, and your student's participation or non-participation does not affect his/her grades in the class.

The study will occur over a 9-week period spanning March-May. During this time, I would like to ask that your student take a short questionnaire twice and participate in a short interview. During class time, students will be taught how to set academic goals, reflect on those goals, and to evaluate how well they are making progress toward meeting those goals.

This work is valuable to me as an educator because knowing how students perceive their learning and think about their own learning may impact their ability to do well. In addition, knowing what strategies improve students' ability to think and to be independent learners may improve their school performance.

This study is completely voluntary and if you and your student choose not to participate, there is no penalty. It will not affect your child's grade or treatment. All student names will be removed from materials and at no time will your child's work or statements be identified. The results of the study will be included in my dissertation for the degree of Doctor of Education in Curriculum and Instruction and any identifying, personal information will be kept confidential.

If you have any questions or concerns, please email me at [mroueche@email.sc.edu](mailto:mroueche@email.sc.edu).

Sincerely,

Mary Roueche  
Doctoral Student, USC  
Director of Research and Development, Explorers

By signing below, I give consent for my student to participate in the above-referenced study.

Parent's Name: \_\_\_\_\_ Child's Name: \_\_\_\_\_

Parent's Signature: \_\_\_\_\_



## APPENDIX B

### TEACHER SURVEY: Self-Reflection on Our Own Models of Teaching

	Very Often 5	Often 4	Sometimes 3	Seldom 2	Hardly Ever 1
1. When teaching I usually work at or near my desk.					
2. We display examples of students' work around the room.					
3. I group students in different configurations during class for instructional purposes.					
4. I ask most of the questions during class.					
5. Students pose thought-provoking questions related to content.					
6. Students reflect on their work, progress, and thought processes orally or in writing.					
7. I emphasize the thought processes used to arrive at answers, responses, and questions by asking, "How did you arrive at that answer, solution or idea?"					
8. Students spend time working collaboratively in our class.					
9. Students support their conclusions with evidence, giving reasons for their thinking.					
10. Most answers to questions can be found in textbooks.					
11. I encourage students to seek alternative ways of approaching problems, interpretations, and solutions.					
12. Students spontaneously comment on each other's' responses and ideas.					
13. We ask questions in class that require complex thought processes.					
14. Students respond to my questions with short, one- or two-word answers.					
15. Students spend time on projects or problems to solve.					
16. Covering content is one of my major goals.					
17. My students use or create Internet resources.					
18. I use a wide variety of assessment experiences.					
19. One of my considerations is ensuring that students understand and can apply concepts to other subjects, to life experiences.					
20. We work to build a community of inquiry in our class.					

(Survey questions created by Barell, 2001)

## APPENDIX C

### SEMI-STRUCTURED STUDENT PRE-INTERVIEW

1. Tell me about how you set goals for yourself and if you often achieve them.
2. Do you use any self-monitoring strategies (plans) to monitor (observe/see) your work in class?
3. How do you view yourself as a learner compared to your classmates?
4. What types of thoughts do you have while you're reading/working for class?
5. What types of ways do you contribute to class? Questions, compliance, volunteering?

## APPENDIX D

### SEMI-STRUCTURED STUDENT POST-INTERVIEW

1. How did the goal setting and self-reflection in class give you purpose or help you keep on track with learning?
2. What kind of self-monitoring strategies do you now use to help yourself regulate in class?
3. Do you view yourself any differently now after learning to goal set, monitor, and self-assess yourself? Explain.
4. Do you feel like self-reflecting on your work gave you more voice and ownership in class? Explain.
5. Did setting goals and monitoring them change the way you behaved or approached your work? Please explain why or why not.
6. Were you motivated when you were given more choice and ownership for the Cold War project and unit?

## APPENDIX E

### LIST OF CODES AND THEMES

<i>Coded Self-Regulated Learning Strategy</i>	<i>Definitions and Example</i>	<i>Code Type</i>	<i>Phase</i>	<i>Data Frequency</i>
Environmental structuring (ENV)	Indicates a reference to the physical environment or arrangement. “Big red head phones...put them over your ears. It blocks out a lot of sound.”	Provisional	1 2 3	13
Planning (PL)	Indicates student uses planning, timing, and/or dates to sequence accomplishment of a goal. “I’ll set things aside that I can do later and make sure I do things that need to be done sooner first.”	Provisional	1	4
Social assistance (SA)	Indicates that student relies upon a peer, teacher, or parent for assistance. “I ask the teacher.”	Provisional	1 2 3	5
Self-consequence (SC)	Indicates the student initiates a reward or punishment based on how or to what degree a goal is met. “I might catch myself falling out. Then I have to think back and ask myself was it worth it to do that?”	Provisional	1 3	7

Self-evaluation (SE)	Indicates the student initiates self-reflection or self-assessment by reviewing his/her work progress or quality. “I’ll go over my work and make sure I have it done before I do anything else.”	Provisional	1 2 3	15
Organizing (OR)	Indicates the student plans, arranges, or manages work to ensure progress is made. “I’ll say, like, I need to complete this part of the project by this day or tomorrow.”	Provisional	2 3	11
<i>Emergent Themes</i>	<i>Definitions and Example</i>	<i>Code Type</i>	<i>Phase</i>	<i>Data Frequency</i>
Attention to teacher	Indicates student places value upon teacher direction, action, or approval. “I set goals for myself based on what the teacher wants us to do.”	Eclectic	1	6
Improvement/Feedback	Indicates a reference to improving learning or behavior based upon self or other form of feedback. “To do better and to ask questions if I don’t get things.”	Eclectic	1 2 3	9
Peer approval	Indicates student is influenced by peer or social norms and/or approval. “Look around and see what everyone else is doing.”	Eclectic	1	2

Time	Indicates that time is of value or time is important to decision making. “I can do more work in a less amount of time because I say, ‘This is what I’m going to do.’”	Eclectic	1 2 3	17
Extrinsic motivation	Indicates a preference for earning or receiving a reward for work or behavior. “I set small goals for myself because I find them easy.”	Eclectic	1 2 3	9
Behavior	Indicates behavior, either own or another person’s, has an impact upon output or work. “To do my work and to not get distracted.”	Eclectic	1 2 3	22
Efficacy	Indicates a reference to one’s belief in themselves. “I got a lot of work done and I was very productive.”	Eclectic	1 2 3	16
Motivation	Indicates student was motivated by an internal or external influence. “You set goals, it’s like a task you want to finish.”	Eclectic	1 2 3	27
Metacognition/study strategy	Indicates a reference to a specific monitoring strategy a student used. “It helped me to self-direct more.”	Eclectic	1 2 3	31

Critical thinking	Indicates a students' use of higher order thinking (analysis, evaluation, synthesis). "I have learned about the effects of the Cold War and the different sides, conflicts, and superpowers involved in the War."	Eclectic	2	8
Culturally relevant teaching	Indicates a reference to choice, validation, or community.	Eclectic	2	16
Goal setting	Indicates a reference to the act of setting, monitoring, meeting, or evaluating a learning target. "I had something to look at and know what I had to do and when I had to do it."	Eclectic	1 2 3	21
Expectations	Indicates a student reference to knowing what is expected of her (as directed by self or teacher). "I could understand my work better."	Eclectic	2 3	12

## APPENDIX F

### ARTIFACT SAMPLE: METACOGNITIVE REFLECTION

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

**Background Knowledge:**  
What do you know about the United States and Soviet Union?

United States	Soviet Union

**Reflection Question:** What do these differences tell you about the United States' and the Soviet Union's different political and economic policies?

**Final Question:** What were you thinking as you completed this activity?



## APPENDIX G

### STUDENT GOAL SETTING SELF-ASSESSMENT

#### Pre-Lesson Questions

What are today's Learning Goals?

---

How much do I already know about today's goal?

Nothing            A little bit            A great deal

I think today's goal will be

Very easy            Somewhat easy            Hard            Very hard

How much effort will I put into today's goal?

Nothing            A little            A great deal

---

#### Post-Lesson Questions

Did you achieve today's learning goal?

Not at all            Somewhat            Fully

How much effort did you put in?

Not much            A little bit            A great deal

Check off the statements that explain why you think you achieved your goal.

I wanted to learn about today's lesson             I paid attention

I wanted to achieve today's lesson             I checked my answers

Check off the statements that explain why you think you did not achieve your goal.

I was distracted             I didn't understand what I was supposed to be doing

I gave up

I rushed my work because I wanted to finish quickly

It was too hard

It was too easy

The teacher was too busy with others

(Adapted from Hattie, 2012)

## APPENDIX H

### STUDENT WORK PLAN FOR MONITORING GOAL ATTAINMENT

Name \_\_\_\_\_ Date \_\_\_\_\_

<b>Monday 4/30</b>	<b>Tuesday 5/1</b>	<b>Wednesday 5/2</b>	<b>Thursday 5/3</b>	<b>Friday 5/4</b>	<b>Monday 5/7</b>
<b>Work Choice:</b>	<b>Padlet</b>	<b>Guest Speaker</b>	<b>Work Choice:</b>	<b>Quiz</b>	<b>Padlet Due</b>
<b>Padlet Work</b>	<b>Lesson on Summary + Rubric</b>		<b>Padlet</b>	<b>Padlet (small link)</b>	<b>1/2 Page Summary Due</b>
<b>Lesson 26</b>	<b>1/2 Page Summary</b>		<b>1/2 Page Summary</b>	<b>1/2 Page Summary</b>	

**Work Plan to complete Padlet on time:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Self-monitor Strategy (pick one to answer)**

<ul style="list-style-type: none"> <li>What should I do next if I'm finished or am stuck?</li> <li>Am I stuck? How do I know?</li> <li>What have I tried so far that has not been helpful in working on this task?</li> <li>What have I tried that HAS been helpful? How do I know?</li> </ul>	
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**What did the Space Race mean? (follow-up to Mentimeter(Qs))**

\_\_\_\_\_

\_\_\_\_\_

**Self-evaluation**

<ul style="list-style-type: none"> <li>How well did I do today?</li> <li>How did I get "unstuck"?</li> <li>Did things work out as I expected?</li> <li>What do I need to do next?</li> </ul>	
--	--

**How do you feel? Comments?**

\_\_\_\_\_

## APPENDIX I

### STUDENT GOAL SETTING SELF-ASSESSMENT

Name \_\_\_\_\_ Date \_\_\_\_\_

1. Look back over your work plan and your work completed today, what did you actively DO TODAY that helped you meet your goal(s)?

---

---

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Answer the following reflection questions, please! 😊

1. When I got stuck or distracted, I...
2. If I were given a similar assignment, I would do the following differently...
3. What have I learned about myself as a problem solver/learner?

## APPENDIX J

### MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE

#### Metacognition

1. I ask myself questions to make sure I know the material I have been studying.
2. When I do not understand the class material, I ask questions so that I can understand.
3. When work is hard I either give up or study only the easy parts.
4. Even when the classwork is dull and uninteresting, I keep working until I finish.
5. After I learn material for class, I seek out more information to learn more than what has been taught.
6. Before I begin studying I think about the things I will need to do to learn.
7. I often find that I have been reading for class but don't know what it is all about.
8. I find that when the teacher is talking I think of other things and don't really listen to what is being said.
9. When I'm reading I stop once in a while and go over what I have read.
10. I work hard to get a good grade even when I don't like a class.
11. When my teacher or classmates give me comments on my work, I think about how to incorporate their feedback.
12. When I find a mistake in my work, I correct it or find a way to fix it.
13. I ask myself questions while I am working on a class assignment.
14. I am done learning when I get a grade on my assignment.

#### Self-efficacy

1. Compared with other students in this class I expect to do well.
2. I'm certain I can understand the ideas taught in this course.
3. I expect to do very well in this class.
4. Compared with others in this class, I think I'm a good student.
5. I am sure I can do an excellent job on the work and tasks assigned for this class.
6. I think I will receive a good grade in this class.
7. My study skills are excellent compared with others in this class.
8. Compared with other students in this class I think I know a great deal about this subject.
9. I know that I will be able to learn the material for this class.

(Pintrich & De Groot, 1990)