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An Exploration of Informed Student Goal Setting on Achievement in a Midwest Middle School

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by

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Dr. Sherrie Wisdom, Dissertation Chair — Date: 10-21-2016

Dr. Lynda Leavitt, Committee Member — Date: 10/21/2016

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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Dedication

The researcher dedicated the work of this dissertation to her grandson. This work began before you came into our lives; you were my greatest distraction and I love you!

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Abstract

This dissertation is a mixed-methods study that critically looked at peer-reviewed articles and empirical research findings about goal setting for middle school students and the possible effects that goal setting had on achievement. This project synthesized the information from articles about goal setting in general and, more specifically, the student-informed goal-setting processes. The study spawned from the literature review and critically assessed one teacher's use of the informed goal setting process to affect the achievement of her Midwestern middle school students. Students in the treatment group completed pre and post-questionnaires that assessed their understanding of goal setting and achievement. The researcher used students' assessment data reports to instruct and coach students on their use of data to establish SMART goals for fall conferences, during the winter and spring R-CBM and MAZE testing, and quantitatively compared the treatment groups' data to that of a peer-like control group. The researcher analyzed focus group responses for perception trends about the goal setting process. The results of the qualitative information and quantitative data indicated an attitudinal and behavioral shift in the use of the SMART goal setting process; however, the researcher found no statistically significant difference between the treatment and control groups. Goal setting did not have adverse effects on either student performance or behavior; so, with proper feedback, conferencing, and follow-through, goal setting should continue to be part of routine habit-building instruction. Further study is needed to determine the effect that the 'informed' aspect had on student attitudes and achievement and to explore parental influences on goal setting and attainment.

Key terms: autonomy, cognition, curriculum-based measurement, goal setting, Maze measures, process goals, quality feedback, read-aloud measures, self-determination, self-efficacy, and SMART goals.

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Chapter One: Introduction

Introduction

Goal setting has been part of the school improvement process for over a decade (O'Neill, 2000). According to Brandt and Tyler (2011), "Students often have little interest in knowledge for its own sake or in adult applications of that knowledge, some educators believe goals not only should be based on what we know about students, but should come from the students themselves" (p. 14). Students who chose their goals out performed those students whose goals were chosen for them (Cheung, 2004; Moeller, Theiler, & Wu, 2012). "To succeed in school, adolescents develop diverse self-regulatory skills, such as goal setting" (Zimmerman & Cleary, 2006, p. 46). Successful adults fully realize the benefits of goal setting toward personal success but many adolescent students often do not recognize the benefits of goal setting (Rader, 2005). Many educators believe that with guidance adults can teach students to utilize goal setting (McDevitt et al., 2008). The researcher was interested in answering the question: How do we teach students to set meaningful goals that will affect their academic and personal success?

Description of Research Topic

Student achievement is measurable and improved achievement is a highly-sought-after-prize in American education today. How to raise student achievement is certainly the hot-button topic and subject of school reform and scrutiny. School systems and classroom teachers use data analysis and goal setting as part of their improvement regimen. School systems should be hungry for evidence of student learning and every member of the organization should work collaboratively to achieve SMART goals that

are aligned with district and school goals, measurable, attainable, results-oriented requiring evidence and time bound (DuFour & Marzano, 2011). However, one part of the equation that seemed to be missing (at least in one Midwestern middle school) was the student component. The researcher was interested in investigating: What contribution can a middle school student have in his or her own achievement? What impact will goal setting have on student achievement?

Background

A suburban, county, municipal school district near a large Midwestern city did not focus on student goal setting, although it utilized district, building, and sometimes grade-level, or even teacher goals. At the research school and district, there was little emphasis placed on the student goal-setting process, especially at the middle school level. Any individual goal setting present, was tertiary, sporadically done in some elementary classrooms or done for parent, student, and teacher conferences but not with regard to generalized instructional learning targets or objectives (Marzano, Pickering, & Pollock, 2001).

Purpose of the Dissertation

This research study provided evidence that explained once students learned how to interpret and understand their own individual assessment data and set goals with regard to that information, the students would be more responsible for his/her own learning and achievement would improve. Students harnessed the intrinsic desire to improve was accomplished through informed goal setting. In general, this research added to the large body of research about goal setting, but additionally increased understanding about informed student goal setting in the middle school general education classroom.

Problem Statement

Each year the state and districts give assessment data to the students and their parents, but that information is often difficult to understand or interpret, therefore students and their parents may disregard the data and thereby not use the data to set goals or focus learning. Teachers establish learning goals in the classroom and students should be encouraged to adapt those goals to meet their personal learning needs (Marzano et al., 2001). School systems should help students or their parents understand the testing results and then set goals to increase the level of personal responsibility. Schools often set goals for the sake of improvement, but in the study school, student goal setting was not part of the school system goal setting process. Previously, the study school never used informed student goal setting or used goal setting superficially for Discovery assessments or conferences. Therefore, goal setting for school improvement did not involve the student stakeholders most directly affected by improvement efforts.

Rationale

Recently reviewed articles indicated that there is a large body of research with regard to SMART goal writing in school districts, schools, and classrooms. Goal setting has been part of the school improvement process for over a decade (O'Neill, 2000). According to Cheung (2004) and Moeller et al. (2012), students who chose their own goals performed better than students whose goals were set for them. With help from adults, students can learn to regulate their own learning or behavior (McDevitt et al., 2008). Four levels of goal setting: schoolwide, grade level, classroom, and individual student are needed to ensure shared ownership for learning and achievement results (Newman, 2012). Moeller et al. (2012) called for further study to be done with regard to

the teacher's role in the goal setting process. Furthermore, much of the literature reviewed discussed progress monitoring of students and the response-to-intervention (RTI) model, where students who are not achieving satisfactorily are given various interventions to help them improve (Stecker, Lembke, & Foegen, 2008). "An integral part of RTI is measuring student progress within a given instructional setting and using the data to determine whether that setting—or tier of instruction—is effective for the student" (Ticha, Espin, & Wayman, 2009, p. 132). According to the Stecker et al. (2008) study, "many schools are moving toward large-scale implementation of RTI practices" (p. 48). Student progress monitoring uses goal setting as an intervention, but often students are given the goal. Strecker et al. (2008) and Ticha et al. (2009) both stated that further research is needed to realize the effect goal setting has on tier one students in the general educational settings. This study addressed the concerns about lack of informed student goal setting processes by studying an appoach that taught students to use their personal assessment data and generalized teacher goals to set their own personal academic goals. The study also considered the impact that personalized student goal setting had on achievement.

Research Questions

RQ_1: How does the goal setting process change the students' perceptions about their achievement as measured by post-to-pre-student questionnaire comparison?

RQ_2: Once the teacher taught students how to interpret their Aimsweb R-CBM and MAZE assessment data and establish individualized goals, what behavioral changes did the students choose to make to reach their goals as measured by post-to-pre-student questionnaire comparison?

H_1: Student goal setting does contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on Aimsweb and MAZE.

H_2: Student goal setting does contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on Aimsweb and MAZE to the building grade-level post-to-pre score growth on Aimsweb and MAZE.

H_3: Student goal setting does contribute to self-efficacy as measured by a pre and post-self-efficacy scale.

Limitations

The researcher was always looking for ways to improve teaching practices and wanted to use the student goal setting process to help better individualize instruction; this was a limitation because the researcher was passionate about the belief that individual student goal setting could have an impact on achievement. The researcher's judgment about the process and possibly the results posed a limitation because of the concern for exaggerated or biased results. To avoid this, the researcher used a control group to objectify the comparative data.

To assure the anonymity of student names in the reporting process, the researcher used student initials for data purposes but later removed all identifying data for individual students and instead used numbers in the results reporting process. The researcher did not analyze data until after the completion of the school year to remove all chances of favoritism.

Even though the study sample was representative of the typical demographic of the study school and district, other districts in rural locations may not have commensurate demographics, a population limitation was probable.

Time is always a factor in any study, but time was a limitation because it took so much time to teach the goal setting and data interpretation processes and this interfered with the curriculum. To reduce this limitation, the researcher embedded the goal setting and data interpretation processes within the reading curriculum instruction. However, the limitation still existed due to time constraints of district curriculum expectations. The researcher was unable to provide proper conferencing, follow-through, and feedback and this may have affected the results in a negative way.

Students were only able to complete the SMART process for conferences and one round of assessment goal setting. The researcher asked students to set goals for the third round of testing but this was without direct instruction. Students also completed informal goals at transition times during the study year.

The researcher did not assess student self-efficacy using an efficacy scale due to the time constraints and the ambitious nature of the study. However, questions on the questionnaire did address attitudes of self-efficacy.

Much of the research reviewed for this study looked at populations other than general education middle school students. The majority of the research reviewed focused specifically on learning-disabled students, elementary, or secondary students and adult learners. The study of adolescents in McDevitt et al. (2008) was most similar to the study of this researcher who hoped that the processes used generalized to her setting. McDevitt et al. (2008) conducted their study with Colorado standards and the methods posed a

demographic limitation with this sample. Diefendorff (2004) studied job related goals and their proximal predictability, which added to the methodology of this study but differed demographically.

A limitation due to the nature of middle school students was the number of returned consent and assent forms, limiting the sample size to only those students who returned the permissions packet. The 33 students who returned the consent/assent forms were the students who consistently returned permission slips and other school related paperwork and homework. The students who returned the permissions were a limitation because they represent the students who are the "rule-followers." The students who returned the permissions do represent a reasonably accurate demographic sampling of students from each of the three classes. The district used a computer program that randomly assigned students to each teacher's classroom; therefore, any sampling of those students is representative of the classroom as a whole. It is also important to note that two students moved to another middle school and one to another class in the research building, thereby limiting the sample size to 30 students. The representative sample was an equal number of male and female and all three ethnicities.

Another conceived limitation was that the students who were more responsible or had more involved parents participated. The researcher used no coercion or reward to encourage participation. However, the researcher frequently reminded students both in class and via the recording on the homework information line to return the forms. The researcher paid no favoritism to the students who returned the form, only a "thank you" to the student.

The control group students received some SMART goal setting instruction at mid-first quarter conference time because the research district mandated goal-setting conferences. However, the researcher could not ascertain the fidelity of instruction about the goal-setting process for the students in the control group. The school provided a SMART goal setting process power point/flipchart for teacher use. It is important to note that the researcher contributed her knowledge of the SMART goal setting process to the creation of the power point/flipchart and corresponding goal setting forms used to set the goals for the first quarter conference. It was possible that the instruction could or could not have contributed to the change in achievement data for the control group.

Another possible limitation, as Moeller et al. (2012) noted, causality was not established between goal setting and achievement. The researcher isolated the variables that influence achievement, which demonstrated correlation without proving causality.

Definition of Terms

Adolescence: the demarcation of time, which means to grow up into maturity (Lerner & Steinberg, 2004).

Autonomy: described as the long-term aim of education, "autonomy is the ability to take responsibility for personal learning" (Moeller et al., 2012, p. 154).

Bell-ringer: the study district's 'do now' activity that focuses learning, done at the beginning of class.

Cognition: thinking, perceptual conscious perceiving reality, and answers the questions: "What is? What do I know? What do I know how to do?" (Locke, 2000).

Commitment: "refers to a student's (or teacher's) attachment or determination to reach a goal" (Hattie, 2012, p. 52).

Curriculum-based measurement: CBM was originally developed by Stan Deno and his collegues at the University of Minnesota, it is a system of brief assessments as indicators of proficiency that allows teachers and students to monitor data that directly assesses their performance and instructional programs (Espin, Wallace, Lembke, Campbell, & Long, 2010; Stecker et al., 2008; Swain, 2006). According to Swain (2006), goal setting procedures are not typically part of the CBM routine.

Formative assessment: "Formal and informal processes teachers and students use to gather evidence for the purpose of informing next steps in learning" (Chappuis, 2015, p. 3).

Generalization: "or the translation of learning, is the process by which a behavior reinforced in the presence of one stimulus will be exhibited in the presence of another stimulus" (Walker & Shea, 1991, p. 176).

GROW model: Acronym for "Goal establishing, Reality of the current situation, Options available, What action will be taken or decided upon" (Day & Tosey, 2011, p. 531).

Goal: "A representation of a specific desired state of affairs that is cognitively associated with its corresponding means of attainment and to other goals" (Hofer, 2010, p. 150). A goal embodies two features: future state and actions toward achieving the future state

Goal orientation: "A term researchers use to define different ideas students have about why they are doing their work in school" (Chappuis, 2015, p. 15). "The type of goals individuals adopt when approaching a task" (Diefendorff, 2004, p. 379).

Goal setting: "broadly defined as the process of establishing clear and usable targets of objectives for learning" (Moeller et al., 2012, p. 153); "the process of establishing a direction for learning" (Marzano et al., 2001, p. 93).

Maze measures: every seventh word is omitted and replaced with a multiple-choice word to fill in the blank; students read the text and choose the correct word in set time (Espin et al., 2010).

Motivation: the "spring of action," energy toward a goal or task that is in incongruity between present state and future/desired state (Alispahic, 2013).

Neuro-linguistic programming: a communication and personal development discipline from the work of John Grinder and Richard Bandler in the mid-1970's (Day & Tosey, 2011)

POWER outcomes: five elements of well-formed outcomes model: Positive, moving toward something, Own role, student's role in making outcome happen, What specifically? Assessment of starting point and resources required, Evidence that the student will reveal about the progress toward their outcome, Relationship, the feelings internally and about others with regard to the decisions made about their proposed outcome (Day & Tosey, 2011)

Process goals: programs, policies, methods, or actions and activities of school personnel to reach desired outcomes (Conzemius, & O'Neill, 2001).

Quality feedback: teacher communication to students that is "timely, explicit, tied to goals and student learning" (O'Neill, 2004, p. 37).

Read-aloud measures: within a one minute time limit, students read aloud a text passage to the teacher, who notes the words read correctly (WRC) (Espin et al., 2010).

Self-determination: the process of self-regulated problem solving and student-directed learning (Palmer & Wehmeyer, 2003).

Self-efficacy: "the belief that one can succeed at something" (Moeller et al., 2012, p. 154).

Self-regulated strategy development: "a multi-component strategy instructional model" (Johnson, Graham, & Harris, 1997, p. 81).

SMART goals process: *Specific and Strategic, Measurable, Attainable, Results-based, and Timebound* (Conzemius & O'Neill, 2001).

Summative assessment: are "assessments that provide evidence of student achievement for the purpose of making a judgment about student competence or program effectiveness" (Chappuis, 2015, p. 4).

Analysis of the Data

The researcher used existing Aimsweb/R- CBM and MAZE data for student participants. Students were informed of their individual data via individual assessment reports and were instructed on how to use that data to establish goals for improvement. This part of the design was similar to the Espin et al. (2010) study. As part of the instructional process students were trained to adapt the teacher's instructional goals/learning targets to make them part of their personalized learning outcomes. The researcher informally assessed the goal adaptations via bell-ringers. The researcher used early Fall (September) baseline R-CBM and MAZE data and then compared each periodic benchmark assessment for Winter (January) and Spring (May), raw or scale scores for each test. An Analysis of Variance (ANOVA) was run and a *z*-test was completed to determine the statistical difference between and among the students in the

study group as a whole group and individually. Pre and post questionnaires about attitude and motivation were qualiatively evaluated using open coding to assess the impact of the process of goal setting. A modified Motivated Strategies for Learning Questionnaire (MSLQ) (no permission needed from the authors) inventory was used (McDevitt et al., 2008; Pintrich & DeGroot, 1990) to assess student attitudes about motivation and goal setting. The MSLQ has 56 items and uses a Likert Scale to rate responses; the researcher wanted fewer, more open-ended questionnaire versus survey type questions. The MSLQ Likert questions pertaining to motivational beliefs and intrinsic values were reformatted (Pintrich & DeGroot, 1990) (see Appendix B). Similar to the Garavalia & Gredler (2002) study design with college students, this researcher first determined the middle school students' expected proficiency levels then compared to the students' actual proficiency level and to prior achievement (Hattie, 2012). The researcher used the pre-questionnaire and informal bell-ringers to gather the proficiency perceptions.

Through the use of direct instruction using their personal assessment reports, in December and January students were taught to interpret their assessment data for Aimsweb/R-CBM, and MAZE. Again in January, direct instruction using a flipchart and SMART goal format form taught students to set goals for improvement given their inerpretation of their assessment results. The individual student goals were set between assessment episodes one (Fall/ September) and two (Winter/January) and collected to evaluate student understanding and fidelity of the goal setting process (see Table 1).

The researcher compared the pre-treatment and post-treatment questionnaires (McDevitt et al., 2008; Pintrich & DeGroot, 1990) using qualitative open coding methods recommended by (Fraenkel, Wallen, & Hyun, 2012). The researcher used pre-existing

surveys used in the action research project written by Bogolin, Harris, and Norris (2003) to add validity to the modified MSLQ questionnaire.

The researcher performed a paired *t*-test for statistical analysis to determine the significance of the relationship between goal setting and student academic progress. The researcher compared the statistical results from the treatment group to the statistical results from the control group.

The researcher also adapted questions from The Good Character Website (http://www.GoodCharacter.com), which is a public domain site that allows educators to use their content without permission, to create the questions for the focus group that assessed students' opinions of the goal setting process post treatment (see Appendix C). A neutral third party facilitated the discussion group and modified the prescribed questions accordingly to the need of the group (see Appendix D). Other teachers in the study school granted the students permission to participate in the focus group. The researcher video recorded the hour-long focus group discussion, transcribed, and qualitatively analyzed the proceedings.

The researcher completed pre, during, and post process anecdotal notes of information gathered from the students' reactions or comments, as well as recorded individual goal setting and feedback conferences held with students. The researcher then evaluated the journal qualitatively for any merit to the process.

Summary

Goal setting, specifically the SMART Goal-setting Process has been a part of school improvement for better than a decade. The researcher was concerned that her middle school was not harnessing the power of SMART goals with students. The

researcher informed students of their individual R-CBM/Aimsweb and MAZE data, and then instructed the students to write their own SMART goals. Informed student goal setting was new to the study school and the researcher hypothesized this goal setting would have benefits for the student and achievement.

Chapter Two: Literature Review

Recognizing that students often have little interest in knowledge for its own sake or in adult applications of that knowledge, some educators believe goals not only should be based on what we know about students, but should come from the students themselves (Brandt & Tyler, 2011, p. 14). Chapter Two reviews the literature about the goal-setting process used to improve student achievement among schools and their teachers. Specifically, the researcher focused on the SMART and POWER goal-setting models. The research indicated that schools have used SMART goals for over a decade, but the research was weak with regard to student use of SMART goals. Furthermore, this chapter explores the adolescent learner and related motivational elements, like self-efficacy and goal orientation. The research indicated a gap in studies concerned with informed goal setting in the general education middle school setting.

"Successful people always have had clear, focused goals that guide them to greatness" (Rader, 2005, p. 123). Most of those people would admit that they chose their own goals to garner that success. When students were provided choice and control over their learning, relevance and interest increased and motivation and effort were enhanced (Erlauer, 2003). In light of these timeless statements, why is student goal setting not being used a tool to improve or increase student achievement? The literature reviewed, showed that researchers have studied student goal setting in multiple age-levels, ranging from elementary learning-disabled students to adult college learners. However, many school districts are still not harnessing this powerful tool to garner improved student achievement. As once stated by Senge; "The one accomplishment that would foster

longer-range actions would be a goal worthy of commitment" (as cited in Conzemius & O'Neill, 2001, p. 85).

To understand the goal setting process it is first necessary to understand the nature of the goal. As quoted by Day and Tosey (2011), a goal is "the object to which effort and ambition is directed" (p. 517) and has a description of the intended future state and the actions toward achievement of that state. "Goals are important regulators of human action as they set standards to which we compare our perceptions and expectations" (Alispahic, 2013, p. 201). Locke and Latham's (1990) goal setting theory stated that goals needed to be specific and difficult enough to energize the performer to take a particular course of action (Alispahic, 2013). Zimmerman (2008) combined goal setting theory and Bandura's (1986) social cognitive theory and outlined eight criteria for goal setting: specificity, time proximity, hierarchy of organization, "congruence between the goals of self and others, degree of difficulty," self-generation, "level of conscious awareness," and whether the goals are process or performance oriented (Day & Tosey, 2011, p. 518). According to Schunk (1991), broad goals have little impact on achievement, which is partially because it is easier to verify progress toward specific goals. Goals need to be significant enough to be motivating but not so large that they are overwhelming; the targets should stretch the student to heights that were previously out of reach (Day & Tosey, 2011).

As summarized by Alispahic (2013) in a theoretical analysis, there are eight guidelines for successful goal setting:

1. the more difficult the goal, the greater the achievement.

2. The more specific or explicit the goal, the more precisely performance is

regulated.

3. Goals that are both specific and difficult lead to highest performance.

4. Commitment to goals is most critical when goals are specific and difficult.

5. High commitment to a goal is achieved when:

   a. the individual is convinced that the goal is important

   b. the individual is convinced that the goal is attainable.

6. In addition to having direct influence on performance, self-efficacy influences:

   a. the difficulty level of the goal chosen or accepted

   b. the commitment to goals

   c. the response to negative feedback or failure

   d. the choice of task strategies.

7. Goal setting is most effective when there is feedback showing progress in relation to the goal.

8. Goals affect performance by affecting the direction of action, the degree of effort exerted, and the persistence of action over time (Alispahic, 2013, p. 198).

Goal Setting Process

As outlined and explained by Rader (2005), there is a clear process for effective goal setting: choose a specific goal, decide a time, develop a plan, visualize, be persistent, and evaluate. Teachers have many opportunities to reinforce problem-solving and decision-making skills through goal setting. Students who are active in the goal setting process develop original thinking, personal independence, and responsibility (Rader, 2005). There is a reciprocal relationship or a reinforcing loop when self-esteem directs and motivates behavior and motivated behavior also reinforces self-esteem. Goal setting

further reinforced this motivational loop. According to Joel Klein in the Dinner Keynote: Educational Reform & National Security (Haas, 2012); the path to higher self-esteem should be based on performance and achievement. Bandura's social cognitive theory explained, the attainment of goals garners emotional satisfaction, and failure to meet goals garners dissatisfaction (Bandura, 1986). Radar (2005) further explained the perceived link between goal setting, performance and self-esteem. Zimmerman (2008), reported that high achievers use goal setting more frequently and consistently than low achievers. Students are more motivated and work harder on goals they planned for themselves (Cheung, 2004). Participation in goal setting can lead to high goal commitment and enhance performance (Locke & Latham, 1990; Schunk, 1991). As stated in Chappius's (2015) book, *Seven Strategies of Assessment for Learning*, "many studies have identified that students' willingness to persist at a task is influenced by their goal orientation" (p. 15).

Goal setting was a crucial skill for success and needed to be taught, especially for struggling students (Espin et al., 2010; Moeller et al., 2012; Rader, 2005). "Students are being labled Attention Deficit Disordered (ADD) in record numbers but schools spend little time teaching them how to focus, specifically upon their own goals" (Rader, 2005, p. 123). All students, not just those with special learning needs, or those who lack focus, would benefit from the teaching and implementation of goal setting (Johnson et al., 1997; Rader, 2005). The seventh assessment for learning strategy in *Seven Strategies of Assessment for Learning,* by Chappius (2015), recommended that teachers "provide opportunities for students to track, reflect on, and share their learning progress" (p.14). Chappius (2015) further stated that any activity that required students to reflect upon their

learning and share their progress reinforces learning and helped students develop insights about their learning.

SMART Goals

According to Moeller et al. (2012), there are various models describing quality goals. The SMART (Specific and Strategic, Measurable, Attainable, Results-based, and Timebound) goals process is used to foster district and school improvement and "each part of the definition is critical to student success" (O'Neill & Conzemius, 2006, p. 13). SMART goals are focused on process and results and answer the *so what* question as progressing toward achieving measurable goals (Conzemius & O'Neill, 2001). SMART goals specify improvement targets and define the performance level but also address the specific indicators for evidence (Conzemius & O'Neill, 2001). SMART goals are "worthy of commitment, eminently practical data-based and reflective of what we believe is possible, given current performance" (Conzemius & O'Neill, 2001, p. 90). SMART goals are strategic in that they should be aligned to the critical high-leverage areas identified within the system (O'Neill & Conzemius, 2006). The "S" in SMART also means "specific" because they should provide concrete, tangible evidence so that teams can communicate clearly on specific targets for improvement (O'Neill & Conzemius, 2006, pp. 14-15). Measuring increases focus and schools should focus on summative measures, while classroom teachers can improve instruction and learning by focusing on formative measures. Using multiple measures allows schools and teachers to get a clear, complete picture of progress on benchmark goals (O'Neill & Conzemius, 2006). Goals that are attainable are motivating and allow people to see that they are worthy of commitment. Attainable goals address the gap evident in the strategic plan and learning

target and are cnquered through data conversations. (O'Neill & Conzemius, 2006). Concrete benchmarks allow the goals to be results-based. "When we ground goals I results, we build in immediate feedback that supports our sense of efficacy" (O'Neill & Conzemius, 2006, p. 16). The final critical component is time, a specific timeframe builds in commitment and internal accountability (O'Neill & Conzemius, 2006).

O'Neill (2004) reported on the use of SMART goals with elementary students at Burleigh Elementary School, which had formerly been "the lowest performing school in the Elmbrook School District" (p. 33), but because of its focused use of the SMART goals process, rose to a high-performing school. SMART goals were established for the school, grade-level teams and individual classrooms. "Teachers developed processes and tools to help the children set and monitor SMART goals" (O'Neill, 2004, p. 36). Teachers assessed the SMART goals through state and district standardized tests (O'Neill, 2004). At Burleigh Elementary, student goal setting was routine, and even though they fell short of some of their SMART goals in 2003-04; progess was noted for minority and special education students (O'Neill, 2004). Higher results are achieved if goals are specific, challenging, and measurable (Moeller et al., 2012). The SMART goal-process has been revisited via the Professional Learning Community (PLC) approach of looking at the alignment of standards, curriculum, assessment, teaching strategies, and goal-setting. DuFour and Marzano (2011) advocated for the use of proficiency scales to coincide and add value to the SMART goal-setting process in PLCs. SMART goals centered on proficiency scales are more specific and beneficial to improving student achievement.

POWER Outcomes Model

Day and Tosey (2011) explained another goal-setting framework from the neuro-linguistic programming perspective as the POWER model. Day and Tosey created The Power Outcome Model because of the perceived drawbacks of the SMART framework, in that SMART targets could be divorced from students' engagement and reflective practices and implemented in an instrumental manner. The POWER model focused students on self-generated outcomes rather than goals; it took the emphasis off the future wish of a goal and focused more on the action plan to achieve the outcome (Day & Tosey, 2011).

The POWER model is an acronym which explained the five elements that align with Zimmerman's (2008) eight criterions for goals: Positive outcome, moving toward what the student wishes as opposed to focusing on the negative imagery of thinking about what is not wished; the student's Own role for making the outcome happen as a result of their actions.; What specifically? Is the question that is the starting point and quest for resources needed for the actions that move the student toward the outcome? Evidence that reveals the progress toward the outcome and what it will look like based on sensory evidence once students have achieved the outcome.; Relationship refers to the internal checks of does the decision or plan feel right and the interconnectedness between the student and other people involved with the outcome process. The R also represents the awareness of barriers and the potential readjustments that could be needed (Day & Tosey, 2011, pp. 522-523).

The POWER model also draws upon the use of self-talk to create mental imagery, which is multi-sensory and allows for mental rehearsal and the internalization of control

and ownership on achieving the outcome (Day & Tosey, 2011). This outcome-setting framework can be combined with other approaches like the GROW model. GROW is an "acronym for establishing the Goal, examining the current Reality, considering the Options, and deciding on What action to take and confirming the Will to act" (Day & Tosey, 2011, p. 531) and aligns with the learning cycle framework: "plan, act, review, and apply or do, review, learn, and apply" (Day & Tosey, 2011, p. 530). When measured against Zimmerman's (2008) criteria, the well-formed outcomes/POWER model had the potential to be more rigorous and holistic than the SMART goal process (Day & Tosey, 2011). United States researchers need further investigation of the Power Model as a replacement for the SMART goal framework. The opportunities for students to negotiate their own outcomes, evaluate, and mentally rehearse offered benefits that surpass the SMART framework.

Goal Setting in Schools

"A major goal of formal education is to equip students with the intellectual tools, self-beliefs, and self-regulatory capabilities to educate themselves throughout their lifetime" (Bandura, 2006, p. 10). Typically school administrators and teachers are the only ones privy to goals but for true transformation to happen in schools there has to be a clear target that is known and owned by those who were implementing the goal (Newman, 2012). According to Schmoker (2003), abundant research and school evidence suggested that setting school and classroom goals may be the most significant act in the school improvement process. Classroom goal orientations can vary, with some emphasizing competition and demonstrating ability as related to others, the ability goal orientation; while others emphasize the task goal orientation with the focus on task

mastery, intellectual development, and intellectual development (Anderman & Midgley, 1996). Students' attitudes toward learning were impacted by the perceived goal orientation of the classroom (Anderman & Midgley, 1996). In classrooms structured with task goal orinetation students exhibited more positive attitudes toward learning than did their peers in ability goal oriented classrooms (Anderman & Midgley, 1996).

According to one of Deming's 14 management points, quality does not improve with inspection, furthermore, with regard to education, when progress is self-reflective and self-monitored it can be proven more effective (Schmoker & Wilson, 1993). Additionally, Deming claimed that "the only proper use of data was to help employees perform better" (Schmoker & Wilson, 1993, p. 14). When Deming's management principles are combined with school and teacher goal setting the results can be transformational (Schmoker & Wilson, 1993). "Once the teacher has established classroom learning goals, students should be encouraged to adapt them to their personal learning needs" (Marzano et al., 2001, p. 95).

A critical element of the goal setting dynamic, was for the school and teacher to link school performance goals with grade-level and classroom goals to individual student goals (Newman, 2012; O'Neill, 2004). To garner true achievement gains, better alignment is needed between the district, school, classroom, teacher and student goals. This alignment process helps the student set priorities, remain motivated, and focused on skills, while providing purpose and direction for both teachers and students (Newman, 2012). Teachers commonly establish goals for the class, but these goals can be quite different from the goals that the students are pursuing in that same class (Moeller et al., 2012). Newman (2012) further stated that goals are set for a simple reason: to know what

is trying to be achieved, and to be explicitly clear about the path toward success. "By setting goals across the school and providing students and parents an invitation to own a piece of the responsibility, we ensure a deeper level of understanding of the complex work that is taking place across the school community" (Newman, 2012, p. 16). At Burleigh Elementary, O'Neill (2004) reported that the efforts to have students share reponsibility for their learning went far beyond scores, the more teachers saw their efforts paying off, the higher the expectations they had for the students. Bandura (2006) claimed there are "three pathways that efficacy beliefs influence cognitive development and accomplishment," first the students' efficacy beliefs, the teachers' personal efficacy to promote and motivate learning for their students, and the schools' or districts' collective sense of efficacy (p. 10).

Standards, Assessments, and Goals

Of critical importance was the link between standards and assessment to learning goals. According to Psencik and Baldwin (2012), teachers often analyze student achievement data and reflect on their teaching practices. (Moeller, 2012, p. 153)Moeller et al. (2012) stated that, "moving to a standard-based, student-centered learning environment has required a deeper understanding and investigation of the factors that influence student achievement" (p. 153). Erlauer's (2003) book: *The Brain-Compatible Classroom* (2003) recounted the problems with using standardized testing information, she stated standardized tests revealed information about student knowledge (or lack thereof) and the application of the knowledge and tend to not tell anything about an inidividual's progress or learning.

Motivation, ability, effort, time management, self-regulation and assessment, and persistence are all key factors that influence student achievement, according to Moeller et al. (2012). According to the study of middle school students by Espin et al. (2010), "Curriculum-based measurement (CBM) is a system of measurement designed to allow teachers to monitor student progress and evaluate the effectiveness of instructional programs" (p. 61). CBM is time effective, easy to administer, practical, and can provide the data needed to help students set and monitor their own academic improvement goals (Espin et al., 2010). Students with learning difficulties often have problems setting learning goals because they have difficulties with assessing their academic skills, CBM prescribes a standardized, systematic and reliable procedure for documenting progress in reading (Swain, 2005).

The McDevitt et al. (2008) study advised students of their proficiency levels on the state assessment and students were periodically updated on their performance levels. This study was one of the only studies from the reviewed research to use statewide assessment data, other researchers used CBM or other data measures to assertain the effectiveness of goal setting practices. At a time when standardized testing results are being scrutinized more than ever, teaching students to care about their data is critical (Barrier-Ferreira, 2008).

Teacher's Role

Having a clear sense of personal teaching goals and the reasons behind them is critical for successful and purposeful instruction (Rader, 2005). Teachers analyze student achievement results and set goals that are reflective of their own teaching practices (Moeller et al., 2012; Psencik & Baldwin, 2012). Teachers who connect their

professional learning goals to student data create ownership and change instructional practices (Conzemius & O'Neill, 2001; Psencik & Baldwin, 2012). Teacher goal setting can be done in grade-level or content-wide teams and builds collaboration (Moeller et al., 2012; Newman, 2012; O'Neill, 2004; Psencik & Baldwin, 2012; Rader, 2005). Effective teachers plan by deciding challenging goals and then structuring learning situations so that students can reach those goals. The building of shared responsibility for student learning also comes with the analysis of data as students progress toward the goals (Conzemuis & O'Neill, 2001). When teachers encourage students to commit to achieving those challenging goals and provide feedback for how to be successful in learning as they work, then the goals are more likely to be attained (Hattie, 2012). When teachers introduce students to the motivational power of being in control of their own success, achievement happens (Chappuis, 2015). Marzano (2001) reiterated that teachers' instructional goals should allow the student to generalize and create their own goals. Teachers were empowered through the use of SMART Goal Setting process at Burleigh Elementary (O'Neill, 2004). Teachers often set goals that increased their effectiveness (Psencik & Baldwin, 2012), but rarely did they encourage their students to adapt those goals to their personal needs (Moeller et al., 2012). "Well-stated goals imply the kinds of learning activities that would be appropriate for achieving them" (Brandt & Tyler, 2011, p. 17). Conzemuis and O'Neill (2001) adapted Deming's (2001) Plan-Do-Study-Act model to coincide with their use of SMART goals creating a powerful learning cycle. Creating lessons that are challenging comes before commitment to the learning task, however, "the greater the commitment, the greater the performance" (Hattie, 2012, p. 52). The success of goal setting and correlating achievement is directly related to the

commitment of how the teacher introduces and teaches the goal setting process, provides feedback, and the consistency of the review of the learning goals throughout the process (Moeller et al., 2012). According to O'Neill (2004), quality feedback is essential to making the goal setting, or any learning process, successful. According to Marzano et al. (2001), providing students with corrective, timely, and specific feedback can enhance achievement. "The closer you get to the child, the more specific your goals should be and the more frequent your monitoring of those goals should be" (O'Neill & Conzemius, 2006, p. 130). It is with the goals in mind that instructional decision making begins but should include: differentiation on the measurable skill gaps, design based on student learning styles, standards-based remediation, and content remediation based on assessment of specific knowledge (O'Neill & Conzemius, 2006). Through well designed instruction and remediation, teachers can set the stage for students to set their own learning goals.

Student Goal Setting

"Students need to know where they are so they can improve" (O'Neill & Conzemius, 2006, p. 108). Students need to understand their weaknesses and their strengths with regard to a goal or learning target. When students do not understand the goal of a task, lack of ownership in that task can occur and the value of learning is diminished (Moeller et al., 2012). Bandura (2006) asserted, "Adolescents need to commit themselves to goals that give them purpose and a sense of accomplishment (p. 10). In Jenkins'(1997) book, *Improving Student Learning*, he reminded educators that instead of thinking of ways to motivate students, one should recognize that children are born motivated and educators should focus on eliminating practices that destroy

motivation. Without the sense of personal commitment, students can become bored, and unmotivated or dependent upon extrinsic motivators (Bandura, 2006). Students typically have futurist aspirations and need to organize and motivate their lives. According to Newman (2012), goal setting was done naturally by students (specifically his son) when they played video games; naturally setting goals and analyzing skills to achieve the goals to get to the next levels of the game. Using the video game scenario made goal setting relevant and could be especially useful when overtly teaching the goal setting processes outlined by either (Day & Tosey, 2011; O'Neill, 2004; Rader, 2005). Jenkins (1997) further quoted Deming, teachers need to preserve the power of intrinsic motivation that is instinctual in children. Teachers at Burleigh Elementary harnessed the intrinsic motivational power and helped students set SMART goals through self-reflection, planning, communicating the rationale, describing strategies and steps to complete the goal, creating a timeline, describing evidence for goal attainment, implementation, and reflection; with this process, quality feedback, and instructional strategies aimed at helping students reach their goals, Burleigh saw achievement improve (O'Neill, 2004). Unfortunately, as Zimmerman and Clearly (2006) stated "adolescents are often poor at goal setting" (p. 47).

The Adolescent Learner

Some of the most dynamic stages of development occur during young adolescence (Bandura, 2006; Wormeli, 2001). Adolescence is a "pivotal transition from childhood dependency to adulthood interdependence and self-sufficiency (Zimmerman & Cleary, 2006). "The brain continues to grow during puberty" (Wormeli, 2001, p. 21), the more students learn, the more students can continue to learn. Roaten and Roaten (2012)

stated that the structure and function of the brain changes dramatically during adolescence, with "significant synaptic reorganization" (p. 4). The prefrontal cortex changes and develops during adolescence; this area of the brain is responsible for abstract thinking, language and decision-making (Roaten & Roaten, 2012). The brain goes through a period of reconstruction: pruning unused dendrites and pathways, and strengthening more connected neural-pathways (Roaten & Roaten, 2012). This "use it or lose it" brain reorganization is pivotal in making the brain more efficient and is critical to the development of thoughts, interests, beliefs, and skills (Roaten & Roaten, 2012). Larger society and schools recognize a profound shift in expectations regarding adolescent "students' ability to assume responsibility for their functioning" (Zimmerman & Cleary, 2006, p. 46). Adolescents concurrently manage major biological, educational, and social transitions (Zimmerman & Cleary, 2006). Adolescents are contributors to their interpretations and meaning within the school environment and are mediators between their feelings, behaviors, and beliefs and school (Eccles, 2004). Due to the cognitive maturity of adolescents, they are more capable of shaping their self-efficacy beliefs due to their ability to process and interpret multiple sources of information (Schunk & Meece, 2006). Educators must understand and align curriculum and lessons to meet the needs of adolescents (Eccles, 2004; Roaten & Roaten, 2012; Wormeli, 2001). Roaten and Roaten (2012) further stated, for optimal brain development, adolescents need guidance and creative, nurturing environments from adults. When schools foster connections to reading, reasoning and problem solving, and science through experiences adolescents create reinforced neural pathways. If those connections do not continue through adolescence, they are pruned and lost forever (Roaten & Roaten, 2012).

During the transition years from elementary into middle school, student motivation declines, and this decline is at the same time that middle school students' achievement goal orientations also change. Eccles and Midgley (1989) as noted by Bandura (2006) further explained that adolescents begin to feel loss of personal control and are less confident and more sensitive to social evaluation. The middle school transition involves challenges to personal efficacy due to the major environmental changes (Bandura, 2006). During adolescence, the prefrontal cortex receives myelin (a fatty, glial substance which improves the flow in the brain), this coincides with teens' improved abilities to use logic and reason, hypothesize, think about and plan for the future, and control mood (Roaten & Roaten, 2012). Adolescents begin to consider what they will do with their lives and they begin to master a variety of new skills and practice the ways of adult society (Bandura, 2006). Bandura (2006) further stated that according to social cognitive theory, adolescence is a time of growth through mastery. Adolescence is a time of new competency requirements, opportunities for growth as well as challenges. Students' performance orientations increase while their mastery orientations decrease (Haselhuhn, Al-Mabuk, Gabriele, Groen, & Galloway, 2007). Haselhuhn et al. (2007) postulated three reasons that motivation decreases during the middle school years: inevitable psychological and physiological changes due to puberty, increased interest in socialization, but most relevant to education is the controllable problem with the nature of the middle school learning environment (Roaten & Roaten, 2012), Claim experiential input is critical to the adolescents' social cognition and executive functions of brain development. Today's middle school students are involved with rapid electronic, technological, and social changes that affect how people communicate and relate to each

other (Bandura, 2006). Early adolescent students increasingly devalue pro-social actions done for self-related reasons, like rewards, approval, or praise (Eisenberg & Morris, 2004). "Many students make the decision about staying in school between the ages of 11 and 15" (Hattie, 2012, p. 3). Therefore, learning experiences for middle school students should be challenging, engaging, and productive to ensure that students want to stay in school (Hattie, 2012). "Getting students to pay attention and learn is 80 percent of our battle in middle schools; the rest is pedagogy" (Wormeli, 2001, p. 7).

Achievement goal theory addresses the reasons that students engage in academic behaviors (Patrick & Ryan, 2008). A difference in motivation exists between students who seek to do problems for learning (learning goal orientation) and those who do the problems for points (task or ego goal orientation). Learning misses the point if it is only for a grade (Wormeli, 2001). "Middle school students seek meaning, and meaning is motivating" (Wormeli, 2001, p. 16). Students who have learning goal orientations may have greater motivation, and this could be the connection between classroom climate and student achievement (Haselhuhn et al., 2007).

Psychology of Goal Setting

Bandura (2006) concluded that people are contributors to their own life circumstances and as agents of influence, there is intentionality that include action plans and strategies. "Internal control psychology suggests that we are goal-driven and are most effective when we are clear about our goals and intentionally self-evaluate" (Sullo, 2007, p. 15). Bandura (2006) further claimed that people set goals and anticipate their outcomes and use this plan as a means to motivate their actions. Newman (2012) and Rader (2005) both touted the importance and necessity of goal setting and its link to

achievement. According to Jenkins (1997), children are born motivated and instead of trying to motivate students, "we need to discover what demotivates them and stop those practices" (p. 27). Due to the tremendous structural and functional changes in the middle school/adolescent brain, schools have a prime opportunity to establish motivational goals with students (Roaten & Roaten, 2012). The motivation process is divided into two phases: goal-setting or contemplating the reasons for pursuing an activity and goal-striving or task implementation issues (Diefendorff, 2004).

The co-authored (McDevitt et al., 2008) study from the University of Colorado looked at the motivational and achievement factors associated with student goal setting and academic self-regulation. McDevitt et al. (2008) stated, with guidance and support from adults, students can learn to self-regulate their own behavior toward goals. Their research was premised on the lack of information about how students set learning goals or use assessment data as part of everyday classroom instruction (McDevitt et al., 2008). Their study sought to see if "students' motivational beliefs were associated with their experiences in goal-setting in reading" (McDevitt et al., 2008, p. 116). The study was conducted with three classes of eighth grade literacy students; 54 out of 90 students and their parents signed the consent and assent forms. The study looked at student data on achievement tests (specifically the Scholastic Reading Inventory Lexiles, SRI), Motivated Strategies for Learning Questionnaire (MSLQ), Making progress in Reading Questionnaire, and Your Experience with Reading Goals: In your own words questionnaire (McDevitt et al., 2008). Their study tried to identify common themes among the respondants and their results showed they were able to thematically group students with regard to attitude. Yet there was no significant causal relationship between

goal setting and literary achievement. The study could not differentiate between instructional practices associated with goal setting or the student goal setting process itself in determining why achievement and motivation improved (McDevitt et al., 2008). There seemed to be a symbiotic relationship between student goal setting and instructional practices related to teaching, writing, monitoring, and communicating goals. Chappuis (2015) quoted Ames (1992) stating, "Enhancing student motivation, is not about enhancing self-concept of ability, but enhancing student's valuing of effort and a commitment to effort-based strategies" (p. 97). Roaten and Roaten (2012) looked at new brain-based research and claimed that opportunities for students to stretch their brains through emotional experiences, higher order thinking skills, and decision making, enhanced motivation and improved self-confidence which improved the chances of retention of content. Based on the research reviewed, which ever part of the goal setting process improved student achievement, it appeared worthwhile.

Cognitive Capability

Cognizant, autonomous, adolescents can influence his or her personal development through goal setting (Lerner & Steinberg, 2004). The research conducted with elementary students where scaffolding of the instructional processes were used to clarify the concepts for younger elementary students; adolescents are clearly capable of setting goals that lead them to becoming more self-determined (O'Neill, 2004; Palmer & Wehmeyer, 2003). Palmer and Wehmeyer (2003) stated that they originally field-tested the *Self-Determined Learning Model of Instruction* with adolescents, but it was clear from their conclusions and results that goal setting processes could be used with elementary students and with success. According to Bandura (2006), adolescents are

agents of their own actions and as forethinkers and planners, they are self-examiners of their own efficacy. Because of this self-awareness ability, adolescents are capable of corrective adjustments in their pursuit of their goals. Roaten and Roaten (2012) analyzed Steinberg's (2011) research on brain maturation and found the more complex cognitive abilities such as: understanding consequences of a decision, planning and thinking ahead, and controlling impulses are still developing during adolescence. However, they also noted that these functions and abilities can be improved through practice. "Forethought and self-influence are important parts of causal structure" (Bandura, 2006, p. 3). As concluded by Marzano et al. (2001), Anderman and Midgley (1996) and Wormelli (2001), once students are taught using a goal setting structure, their inate goal-setting abilities will be fostered and useful in the school setting.

Promoting Self-Determination

Self-determination is concerned with intrisic task engagement, this theory is especially concerned with nurturing the needs for affiliation, competency, and autonomy (Covington & Dray, 2002). Although attitudes leading to self-determination exist throughout life, Palmer and Wehmeyer (2003) researched the use of strategies and goal setting structures to promote self-determination in early elementary (K-3) children. They claimed that the majority of self-determination instructional activities had been focused on adolescents, so they adapted the model previously used on upper-grade students in their work with kindergarten through third grade students. *The Self-Determined Learning Model of Instruction* contained self-regulated problem solving and engaged students in opportunities for self-directed learning (Palmer & Wehmeyer, 2003). The questions used to guide the problem solving and goal setting efforts of younger

students were the same as those used with adolescents but were scaffolded with language more suited to the cognitive abilities of early elementary children. (ie. The question of What is your interest was replaced with, what do you like to do?) With this modification, younger students were able to answer the guiding questions in each of the instructional phases in the *Self-Determined Learning Model of Instruction* (Palmer & Wehmeyer, 2003). The study used the *Goal Attainment Scaling* (GAS) to measure the goals set by the students in their study and their results indicated, "more students exceeded expectations than failed to achieve them" (Palmer & Wehmeyer, 2003, p. 121). Furthermore, the 14 teachers in the study reported that the *Self-Determined Learning Model of Instruction* was useful in their classrooms and they would continue to use the model (Palmer & Wehmeyer, 2003). This research indicated that a goal setting structure and model can be implemented with younger students and is helpful in creating self-determined individuals. Covington and Dray (2002) used the work of Deci and Ryan (1992) to explain how schools can increase adolescent students' self-determination by focusing on strategies that improve students perceptions of feedback. "Intrinsic engagement resides in the subjective meaning attributed to the achievement feedback received by the learner" (Covington & Dray, 2002, p. 38). Therefore, goal setting with appropriate feedback garnered improved self-determination.

Goal Orientation

"Students' achievement goal orientations may provide the link between classroom climate and student motivation" (Haselhuhn et al., 2007, p. 3). Goal orientations as defined by Diefendorff (2004), is a "mental framework that individuals use to interpret and respond to achievement situations" (p. 375). Diefendorff (2004) also explained

action-state orientation as the process of self-regulation that occurs during goal pursuit. Action-state orientation serves as a motivator for goal setting and goal-striving (Diefendorff, 2004). Action-state orientation has three self-regulated "dimensions: preoccupation, hesitation, and volatility" (Diefendorff, 2004, p. 378) (see Appendix F, Diefendorff figure used with permissions). Action-oriented individuals are able to disengage from ruminating worries that could cause failure. While state-oriented individuals perseverate on negative thoughts and could interrupt goal achievement (Diefendorff, 2004). Social-cognitive theory of achievement goal orientation has direct relevance to middle school students because it clarifies reasons that students engage in academic tasks (Bandura, 2006, Diefendorff, 2004, Haselhuhn et al., 2007, Wormeli, 2001). There are two main orientations: "mastery learning or task goal orientation and performance or ability goal orientation" (Haselhuhn et al., 2007, p. 3). The two goal orientations influence students' beliefs. Mastery goal orientation engages in tasks to develop competence and students with this goal orientation believe that progress in mastering skills, understanding and knowledge for personal improvement are the reasons for engaging in a task. While performance orientation students believe they engage in a task in order to demonstrate competence and do better than their classmates (Eccles, 2004; Haseluhn et al., 2007). According to Eccles (2004), goal theorists portend that mastery orientation sustains school engagement and achievement better than performance orientation. Diefendorff (2004) explained the relationship between action-state (goal striving) and goal orientation, self-efficacy, and performance in graphic representation (see Figure 1). "Goal orientation is expected to influence individuals' confidence that they can perform well, which will influence the level of the goal chosen" (Diefendorff,

2004, p. 380). However, research as indicated that there is no direct causal relationship evident.

Contrary to the two goal orientations of previous researchers, Chappius (2015) wrote about three goal orientations: "learning orientation, performance/ego orientation, and task completion orientation" (p. 15). Essentially, students in the learning orientation think about getting better at whatever they are learning, while the performance/ego orientated student is to prove their ability or hide their inability, and task completion orientation focuses on getting it done or getting a grade (Chappuis, 2015). Students with the learning goal orientation try to find out what they do not know and figure out a way to master it; their goal is to improve to get better. One of the key benefits of the learning goal orientation is the development of valuing learning intrinsically (Chappuis, 2015). "Goal orientations are a response to a set of conditions" and according to Chappuis (2015), "Our assessment practices do a great deal to shape students' goal orientations" (p. 18). It is vital to helping students learn and achieve that everyone in school work collaboratively to meet the needs of each student, and this starts by aligning curriculum, assessments, and grading practices (DuFour & Marzano, 2011). "The research on the impact of goal orientations on student motivation shows us that students are prevented from learning by assessment practices embedded in our traditional grading practices" (Chappuis, 2015, p. 19). Schools need to restructure their assessments and grading policies in order to move students away from ego involved and task-completion goal orientations and toward the learning goal orientation (Chappius, 2015; DuFour & Marzano, 2011; Wormeli, 2001).

Self-Efficacy

In the present environment of high-stakes testing, any attribute which positively influences student achievement is of interest. According to Bandura (1986) as quoted in a study by Fast et al. (2010), "the degree to which a student believes that he/she is capable of performing specific tasks is referred to as self-efficacy" (p. 730). Efficacy beliefs are a key personal resource in self-development and contribute to whether one's view is optimist or pessimistic (Bandura, 2006). "Self-efficacy is grounded in the larger theoretical framework of social cognitive theory which explains that human functioning results from interactions among personal factors" (Schunk & Meece, 2006, p. 72). Bandura (2006) stated that efficacy beliefs form people's expectations for favorable or unfavorable outcomes, and can influence how the individual handles adversity and decision making. Self-efficacy is about perceived capabilities, answering the question: "How well can I perform this task?" Self-efficacy is not based on psychological or personality traits (Pajares & Urdan, 2006). Self-efficacy is context or task specific, but also domain-specific (Pajares & Urdan, 2006). Adolescents with high self-efficacy beliefs are capable of transitioning through middle school regardless of the environment (Bandura, 2006). Self-efficacy is a type of cognition, and "is hypothesized to affect individuals' task choices, effort, persistence, and achievement" (Schunk & Meece, 2006, p. 73). According to Bandura (2006) in translation of meta-analyses, stated that efficacy beliefs significantly contribute to a person's level of socio-cognitive functioning, emotional well-being, motivation, and performance accomplishments. Furthermore, efficacy beliefs can determine how environmental opportunities or obstacles are viewed (Bandura, 2006). Students typically assess self-efficacy prior to the activity (Pajares &

Urdan, 2006). Students acquire self-efficacy appraisals from four sources: their actual "performances, vicarious experiences, forms of persuasion, and physiological reactions" (Schunk & Meece, 2006, p. 73). Those students with higher self-efficacy also have proposed higher aspirations, greater commitment to their goals and can bounce back from setbacks more readily than those with lower self-efficacy can. Although self-efficacy is not the only influence on achievement and learning, no amount of self-efficacy can produce competence if skills and knowledge are not present (Schunk & Meece, 2006). School experiences help shape adolescents' self-efficacy beliefs (Schunk & Meece, 2006). According to the Fast et al. (2010) study, math students with higher self-efficacy persist longer on difficult problems and are more accurate with computation than their lower-efficacy peers. Math self-efficacy is a strong predictor of math performance. Motivation has been a consistent concern for educators for years; according to Pajares and Urdan (2006), researchers such as Bandura (1997); Pintrich and DeGroot (1990); Schunk (1991); and Pajares (1996), have all linked self-efficacy to motivation through choice of activities, effort, and persistence. Those same researchers found the correlation between classroom environment and self-efficacy. Environments that produced anxiety and other negative emotions were noted to create negative beliefs of self-efficacy. This corroborated Jenkins' (1997) statement, "We need to discover what demotivates students and stop those practices" (p. 27). Environments that are emotionally supportive where teachers took a personal interest in students are found to be those that foster more positive self-efficacy (Fast et al., 2010). Teachers who have their own high self-efficacy beliefs create mastery experiences for their students and students can learn much from a teacher who feels educationally efficacious (Bandura, 2006). For students to become

highly efficacious, they need to have opportunities to act on their subjective judgments of their capabilities to organize and act on their goals (Bandura, 2006).

Autonomy

"Autonomy is the ability to take responsibility for personal learning" (Moeller et al., 2012, p. 154) and has been described as the long-term aim of education. As reported by Covington and Dray (2002), students at all three levels of schooling who were success-oriented recalled greater opportunities to exercise autonomy than did their failure-oriented peers. With the present shift to student-centered approach to learning, the importance of self-regulated autonomous learning is emphasized (Moeller et al., 2012). This was further supported when Newman (2012) reported that when students set goals based on their needs they were involved in determining the needs of the class. In the Moeller et al. (2012) study, the relationship between goal setting and student achievement was analyzed with high school students in a Spanish language classroom. This study was a longitudinal purposive sampling of teachers and their students followed for several years (2005-2009). Participants in the study were introduced to LinguaFolio, a structured classroom-based intervention "designed to promote self-regulation among learners" (Moeller et al., 2012, p. 158). The results of the Moeller et al. (2012) study indicated that there was positive correlational relationship between goal setting, action plans, reflections, and proficiency. However, causality was not established. According to Moeller et al. (2012) the goal setting process needed to be studied further to see if it increased motivation, enhanced achievement or promoted learner autonomy.

Student Self-Assessment

"Students have a reasonably accurate understanding of their levels of achievement" (Hattie, 2012, p. 53) and according to Marzano et al. (2001), "research indicates that students can effectively monitor their own progress" (p. 99) and provide their own feedback which is needed in any goal setting process. Students are planners and fore-thinkers, according to Bandura (2006), and they adopt and monitor standards to self-regulate and react to influences. "To achieve the highest quality learning," we need instruction that is congruent with internal control psychology, because humans (specifically middle school students) are active, goal-driven, internally motivated beings (Sullo, 2007, p. 28). Application and reflection of new ideas and concepts helps students to internalize learning and move those concepts from short-term memory to long-term memory (Wormeli, 2001). Students who reflect on their own work and self-assess are more apt to make the connections necessary for long-term learning. Likewise, the more often students reconnect to the concept stored in memory, the more solid the learning becomes (Wormeli, 2001).

To monitor their own thinking, students should also be able to monitor their misconceptions and replace them with accurate concepts (Wormeli, 2001). Middle school students thrive when they are included in the decision-making process about how to correct misconceptions. When we offer students choice, it recognizes their increasing need for autonomy (Haselhuhn et al., 2007).

Progress Monitoring

Goal setting in isolation is not enough to garner achievement; feedback on progress toward learning goals is also critical (Espin et al., 2010; Johnson et al., 1997).

As Jenkins (1997) noted, without feedback, the pain of learning something is not worth it. As McDevitt et al. (2008) noted in their research, students could learn to regulate their own behavior and learning toward goals with the support from caring adults.

Curriculum-based measurement (CBM) was originally developed by Stan Deno and his collegues at the University of Minnesota, it is a system of brief assessments as indicators of proficiency that allow teachers and students to monitor data that directly assesses their performance and instructional programs (Espin et al., 2010; Stecker et al., 2008; Swain, 2005. It should be noted that according to Swain (2005), goal setting procedures were not typically part of the CBM routine, but the two seemed to fit together well.

Deno (1985) designed Curriculum-Based Measurement (CBM) to allow teachers and students to monitor instructional programs and individual student progress respectively (as cited in Espin et al., 2010); it is a time-efficient, practical procedure that provides valid, reliable educational information. The Espin et al. (2010) study looked at the use of a read-aloud measure (similar to AIMS web used by the study school district) but also recommended the use of MAZE measures (also used by the study school district) which students read and supply the word seventh word that is missing from the text in a timed format. As more schools move to school-wide response-to-intervention (RTI) practices, all general education students will be screened using CBM to progress monitor (Stecker et al., 2008).

Predictability of Goal Setting

Confounding variables challenged looking at goals for their efficacy with regard to achievement and motivation. However, goal structures can be “predictors of

achievement-relevant indicators such as self-reported effort and persistence" (Day & Tosey, 2011, p. 520). Bandura (2006) showed through his research, that the students with stronger perceived efficacy manage their own learning and have higher aspirations and accomplishments (p. 11). There was a positive correlation between performance-oriented goal setting and academic achievement (Bogolin et al., 2003; Day & Tosey, 2011; Diefendorff, 2004; Urhahne, Chao, Florineth, Luttenberger, & Paechter, 2011). Diefendorff (2004) examined the roles action-stat orientation and goal orientation play in predicting task-specific motiation and performance with regard to academic performance. The results of his study "showed that action-state orientation predicted performance independent of goal orientation, cognitive ability, self-efficacy, and self-set goals" (Diefendorff, 2004, p. 375) (see Appendix F, Figure 1). In an article about Future Time Perspective (FTP), Lens, Paixao, Herrera, and Grobler (2012) looked at the motvational aspect of future time goals and the relationship to motivation. Lens et.al. (2012) uncovered something unpredictable about coupling intrinsic goal conditions with extrinsic goal conditions. One would expect that combined goals would be more motivational, but Lens et al. (2012) looked at a study by Vansteenkist, Simons, Lens, Sooenens, Matos, and Lacante (2004) that established three conditions of goal setting: intrinsic, extrinsic, and a combination of intrinsic with extrinsic for high school students. Vansteenkist et al. (2004) and the work of Deci and Ryan (2002) used self-determination theory to predict that intrinsic goals (those concerned with self-development) "create a better quality of motivation than do extrinsic goals" (as cited in Lens et al., 2012, p. 324). However, what Lens et al. (2012) learned is the goal condition of combining extrisic with intrinsic proved to be de-motivating, and future extrinsic goal condition was found to be

least adaptive. Lens et al. (2012) further used the work of Vansteenkist et al. (2007) to demonstrate the predictiblity of intrinsic goal conditions as a motivator. Therefore, applying Deci and Ryan's (2002) self-determination theory, one can conclude that the application of intrisic goal conditions is predictibly more reliable as a motivator than the use of extrinsic goal conditions. "Being oriented towards the future can have important motivational and behavioral consequences in the present" (Lens et al., 2012, p. 329).

Possible Barriers

Newman (2012) stated that time is the greatest deterent for goal setting across schools. Goal setting is hard work. "It takes time to develop real and compelling goals" (O'Neill & Conzemius, 2006, p. 5). Many schools set goals for improvement but have left students out of the goal setting loop because of the perception that the time needed to teach, write, monitor, and communicate goals would be better spent on instruction. However, according to Newman (2012), goal setting saves time, because it allows teachers and "students to focus on what is important to teach and learn" (p. 13).

Students can also become complacent with the goal setting process, when it is part of self-regulated strategy development (SRSD), through SRSD, students are taught specific strategies and procedures for regulating strategy use in task behavior (Johnson et al., 1997). As evidenced by their study, Johnson et al. (1997) found that the impact of goal setting was minimized because self-regulated procedures made goal setting as an independent strategy superfluous. However, according to Newman (2012), individual student goal setting promoted ownership in achievement results.

Furthermore, because adolescents are so aware of social comparisons, when feedback is given publicly or comparatively, competetion can undermine mastery goal

orientation and increase performance goal orientation (Eccles, 2004). To de-emphasize this barrier to effectively use goal setting that increases mastery orientation; teachers should provide individual feedback and allow students to establish individual goals (Eccles, 2004).

Summary

The resources reviewed provided evidence that the student goal setting process was an important tool to have in an educational toolbox. Goal setting was regarded as one of the strategies that encouraged learner autonomy (Moeller et al., 2012), self-efficacy (Fast et al., 2010), and self-determination (Palmer & Wehmeyer, 2003). According to Bandura (2006), "adolecents need to commit themselves to goals that give them purpose and a sense of accomplishment" (p. 10). If districts, schools, grade levels, teachers, and students follow the goal setting process outlined by either (Day & Tosey, 2011; O'Neill, 2004; Rader, 2005) whereby they begin with the end goal in mind, establish the priorities for teaching and learning, and constantly communicate and re-evalutate achievement toward those goals, then the ownership for improved achievement will be shared by all stakeholders (Newman, 2012). This researcher's school district has established district, school and often grade-level or content goals, but it has not completely harnessed the power of teacher and student goal setting in all classrooms especially at the middle school level. Even though some research suggested that student goal setting had no significant impact on student achievement or the variables for a direct correlation were confounded; according to Cheung (2004), goals provide direction, but they do not guarantee performance success, individualized goal setting could still be a part of the improvement puzzle. The use of individual student goal setting must be

accompanied by quality teaching strategies, teacher support and feedback to build effective motivational and self-regulatory learning strategies to enhance academic success (Cheung, 2004). Furthermore, none of the reviewed articles indicated any significant drawbacks to the goal setting process. Therefore, the question remained: Why are more teachers not using student goal setting to improve or increase student achievement?

Chapter Three: Methodology

Overview

The purpose of this dissertation was to explore the influence of informed student goal setting on achievement of middle school students. Student achievement is measurable and improved achievement is highly touted in American education today. How to raise student achievement is certainly the hot-button topic and subject of school reform and scrutiny. School systems and classroom teachers use data analysis and goal setting as part of their improvement regimen. Goal setting has been part of school reform for over a decade, yet, one part of the equation that seemed to be missing (at least in this suburban, county, municipal middle school near a large Midwestern city) was the student component. What do individual students contribute to their own achievement? What impact does goal setting have on student achievement?

To explore these questions the researcher used a mixed methodology approach, carefully aligning the analysis of qualitative information from: students' questionnaires, goals, personal conferencing, and focus group information with the quantitative, secondary, assessment data from students' Aimsweb/R-CBM (Reading-Curriculum Based Measure) and MAZE scores. There was careful data triangulation using the R-CBM and MAZE data reports from three points throughout the year: September, January, and May for the study and control groups.

The study school is in the district where the researcher worked as a teacher. The researcher used a convenience-sampling group of students who returned consent and assent permissions. The researcher compared the convenience-sampled treatment group to a peer-alike control group in the same school and grade. The treatment group received

the goal-setting SMART goal training and coaching, while the control group received only superficial goal setting information delivered only for fall goal-setting conferences.

Students in the treatment group were also participants in a focus group that asked students to respond to questions asked by a third-party facilitator. The focus group facilitator had no connection to the students. From a previously established list of questions, the focus group facilitator objectively questioned students to eliminate any chance that the students would respond more favorably in order to please their teacher (the researcher), thereby removing potential bias, or subjectivity. During the discussion group, the facilitator modified the questions in response to the discussion thread to garner as much information about students' beliefs and opinions as possible. The researcher recorded the focus group proceedings, transcribed the content, and qualitatively analyzed trends and connections to previous data.

The researcher selected the control group from a larger pool of students from another teacher's class roster in the study school. The researcher selected the same number of students by aligning the names on R-CBM data reports and numbering the students in the treatment group and then selected the same numbered student for the control group. The researcher selected 30 students for each of the treatment and control groups.

Background

A suburban, county, municipal school district near a large Midwestern city does not specifically focus on student goal setting at the middle school level, although it utilizes district, building and sometimes grade-level or even teacher goals, and uses student goal setting widely in the elementary schools. Until recently, the district placed

little emphasis on the student and his/her goal-setting process at the middle school level. Prior to the study, unbeknownst to the researcher, the study district's elementary classrooms had participated in individual goal setting for the past four years. The middle school level student goal setting was sporadic for parent, student, and teacher conferences. However, no goal setting with instructional learning targets or objectives was done, or specifically where teachers informed students of their individual assessment data to drive students' independent goals. According to a district official whose duties included analyzing student data, "There was some push-back at the middle school level involving student goal setting."

Purpose of the Dissertation

A large body of research already existed with regard to goal setting, especially with high school, college, workplace, and special needs students. However, little research on the effectiveness of goal setting with general education middle school students existed. More specifically, research about data-informed students and their use of goal setting was just beginning to emerge. Besides adding to the body of research on goal setting, this research study provided evidence that once students learn how to interpret and understand their own individual assessment data and set goals with regard to that information, the students will be more responsible for his/her own learning and achievement will improve.

Problem Statement

Students and their parents receive assessment data each year, but that information is often difficult to understand or interpret, therefore students and their parents may not use the information or even consider it important. School systems should help students

and their parents understand the testing results and then help them set goals to increase the level of personal responsibility. Schools often set goals for the sake of improvement, but in the study-district, student goal setting was not part of the entire school system goal setting process. Middle school students at the study school used goal setting superficially or ignored it altogether; therefore, goal setting for school improvement did not involve the stakeholders most directly affected by improvement efforts.

Research Questions:

RQ_1: How does the goal setting process change the students' perceptions about their achievement as measured by post-to-pre-student questionnaire comparison?

RQ_2: Once the teacher taught students how to interpret their Aimsweb R-CBM and MAZE assessment data and establish individualized goals, what behavioral changes did the students choose to make to reach their goals as measured by post-to-pre-student questionnaire comparison?

Added RQ_3: How does informed student goal setting contribute to self-efficacy as measured by a self -efficacy pre and post- qualitative question? (To replace Null H_3.)

Null H_1: Student goal setting does not contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on Aimsweb and MAZE.

Null H_2: Student goal setting does not contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on Aimsweb and MAZE to the building grade-level post-to-pre score growth on Aimsweb and MAZE.

Null H_3: Student goal setting does not contribute to self-efficacy as measured by a pre and post- self -efficacy scale. (Due to the nature of this study and the time constraints of the treatment and concurrent curriculum expectations, the researcher did not apply the self-efficacy measure to the study. The researcher addressed student's self-efficacy through an added research question [R_3] and by evaluating the responses to the questionnaire.)

The Research Site

The proposed research site is a middle school in a suburban, county, municipal school district near a large Midwestern city in a seventh grade English Language Arts (ELA) classroom, with two and a half blocks of students. Each block class size is approximately 22-25 students and a heterogeneous mix of ethnicity, ability, and gender, however, socio-economic status is relatively homogeneous as evidenced in the demographic report from the district.

Student demographics. According to District/School Website (2016), the student demographics of the study site included: African-American – 39.4%; White – 35.9% ; Hispanic – 15.7%; Multi-racial – 6.7%; and Asian – 2.2%. The percentage of students eligible for free or reduced lunch was 81.1%.

Developing the Intervention

Recognizing the need of her own student population to have some autonomy over their own learning, the researcher looked at strategies used by other successful schools and individuals. Neighboring districts successfully used student goal setting as one strategy to improve student performance. The study district used goal setting effectively in most of its elementary schools. The researcher questioned how goal setting could

allow students to improve their academic self-efficacy beliefs and hopefully achievement. A unique aspect of the study was that the researcher taught the students how to read and interpret their own assessment data to use in their personal goals for academic improvement.

To begin, the researcher assessed students' knowledge of goal setting and their self-perceptions with a pre-treatment questionnaire (3.7 readability level, as assessed by Assistant Superintendent of Curriculum and Instruction in the study district) at the start of the school year (September). Then after the first data cycle (September) but before the second (January), the researcher taught students how to read, analyze, and interpret their standardized and curriculum based measure (CBM) assessment data reports. This treatment was not limited to the students in the study group, but part of the regular instructional routine. Throughout the course of the school year, the researcher trained all students to use the SMART goal process with regard to setting goals toward their own individualized data or learning needs and adaption of the teacher's learning goals. The students set their own SMART goals for mid-first quarter conferences (using the template the researcher created with another teacher, see Appendix A) and again before the January R-CBM and MAZE assessments (see Appendix E for goal setting page). At the transition points between quarters, the researcher asked the students informal goal setting questions in the form of bell-ringers. Prior to the end of the school year and before the last CBM assessment (May), students in the study group responded to questions asked by a neutral, third-party facilitator in a focus group. Finally, the researcher qualitatively assessed the students' perceptions post-treatment (end of May) and looked at their understanding of goal setting using the same questionnaire as the pre-treatment questions.

The researcher assessed the qualitative data in two ways: first by individual student responses and then question-by-question coding trends in the student responses. In the mixed-methods analysis, the researcher charted and analyzed the qualitative data about perceptions and the quantitative results on standardized and curriculum-based assessments for statistical significance with regard to growth and the treatment effect. The researcher compared quantitative data from the R-CBM and MAZE of the study group to the data from a control group of peers to assess achievement growth.

Data Collection and Analysis Procedures

All students in the researcher's classes took pre and post treatment questionnaires (3.7 read-ability level) that assessed their attitudes about goal setting, motivation, and self-efficacy. The researcher administered the pre-questionnaire in September and the post-questionnaire in May. The researcher reviewed the responses from all of the students but only analyzed and reported the information from the students in the treatment group for the study. The researcher administered an informal verbal assessment to the students about their perceptions of their proficiency level with regard to the Curriculum Based Assessment (CBM) data. The researcher did not record the data from those responses. The researcher used the R-CBM data because the student and class reports were readily available in the study district. The study district used the Curriculum -Based Measure (CBM) that Deno developed at the University of Minnesota through a federal contract and supported by more than 25 years of school-based research by the U.S. Department of Education. The study district used the standardized measure to allow teachers to systematically evaluate and monitor student progress. The district uses R-CBM data to place students in appropriate Tier 2 interventions to improve reading. The

R-CBM involves students reading three, one minute passages and teachers charting their words per minute and errors throughout three times over the year (fall/September, winter/January, and spring/May) (The study district also uses the math CBM to place students in math intervention groups). The district uses MAZE assessments to evaluate comprehension, whereby it assesses students' ability to select the appropriate word in a CLOZE reading test with a three-minute time limit.

To validate the questionnaire, the researcher modified the Motivated Strategies for Learning Questionnaire (MSLQ) inventory (Pintrich & DeGroot, 1990) to assess student's attitudes about the goal setting process.

Due to time constraints the researcher chose not to use scales for ranking goal attainment such as the *Goal Attainment Scaling* (GAS), a scale used for assessing occupational therapy goals for patients with mental disabilities and *The Arc's Self-Determination Scale,* which is a student self-report measure designed for adolescents with disabilities (Palmer & Wehmeyer, 2003), but these measures could be used as viable research analysis tools in further studies.

Periodic responses on bell-ringers asked the students to generate goals or evaluate their progress toward academic goals. Chapter Four details the results and attitudes prevalent in these responses and their anacdotal effect.

The researcher also kept a journal of anecdotal information throughout the process and individual records on the goal setting and feedback conferences held with individual students, this was part of the qualitative aspect of the research design. A data spreadsheet tracked the data from the various achievement measures. The researcher also noted number and frequency of student conferences anecdotally, but noted very few due

to the impact it had on the curriculum pacing. The researcher further noted data analysis or goal setting instances of whole or small group instruction.

Participants

The researcher used a convenience sampling of students from her English Language arts classes. The study school uses a computer program that randomly assigns students to specific classes. The researcher made permission consent and assent forms available to all students in all classes. The researcher selected the students who returned the required forms as participants in the study. Student goal setting was a protocol available for all students, but only the participants in the study had their attitudes, reflections, and assessments evaluated and analyzed for the purposes of this study. The students selected for the study were heterogeneous: an equal mixture of boys and girls, a demographic representative sampling of Hispanic, Caucasian, African-American, and mixed-race, but homogeneous in age, and most were of similar socio-economic statuses. Originally, 33 students were included in the study group, but due to three transfers to other schools of classes, the treatment group was 30 students. Even though students granted assent and parents granted consent, students could voluntarily withdraw their information at any point in the study.

The researcher also used a control group of similar students for comparative analysis. The control group was grade-level peers in the same school and was of similar demographics. To assure that the control group was most academically alike the students of the treatment group, the researcher numbered students on each of the groups' R-CMB data reports. The researcher then selected the 30 students for the control group, with the same corresponding number as the treatment groups' data reports. The control group did

not have the same goal setting process or interpretation of assessment data instruction. The researcher used statistical comparative analysis of the R-CBM and MAZE assessments from both treatment and control groups to attempt to isolate the variable affect that goal setting had on the treatment group's attitudes, behaviors, and achievement.

Mixed Method Triangulation

Triangulation was crucial in the design of this research project (see Appendix I). There were two qualitative aspects of the triangulation. Students completed a pre and post questionnaires that assessed personal beliefs about motivation, failure, success or accomplishments, and goal setting (see Appendix B). The researcher did not evaluate the questionnaires until after the post-questionnaire was completed. The researcher analyzed the questionnaires for trends within the questions and for the individual students. The other qualitative aspect was student responses to focus group questions. The focus group had pre-established questions but a neutral third party facilitated the questions and modified the questions based on the student responses (see Appendices C & D). The researcher prepared the students in the study group and reminded them that the facilitator was there to promote honesty and objectivity that was critical to the study. The researcher recorded the stream of questions and responses and once the school year ended, coded the responses for trends and correlation to the other data.

The instruction of the treatment spanned the school year. The researcher obtained qualitative information from bell-ringers that coincided with the transition times between quarters and assessments and asked students to set goals. The researcher used this qualitative data to calibrate student responses to the questionnaires and focus group

information to determine their goal orientation. The quantitative aspect of the triangulation, was the use and analysis of secondary data yielded from Aimsweb/R-CBM and MAZE (both tests prescribed by the study district and school). The researcher analyzed quantitative data to isolate the effectiveness of the goal-setting treatment variable.

Instructional Treatment Triangulation

The first tip of the instructional triangle was the researcher's introduction of the SMART goal setting process in mid-September. All students used the process to select and set goals for the completion of first quarter. The students used these goals as the conversation starter for parent conferences. The researcher was not able to retain copies of these conference goals for the study. The second tip of the triangle was the R-CBM and MAZE assessments students took in September as baseline data. Intervention groups were determined using CBM data. The students later used this information for goal setting for the January assessment. For the third tip of the instructional triangle, the researcher taught the students to read, interpret, and reflect upon their assessment data. Using the SMART goal setting process, assessment, data interpretation and reflection, instructional triangle the researcher guided the students to set goals throughout the rest of the school year. The researcher explicitly taught the prescribed SMART process twice, in September and January. The researcher informally assessed the students' use of the goal setting process by using bell-ringers at key transition times during rest of the school year.

Qualitative and Quantitative Validity

The Motivated Strategies for Learning Questionnaire (MSLQ) was designed and developed by a team of researchers for the National Center of Research and is a "self-report measure of student self-efficacy, intrinsic values, test anxiety, and self-regulation" (Pintrich & DeGroot, 1990, p. 33). The measure has been used to assess students' perceptions prior to and during research studies for over two decades. The MSLQ has 56 Likert Scale rated, empirically proven questions that have yielded quantifiable statistical information about students' motivational beliefs. The researcher used reformatted questions from the motivation and intrinsic portions of the MSLQ (no permission necessary) to create the questions for the study's questionnaire. The researcher modified focus group questions from The Good Character Website (http://www.GoodCharacter.com), which is a public domain site that allows educators to use their content without permission. By design, the researcher validated the information yielded from the questionnaires with responses from the focus group session. The researcher qualitatively analyzed and coded data from the pre and post questionnaires and focus group using open coding methods prescribed from the Fraenkel et al. (2012) text. The researcher formulated categories that classified the responses and used comparative qualitative descriptive analysis between the pre and post questionnaires. The researcher summarized pre and post questionnaire responses and then color-coded them on a researcher-created table. The researcher counted and descriptively reported the trends of the responses.

The researcher chose to use the data yielded from R-CBM/Aimsweb and MAZE assessments, first because of the convenience of the reports; the study school and district

already utilized the data, and secondly, because of the empirical validity and reliability of the measures. Stan Deno and his colleagues developed the procedures for Reading Curriculum-Based Measurement (R-CBM) "in the late 1970s and early 1980s, to enable teachers to systematically monitor and evaluate the effect of instruction on student performance" (Ardoin & Christ, 2009, p. 266). The research of Ticha et al. (2009) noted that R-CBM measures have over 30 years of research to support the technical adequacy. Merino and Ohmstede Beckman (2010) quoted previous research studies that examined the validity and reliability of CBMs, and other studies that use CBMs for predictability on standardize state assessments. R-CBM allowed the researcher to depict the student growth by plotting data over time. To assess the growth among students in the treatment group and between the control groups, the researcher applied ANOVA statistical analysis of variance *z*-test and paired *t*-test.

Summary

When individuals within a system develop targets and timelines themselves, and for themselves, they gain a sense of positive challenge, and degree of specificity that can help them focus their time and resources. As Bandura (2006) stated, "The stronger the students' perceived efficacy to manage their own learning, the higher their aspirations and accomplishments" (p. 11). It is the role of education to help students improve their self-development skills and gain a more realistic view of their self-efficacy, and guided goal setting can help to that aim. When students review targets and time lines as part of a natural learning cycle, they help the whole system focus on improvement (Conzemius & O'Neill, 2001, p. 107).

Chapter Four: Results

Introduction

The results of this research study concerned the application of the SMART goal setting process with middle school students with regard to their own assessment data and not about the goal setting process itself. Chapter Four explains the detailed results from pre and post questionnaires where the researcher assessed students' attitudes about goal setting and their beliefs about motivation, success, failure, and perseverance. The researcher reports the results from the pre and post questionnaires in a comparative analysis, which holistically looked at individual participant's attitudes and responses, and analytically captured the responses to each of the questions from the questionnaire. Furthermore, the researcher presents qualitative analysis of the responses to the questions from the focus group. The researcher discusses in detail the anecdotal data from the students' responses to bell-ringers. Finally, Chapter Four concludes with the quantitative analysis of R-CBM (Reading-Curriculum-Based Measure) and MAZE data and the researcher responded to the questions and hypotheses and the effect on achievement.

Research Questions:

RQ_1: How does the goal setting process change the students' perceptions about their achievement as measured by post-to-pre-student questionnaire comparison?

RQ_2: Once the teacher taught students how to interpret their Aimsweb R-CBM and MAZE assessment data and establish individualized goals, what behavioral changes did the students choose to make to reach their goals as measured by post-to-pre-student questionnaire comparison?

RQ_3: How does informed student goal setting contribute to self-efficacy as measured by a self -efficacy pre and post- qualitative question?

Null H_1: Student goal setting does not contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on Aimsweb and MAZE.

Null H_2: Student goal setting does not contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on Aimsweb and MAZE to the building grade-level post-to-pre score growth on Aimsweb and MAZE.

Qualitative Results

The pre and post-treatment questionnaires (see Appendix B) asked the same 14 questions and was completed by all students (if present) in the researcher's classes. Three of the students who began the year as part of the treatment group transferred: one to another school in the district, the other to a different school in the state, and the third to another class in the school. The researcher analyzed only the responses from the students in the treatment group for trends. Each of the questions were coded and analyzed and then compared pre to post. To begin the qualitative coding process, the researcher read each questionnaire's responses. After reading all of the questionnaires, the researcher read each of the responses question by question and identified trends in the responses. To analyze each question, the researcher summarized the students' responses, placed them on a grid-table, and then used open coding which allowed her to color-code the common trends (Fraenkel et al., 2012). The researcher used six colors to highlight the trends for each question and the colors depended on the substance of the question. However, all

purple coding indicated the response was missing, incomplete, or illegible and all pink coding indicated quotable responses and yellow typically coded goal related responses. The researcher explained the coded trend results in the following paragraphs.

The over-arching trend was that the post-questionnaire had more thorough and complete responses than the pre-questionnaire. One student (number 25) in the participant group did not complete either the pre or post-questionnaires; therefore, the researcher was unable to do a comparative analysis for this student. Student absences and time constraints contributed to incomplete pre and post-questionnaires.

Question 1: In the pre-questionnaire, 8.5 student responses indicated that academic success was 'getting good grades' and the post questionnaire nine students attributed academic success to grades. In the pre-questionnaire, 8.5 responses indicated understanding, learning, and success in school as their definition of success, while the post-questionnaire thirteen students referenced learning and understanding. The pre-questionnaire yielded five responses that indicated 'doing well in the future' was academic success, however, students indicated no similar responses on the post-questionnaire. The post-questionnaire yielded six responses that mentioned successful completion of goals as the definition of academic success. Student 7 indicated that academic success was 'you worked hard to get the success you want [Sic].' Student 12 defined academic success as, 'Good grades, setting goals and completing them, using what you learn outside of school.' Student 14 concurred, 'Achieving an academic goal or mastering [Sic].' Student 16 responded, 'Academic success to me is, achieving goals and expectations that you have planned [Sic].' These responses indicated a shift in thinking

that did not exist prior to the treatment of teaching the SMART goal setting process and relates to research question one and how the students' perceptions changed.

Question 2 pertained to experience with goal setting and in both pre and post-questionnaires: all respondents indicated a level of experience with goal setting. In the pre and post-questionnaires, student 14 noted, 'The process takes too long' and 'hate goal setting, never follow-through' [Sic]. The researcher concluded that this student had an unfavorable view of goal setting, but other than those responses, the researcher declared only two unfavorable responses in both questionnaires; all other responses indicated positive experiences with goal setting. The responses to this question do not indicate a change in behavior, especially with regard to goal setting. Both questionnaires indicated that students had previous elementary experience because several responses in some way stated that students had set goals every year in elementary school. Two responses indicated setting goals in sixth grade, which demonstrated the use of goal setting, was more predominant in elementary schools.

Question 3 asked for an explanation of personal goal setting. If the question was answered, all respondents indicated setting goals in both pre and post-questionnaires. The pre-questionnaire revealed twelve responses related to setting goals at school, but the post-questionnaire indicated 17 school-related responses, which indicated a change in behavior. The post-questionnaire indicated two negative responses pertaining to 'follow-through.' Other affirmative responses in the pre and post-questionnaires did not explain where the goals were set, but of those unexplained, four respondents indicated that they set goals: 'every day,' 'all the time,' or 'whenever I need something.' Participant 23 responded with this relevant quote from the post-questionnaire: 'I've set goals in and out

of school. I set them for reading and sports I've played and for my personality.' These responses indicated a high-level of goal setting usage and slight behavioral shift, which addresses research question two because more students indicated that they use goals.

Question 4 asked what the participants did if they failed at something. The majority (pre: 24 and post: 21) indicated that they 'keep trying,' which spoke to the students' level of perseverance. There was a decrease from pre to post in the number of negative responses, from five to three. Two of the negative responses came for the same students (8 & 14), and number 4 indicated 'nothing' in the pre-questionnaire but 'get mad' in the post-questionnaire. The other students' responses indicated that failure was not an option for the majority of the research group, which echoed the perceptions of adolescence of Eccles and Midgley (1989), that middle students are highly capable of achievement when motivated. The responses to this question indirectly answered research question three, because the responses that indicated 'keep trying' were so prevalent, one would judge these adolescents to have high self-efficacy beliefs.

The researcher found responses for question 5 revealed unexpected student perceptions about why some people succeed and others do not. It is important to note that many of the responses only indicated a single reason without the comparison that the question asked. The pre-questionnaire revealed that seventeen students thought achievement was based on trying, motivation, or working hard, but that number significantly reduced to ten in the post-questionnaire. Eight students claimed support from others helped in the pre-questionnaire, while only five said support was a factor in the post-questionnaire. The quoted responses from four of the students revealed growth in understanding between the pre and post treatment. Student 3 in the pre-questionnaire

stated: ‘What helps people achieve their goals is having a plan and keeping themselves reminded of that goal and/or plan.’ In addition, in the post-questionnaire response wrote: ‘People that achieve their goals simply don’t give up; those who don’t give their best effort or dedicate themselves [Sic].’ Students 22 and 23 both looked at how people view their achievement, or lack of achievement as a means of improvement: ‘Looking at other people’s goals may help some people and not others.’ While student 29 demonstrated great insight with this statement, ‘I think that if you keep pushing yourself to achieve your goal and if others don’t achieve their goals they might not have confidence [Sic].’ These student responses addressed research questions one and three because their perceptions about success and failure were directly linked to self-efficacy.

Like question 4, question 6 asked about failure, specifically: Is it failure if you do not accomplish your goal? In both pre and post-questionnaires the overwhelming majority of responses indicated ‘No’ (21 and 23 respectively), with sound reasoning to support the response, namely, ‘It is only failure if you haven’t tried enough,’ ‘You can always try again,’ ‘You can learn from your failure.’ Only two respondents in each questionnaire responded with yes, (students 14 & 22 in the pre, and students 4 & 5 in the post). The majority of their views supported that as long as the person is trying their hardest it is not a failure; ‘only giving up is failure.’ This again spoke to the perceptions addressed by research questions one and three, but the responses did not indicate any change in perception from pre to post treatment.

Question 7 posed the greatest difficulty to the students. Although the researcher checked the read-ability level with a district specialist and determined the level to be 3.7, in the pre-questionnaire nineteen students did not respond or indicated ‘I Don’t Know,’

students 23 and 25 did not complete the pre-questionnaire. In the post-questionnaire only six responses were missing with one of those being 'IDK.' Students 1, 2, and 25 did not complete the post-questionnaire at all and this accounted for three of the incomplete responses. Twelve of the pre-questionnaire responses indicated that 'practicing, working hard, or trying' were the ways to mastery; the only outlier was 'take your time.' The post-questionnaire responses differed with eight respondents indicating: 'try or practice.' The most significant change between pre and post-questionnaire was 11 students indicated: 'set goals,' and student 9 replied, 'S.M.A.R.T.' Comparatively, no responses mentioned goal setting for mastery in the pre-questionnaire. These responses indicated that at least nine of the students in the treatment group understood that goal setting was linked to mastery, which indicated a positive goal related shift in thinking and addressed research question one.

Question 8 directly answered research question two and was concerned with motivation but was the most confounding to code. The information from these responses helped to determine the goal-orientation for each of the students in the treatment group. The researcher used the three goal orientations proposed by Chappuis (2015): learning goal orientation (students think about getting better at whatever they are learning), performance or ego goal orientation (students seeks to prove their ability or hide their inability), and task completion orientation (students focus on getting it done or getting a grade). The researcher noted the pre-questionnaire goal orientations first and the post-questionnaire determined goal orientations second. According to the descriptions from Chappuis (2015), the researcher matched the description of the goal orientation with the

motivation responses and loosely classified the orientations of the 30 students in the study group.

Nine students responded with learning oriented motivations. The responses: 'My thought of success and pride' and 'to do the best I can' indicated a more learning focus. Thirteen students seemed to have performance orientations. Their responses typically were concerned with 'support from people' that motivated them, giving the impression they were doing the performance to please or prove. A key example of this was the statement from student 14: 'Trying to prove that I am better and smarter than my sisters [Sic].' The researcher classified only one response as task/ego goal oriented because it stated, 'How reachable the goal is motivates me, and influences my success.' As previously stated, these responses were difficult to code and classify, which was largely due to the cryptic nature of the responses. The knowledge the research had of the students also posed a challenge because the daily exchanges between teacher and student did not always align with the motivations indicated on the questionnaire.

The post-questionnaire responses indicated a decline of learning goal orientation, with seven respondents indicating internal, learning motivations, but a marked increase in performance goal orientations, that the researcher classified as such due to the mention of support from family or friends. This number increased to 17, an increase from 13 from the pre-questionnaire. The researcher classified two responses as task/ego orientation; one of the responses came from student 4 who had not completed question 8 on the pre-questionnaire. The other response came from student 19, who indicated the motivator was 'passing seventh grade.' It is important to note that this student had a turbulent year, with a long-term suspension and numerous discipline referrals, which may have

accounted for the change in orientation. Another interesting change in orientation from pre to post came in student 21 who the researcher originally classified as task oriented, was learning oriented. The classification came due to the response, 'My determination motivates me and getting to college.' To demonstrate the ambiguous nature of this classification, it is important to note the response of student 9, this student did not respond to question eight in the pre-questionnaire, but responded to what motivates you? With this response, 'me or my parents [Sic].' As stated in the literature review, adolescent brains are still developing and understanding motivations and meta-cognitive processes are still in developmental stages (Roaten & Roaten, 2012). Therefore, it is difficult to understand adolescent motivations from one moment to the next. Question 8 garnered some insight to research question two but further research is needed to determine how adolescent motivations influence goal orientations.

Question 9 asked who most influences your success or failure. The researcher classified the responses to this question as internal, external, skill, or other, and there were some overlapping classifications due to multiple answers within one response. In the pre-questionnaire, 12 students responded with statements that were internally or skill-based influences. These students thought they themselves influenced their success or failure, while 13 students stated that other people or external forces influenced their success or failure. In the post-questionnaire, there was a remarkable increase in indication of external influence, with twenty students remarking that others influence their success or failure. Only six responses indicated their own personal influence over their success or failure. Even though this indicates a shift to more external motivation, 16 students indicated parents/family as influential, while indicating friends in just five

overlapping responses. Students also indicated that teachers were influential in three of the 30 responses. The responses demonstrated the influence that parents, family, friends, and even teachers have on adolescent achievement.

Question 10 was concerned with future use of goal setting. The researcher classified the pre-questionnaire responses into three categories: 1.) Yes, goal setting would be used to succeed, 2.) No, goal setting would not be used, and 3.) Maybe/depends. There were 17 yes responses, four no responses, and two maybe responses. Four respondents indicated they would not use goal setting for these reasons: 'doesn't help, but other things do,' 'I like trying myself,' 'I am a fast-paced learner, and it takes too long,' 'I would only worry about the goal.' The researcher concluded that those are valid reasons for not using goal setting. Coincidentally, students 5, 11, 14, and 18 had other negative responses in their questionnaires and were all classified as either performance or task goal oriented. The post-questionnaire showed similar results, 21 students wrote they would use goal setting, while only three students (5, 14, & 16) indicated they would not, and student 21 indicated 'sometimes.' Students 5 indicated, 'Goal setting doesn't work' and students 14 and 16 indicated that they 'do not follow-through.' Student 11 who indicated, 'would not use goal setting, because I like trying myself' in the pre-questionnaire, stated, 'Yes, would use goal setting because it helps' in the post-questionnaire. The overwhelming affirmative responses confirmed that students would use goal-setting processes to help them succeed and indicated a predicted behavioral shift.

Question 11 asked the students, what is the difference between a wish and a goal? If the question was answered (eight incomplete in the pre and five in the post), the

responses in both the pre and post-questionnaires indicated that all of the students understood the difference between a wish and a goal. This question had no bearing on the research questions, but yielded interesting responses: student 11 wrote in the pre-questionnaire, 'Wish: something you try to get. Goal: something you work hard to finish.' Student 17 wrote, 'A wish is something you want to happen. A goal is something you can make happen.' Student 3 defined the difference the best, 'A wish is something you just want, while a goal is something you want and will work to achieve.' Student 12 wrote the following response to the post-questionnaire, 'A wish is something you want to happen but you don't plan out the path to achieve it. A goal is something you want to happen and you try your best to succeed at it.' Interestingly, student 14 (who denied using goals) wrote, 'A wish is a dream your heart makes; a goal is an achievable dream.' These profound definitions are similar to those of all the respondents, affirming that the students in the treatment group all understood the nature of a goal.

Question 12 pertained to how students felt when they accomplished something, which had some bearing on research question three about self-efficacy. In the pre-questionnaire, the students responded: one was excited, three felt accomplished or successful, seven felt happy, seven proud, and eight wrote 'good.' The researcher could not categorize seven responses because they varied from, 'motivated and encouraged, to relieved and surprised. Student 14 explained, 'I am one step closer to beating my sisters and pleasing my parents,' again demonstrating the performance goal orientation. There was overlap in the coding due to multiple answers within the same response; for example student 21 stated, 'I feel good and willing to set another one [goal].' In the post-questionnaire, eight students responded with good or great; this indicated

accomplishments had greater value than when they responded to the pre-questionnaire. Eight responses indicated feeling ‘happy’ and seven students reported feeling ‘proud.’ Four students reported feeling successful or accomplished. Again, overlap existed, but there were truly unique and explicit responses like, student 3’s response, ‘When I accomplish something, I feel refreshed and reassured. I also feel motivated to accomplish more.’ Student 15 described accomplishment as, ‘The best feeling ever.’ Other outlier responses ranged from ‘honorable,’ ‘amazing,’ and ‘excited,’ to ‘less stressed.’ Clearly positive feelings abound when the students in the treatment group accomplish something.

Question 13 truly delineated the difference between pre-questionnaire and post-questionnaire responses and characterized a behavioral or perception shift. It asked, could you describe a goal setting process? There were 12 incomplete or missing responses to this question in the pre-questionnaire, two who indicated ‘no or not really’ and a response that did not make sense to the question. There were 16 responses with some explanation of a goal setting process, but of those, none specifically mentioned the SMART goal setting process. Student 3 wrote, ‘The process is pretty simple: make a plan and stick with it and revise your plan if necessary.’ Student 6 wrote, ‘Finding something that you wanna accomplish in life and going for it [Sic].’ Student 10 wrote, ‘It is hard to do it but if you work hard it will come and you can do it [Sic].’ All of these quoted responses are indicative of the generic responses about the goal setting process as noted in the pre-questionnaire. The definitive growth due to the treatment was evident in the responses in the post-questionnaire when seven students explicitly mentioned SMART or explained the SMART goal setting process. Student 3, previously quoted,

originally displayed vague understanding, and later demonstrated growth because of this response in the post questionnaire, 'S-Specific, M-Measurable, A-Achievable, R-Relevant, and T-Timely.' However, there was not total understanding; there were five missing or incomplete responses to this question and three responses that claimed they could not or it was hard to describe the goal setting process. Eight responses were vague, with responses, 'it's easy,' 'do good, try hard, never give up.' Somewhat vague but emerging understanding was evident in the seven responses that mentioned, 'steps,' 'plan,' or 'goal.' As with adolescents themselves, there was varying degrees of understanding and development. The researcher overtly taught the goal setting process but there were clear delineations of understanding among the study group students.

The researcher gained the most insight about the students in the study group from their responses to question 14. This question asked what part goal setting played in anything they had accomplished. The researcher used the responses from this question to help answer research question one. All of the student responses were believed to be honest, but ranged from cryptic to explicit in both the pre and post-questionnaires. Comparatively, there were 12 unanswered or 'I don't know' responses in the pre-questionnaire, to six in the post-questionnaire. There was only one non-favorable response in the pre verses the post-questionnaire which had four, stated as, 'nothing,' absolutely nothing,' 'not a big role, because I don't set many goals.' The researcher concluded that students better understood the goal setting process and could more effectively evaluate it. These non-favorable responses did explain that these four students did not believe that goal setting played any part in their accomplishments. However, 20 students responded with some level of goal setting contributing to

accomplishments in the pre and post-questionnaires. Some students stated specific ways that goal setting had helped. For instance, student 14 used goal setting to be able to go to the Six Flags good citizenship field trip and student 30 used goals to play video games, (Newman , 2012). Students 10, 13, and 18 used goal setting for sports and student 12 for playing the violin, which indicated generalized goal setting. In the pre-questionnaire, six different responses claimed that goal setting 'played a big part' or was 'everything.' The post-questionnaire explanations were more explicit; ten responses mentioned school related accomplishments and six more mentioned the SMART process specifically. The treatment group's responses indicated a 90% favorable view of goal setting in the pre-questionnaire and an 83.3% favorable view in the post-questionnaire. The researcher concluded that the majority of students in the treatment group see goal setting as having a positive impact on accomplishments in either their academic or athletic lives. The favorable opinion of goal setting is best-summarized using student 12's words, 'When I want to accomplish something, I set a goal, and if I don't have goal for something I've accomplished, I try to set a goal to do better on that subject.' The questionnaire responses provided insight about the goal setting process, but more importantly, about the adolescent learner, which the researcher elaborated on in Chapter Five.

The focus group occurred on May 12, 2016. The researcher emailed the study school staff the list of treatment group participants and wrote each student a pass excusing him or her from class. Coincidentally, many of the students in the treatment group were also members of band, orchestra, or choir and had an all-group rehearsal that day. This coincidence may have lessened interest in focus group participation; however, this did not pose a threat to validity of the study because of the quality of responses from

those who participated. Twenty-nine students attended; student 1 decided not to participate, student 5 was absent, but student 32 who had transferred classes participated. The researcher placed video camera to allow visibility of the most participants and placed the audio microphone in the center of the group. To facilitate coding, the researcher and the facilitator reminded the students to state their name when answering questions. The facilitator also said the names of the students as they answered, but the reported data obscured the students' identities by using numbers. The participants sat in an oval; the facilitator was on camera but not the center of attention. The camera angle obscured five students from view. However, the audio captured all students who spoke loudly enough. Two students were late but arrived in time to participate. The facilitator opened the session with: In the future, what career or occupation do you want to do? This question required a response from each person, even if that response was, 'I don't know.' Of the 28 participants who arrived promptly, eight stated, 'I don't know' (student 16 later divulged her career aspiration), one was inaudible, and the other 19 all had career aspirations. After the career question was complete, the facilitator once again reminded students to speak loudly. He later stated that this might have inhibited some students from speaking. The first question about career goals was the only question that required everyone to speak; otherwise, the students could choose to respond. The video demonstrated that overall the group was highly attentive and respectful, of the facilitator and each other. The students used active listening skills, making eye contact, nodding affirmatively, and using other non-verbal indicators to demonstrate attentiveness. However, of the eventual 29 participants, eight (7, 11, 13, 20, 22, 24, 25, & 29) chose to say nothing at all, during the entire hour. One of the two students (4) who arrived late

only spoke because the facilitator called on him. Eight students (12, 14, 16, 17, 18, 21, 23, & 26) carried the majority of the discussion, and 12 others (2, 3, 6, 8, 9, 10, 15, 19, 27, 28, 30, & 32) contributed to the discussion one or two times during the hour. All of the participants remained seated except for one (32), who asked permission to leave but returned after about 10 minutes.

The facilitator chose to use only two questions from the prepared list in their original form: What is the difference between a wish and a goal? (This question also appeared on the questionnaires.) Do you ever set goals for yourself? Instead, the facilitator used his previous experience conducting focus groups to ask and elicit responses. To begin, the facilitator reminded the students the purpose of the focus group was to gain insight into 'what they think and how they think.' He also reminded them, 'There were no right answers, and nothing they said would be considered stupid.' The off-script questions he asked are in Figure 2, Appendix D in the order he asked them. The researcher transcribed the proceedings of the focus group question and response session. The handwritten transcription was lengthy, so the researcher chose to summarize only the results of the study-relevant responses. The researcher quoted some of the study-pertinent responses exactly, so some errors in grammar exist.

Students in the focus group recognized the need for a plan to prepare for their future careers. Their responses included, 'Start now,' 'Start taking classes that relate to your career,' which demonstrated as Newman (2012) concluded, students are natural goal setters.

In trying to develop good study habits, the study school gives students a planner at the beginning of the year and they are encouraged to use it. With the exception of two

students, every other student in the study group indicated the use of their calendar/planner. However, only a few students indicated that they use the planner for both school/academic and social tasks. Students could define 'goal' and were articulate about their explanation between and goal and a wish (similar to their responses on the questionnaires), and clearly understood and explained how a wish could become a goal: 'Plan!' The students' explanations fluctuated as they described how they balanced academic expectations and goals with social activities. Student 28 indicated, 'I get the academic stuff done before the social if it is on the same day.' This response met a series of moans from her peers, indicating their disagreement. Student 28 did not speak again. Student 14, who previously indicated pessimism about goal setting, stated the opposite, 'I don't know why, but I wait until the last minute to do math homework, sometimes even in the cafeteria in the morning.' Many of her peers concurred.

Two students commented on question 16: 'How much of the goals you set are on your own, or how much is for an assignment?' Students 16 and 26 carried the majority of the conversation, both identified trying to set goals independently, but friends were their support system. A follow-up question about what 'gets in the way' prompted student 3's profound response, 'Doubts. Doubts are the opposite of self-confidence; it is when you put yourself down, instead of reassuring yourself.' Student 9 concurred when he stated, 'Yourself: you have a goal that you want but *you* have to make sure you are doing the steps to get that goal.' Other derailing factors included 'time and drama.' Rader, (2005) detailed the link between goal setting, performance, and self-esteem.

Lengthy, elaborate responses from students 12, 14, 18, and 21 followed the overwhelming, 'Yes' answers of others, when the facilitator asked students if they could

be anything they wanted. Only student 14 responded, 'No! Sometimes it just doesn't happen. Like say, things don't go your way, things come up, and sometimes you want to do something, like say, become a gymnast but your mother becomes sick and you have to take care of her. You can't do some things because other things come up.

Student 12 said, 'I want to add on to student 14; you can do anything as long as you strive for it. Sometimes things don't work out and you have to settle for something else because things do come up.' She then related a personal anecdote about her dad. Students 18 and 21 conveyed similar stories where things happened. To follow, the facilitator said, 'Student 3 talked about confidence, although she talked about lack of confidence: doubt. So how do those things play into one another?' Student 17 said, 'If things don't work out the way, like student 21 said, that could really bring down your self-esteem and your confidence, and even though you keep trying and trying, you want to just quit and stop doing it.' This response was concurrent with Rader (2005) who explained the perceived link between goal setting, performance and self-esteem. Both the previous response and the next question's responses concerned efficacy in a tangential way. Student 12 said, 'Sometimes if I were to have a goal and I share it with somebody; they would tell me I wouldn't be able to do it because it seems too advanced for someone my age; that kind of affects my perspective on whether I can do it or not.' Student 14 snickered when she said, 'I like when people tell me I can't do stuff because it makes me try harder to prove them wrong and it feels good when I do prove them wrong.'

Likewise, student 23 stated, 'When people say I can't do anything; I try harder to do it, to accomplish it.' Showing tenacity, student 21 mumbled but then became louder, 'When people repeatedly tell me I can't do something; I strive harder and tell them, it's

not their goal, it's my goal that I want to achieve. So they can't tell me what I will strive to do.'

The facilitator asked, 'How do you feel you are at setting goals; do you feel you are good at setting goals?' This question was very similar to the preplanned questions, addressed self-efficacy directly, and addressed the Zimmerman (2008) supposition that adolescents are bad at goal setting. The participants both nodded affirmatively and shook their heads negatively in equal measure. Student 18's response was off topic but demonstrated that she believed she was good at setting goals, but students 16 and 26 had different reasons for thinking they were not good at goal setting. Student 26 said, 'I am decent at setting the goals, but following through, not so good.' While student 16 claimed, 'I'm bad at writing and achieving goals because I write the same thing and spend most of the time on the study and forget about the goal.' Which led to this follow-up question: 'When you are being asked to set goals, is that effective for you or are you just going through the motions so somebody will get off your case?' The researcher found the next four student responses enlightening, and discussed further in Chapter Five. Student 23 responded, 'Whenever the teachers tell us to set goals; it's harder to follow through with them because it's kind of like you just have to do it for an assignment and you have to do it and turn in the paper.' Student 14 concurred, 'I think we just forget about them after a while, unless the teachers make us do it.' Student 18 replied, 'We think they'll be disappointed if we don't do it right.' Most telling was this response from student 26, 'We take a lot of standardized tests, where you have to read a passage in a certain amount of time. I personally write my goals, but I never try to achieve them.' No students offered descending opinions.

The next statement, not phrased as a question, prompted a flood of reaction: 'During one of these assignments and you set a goal and you follow it up and accomplish that goal.' Three hands shot up immediately, student 21 sets goals for math tests and most of the time reaches her goals. Student 17 shared a detailed math-related anecdote about raising her math grade by setting a goal, but later admitted that she did not share that goal with her parents. Student 16, like student 17, claimed to be 'bad at math,' but also said, 'I am getting slightly better because I actually made a goal to actually go to after school math help and then that's why it actually went to a B because I actually took action on it instead of saying I'm going to and then I don't.'

The facilitator masterfully followed with, 'I'm going to ask a brave question, for those of you who have done the assignment, but have never followed up on a goal, why not?' Murmurs abounded, but five participants bravely responded. Student 14, ''Cause I forget,' and student 26 concurred. Student 15 quietly replied, 'Pretty much not really a goal I set for myself when I do an assignment because the goal it's pretty much for each teacher; but when I set a personal goal, I will strive on that goal and will follow up.' This response directly correlates with the literature review (Bandura, 2006; Brandt & Tyler 2011; Marzano et al. 2001; McDevitt et al., 2008, Sullo, 2007; Wormeli, 2001), and resonated with many other participants in the group. Student 23 articulated, 'I've achieved goals that I've set in class, but every time we set goals I feel like I just have to turn in that goal. Like student 15 said, it's not really a personal goal, just kind of like what the teachers want us to do, so it's kind of hard to set a personal goal.

Student 21 added that the goals written in class are sudden and she would like more time to think about them. Marzano (2001) reiterated that teachers' instructional goals should

allow the student to generalize and create their own goals. Without the sense of personal commitment, students can become bored, and unmotivated or dependent upon extrinsic motivators (Bandura, 2006). The researcher gleaned knowledge from the student comments that enriched the study but also resonated with her teaching, which she elaborated in Chapter Five.

One purpose of this study was to determine any behavioral changes due to the goal setting process and the next few questions and commensurate responses demonstrated behavioral shifts, but not in the predicted way. The students understood the goal setting assignment, but saw it as just that, an assignment. They clearly kept their personal/social activity goals separate and the majority did not share them with their parents or generalize the use of the calendar/ planner. When asked, 'Has the assignment affected your personal goal setting habits?' Students 12 and 21 gave elaborate detailed responses that when summarized indicated that the SMART goal process interfered with their personal goals, either because they try to make it like the school SMART goal or because they have to push their personal goal aside to focus on the school goal. In the follow-up question (29, see Appendix D), student 12 reiterated the previous sentiments with this honest reply,

> Normally when I set a goal in school that day when I set it, I come home and think about things I could do to succeed in that goal and kind of just set that aside. I try to come up with my own personal goals and then I focus on my personal goals instead of my academic goals. I mean occasionally I succeed in my academic goals but don't all the time, because I put my personal goals first.

Student 6 agreed, she writes her goal that day and never thinks about it again (Schunk & Meece, 2006). School experiences help shape adolescents' self-efficacy beliefs and the researcher has detailed reaction and reflection about these statements in Chapter Five.

The last part of the discussion focused on parents and their influence or participation in the goal setting process. Students 18 and 16 both indicated that they would share their goals with their moms but it was complicated and either, as in the case of student 18, 'she was too busy,' or student 16's, 'mom was confused and did not know how to help.' The students indicated they share goals with their parents but mostly either when the teacher tells them to or for conferences. When asked why some of them did not share their goals with their parents, the responses varied, but most enlightening was student 3's response, 'I'm scared to tell my parents my goals because they'll make it like my top priority and hound me about it.' Student 26 agreed, 'I'm kind of like student 3, I'm kind of scared to tell my parents because sometimes they freak out…they would just push that goal toward me and make it my top priority.' Most honest was this response from student 2, 'I don't really tell them my goals because, then they'll think I'll actually be able to do them and sometimes I don't really succeed in them and they think I am.' These responses indicated that parents have a huge role in the success or failure of goals, but according to the students, they would rather the parents were uninformed. It was interesting that the students who preferred not to share their goals with their parents did have an alternative support structure: older siblings or friends, which correlated to the information from the questionnaires.

The researcher and the focus group facilitator debriefed afterward; the researcher explained those reflections and revelations in Chapter Five.

Student Goals

On days when a substitute was necessary, the researcher wrote the students a letter that outlined the plans and learning targets for the day. The researcher asked students to write a goal for their day. The researcher qualitatively evaluated anecdotal goals from November 18 (prior to the detailed SMART goal instructional treatment). For 21 of the study group students these were the results: one blank (4), one (11) wrote, 'Be happy,' 13 responded with task oriented (get work done) goals, and six students wrote goals about 'good behavior.' Additionally, three bell-ringers throughout the school year captured student goals: January 4, Write a goal for yourself for third quarter; March 10, What are your goals for the end of the school year?; and April 4, Write a goal for ELA for the remainder of fourth quarter.

The researcher used the same color coding method for the bell-ringer goals as she did for the questionnaires and focus group. Because the bell-ringers were assignments, overall, there were fewer incomplete questions, but of the three bell-ringers, there were nine incomplete responses out of the potential 90. The researcher coded all three bell-ringers by type of goal: grade, behavior, task/work, learning, or unspecific/social/affective. The quality of the goals improved in specificity over time, with a marked improvement from the first (January 4) to the second (March 10) goals. The overwhelming majority of the goals were grade oriented and when coupled with task/work oriented goals, 80% of the goals were achievement oriented. Eleven of the 81 goals written were learning oriented, with five written specifically for language arts learning, for example, 'learn to cite resources for proposal writing' and 'improve confidence when reading.'

Table 1

Student Goals Between R-CBM and MAZE

1. Missing (long-term absence)
2. I will improve my R-CBM score by 56 points at the Jan. 12 test. (114 to 170 pts.)
3. I want to improve by 10 Lexile points (200 to 210) for my winter RCBM test on 1/12/16.
4. try harder *
5. I will improve my R-CBM score on the January test by 20 points (current 210, want to get to top)
6. I want to improve my R-CBM score from 196 pints to 220 points or higher
7. I want to go higher next time I take the Aimsweb. (get 10 points)
8. I will improve my R-CBM score by 16 points at the Jan. 12 test. (154 to 170 pts.)
9. I will improve my R-CBM score on the January test by 40 points. (132 pts. to 176 pts.)
10. I will get in the average. (70 to 120 more 70)
11. I will improve my R-CBM score on the Jan. test by 25 pts. (10 points to raise to 150)
12. I will improve my R-CBM score on the January test by 15 points (score is 176)
13. I will improve my R-CBM score by 20 to 30 points at the Jan. 12, 2016 (advance at least 15 pts)
14. I will improve my R-CBM score on the January test by 25 points (185 to 210)
15. Missing (long-term absence)
16. I will improve my R-CBM score on the January test by 30 points (180 to 210)
17. I will improve my R-CBM score on the January test by 25 points (200 to 225)
18. I will improve my R-CBM goal is to go into average (132 to 152)
19. I would like to get a C in ELA**
20. I would like to get 15 more Lexile points by the R-CBM in winter (765 to 780)
21. I want to move up 10 Lexile points (1170 to 1180)
22. I want to improve my reading score from 118 to 150 (32 points)
23. I will improve my R-CBM score of the January test by 25. (current 193, want to get 218)
24. I want to improve my R-CBM score for the next one. (avg. to above avg. 118-179)
25. I will increase my level on RCBM and Maze (I will reach 820)
26. I will improve my R-CBM score on the January test by 20 points (highest was 168, want to improve to 188 or higher)
27. I will improve my R-CBM score by at least 6 points by Jan. 12, 2016 (198-220)
28. I want to reach in the above average in R-CBM and MAZE (40 pts. better)
29. I want to get a higher score on the Aimsweb. From 980 to 1,000
30. My goal for Aimsweb (R-CBM) score by 20 points to get to 200 points.

Note. *Indicates one student did not understand the SMART goal setting process. Parentheses indicate the measurable aspect of the goal that was missing from the student's goal statement but included on the SMART goal form.
**Goal not related to the assessment data report.

There were examples of goals that overlapped in classification, for example, ‘improve grades and be happier,’ which contributed to the social/affective/non-specific and grades tallied outcomes. However, it was interesting to note that there were zero non-specific/affective goals on the April 4 bell-ringer for language arts content only; content specificity improved goal specificity. The bell-ringer goals led the researcher to some interesting conclusions that she further discussed in Chapter Five.

The goals the students wrote between R-CBM and MAZE assessments one and two have direct bearing on changes in behavior and perception. All but one*, of the directly quoted goals, demonstrated understanding of the SMART goal setting process.

Table 2 is the researcher’s interpretation of the students’ goals and the results after the testing episode.

The students’ goals in Table 1 and the corresponding notes of interpretation and results in Table 2 showed that eight out of the 30 study group participants, not only did not meet their goal, but also decreased their score. Of the 22 students who increased their R-CBM scores, seven met or exceeded their goal, 12 did not meet their written goal, and two students were close to their goal. Three of the goals were about improving reading Lexile levels (a component of the data report), all three of those students increased their R-CBM scores, but the adjusted Lexile level was not available. Further quantifiable statistical ANOVA, *z*-test, revealed there was no significant gain between R-CBM tests one and two. The researcher discussed this result further in Chapter Five.

Table 2

Students' Goals and Results

	Researcher interpretation and assessments:	
1)	missing (many assignments incomplete)	17
2)	ambitious goal of 56 pts., gain of 10, goal not met	10
3)	Lexile: 1270 (above 8th grade) improved already high Lexile	46
4)	did not adequately write goal, discussed at conferences, 2 pt. gain	2
5)	Did not reach goal and decrease in score	-14
6)	Did not reach goal and decrease in score	-12
7)	not specific, increase in score	11
8)	goal to increase, but decrease of 14 points	-14
9)	ambitious goal of 40 points, gain of 11	11
10)	improved by 31 points, not 50	31
11)	Met and exceeded goal of 25 pts.	38
12)	goal of 15, gain of 7	7
13)	ambiguous goal, did not meet, decrease in score	-4
14)	goal of 25, gain of 15	15
15)	no goal, decrease of 27 points (in the wrong class, improved once moved	-27
16)	goal of 30, almost reached with 27 pt. increase	27
17)	goal of 25, almost reached with gain of 14	14
18)	General goal about proficiency level; decrease of 6 pts.	-6
19)	general ELA goal, no data (out of school)	
20)	goal about Lexile, slight increase in R-CBM, did not impact Lexile	15
21)	goal about Lexile, 1 pt. increase in R-CBM, did not impact Lexile	1
22)	Met & exceeded goal of 32 pts.	41
23)	goal was 25 pts., increase of 5	5
24)	ambitious goal of 61 points, gain of 5	5
25)	goal refers to Lexile, increased score of 22 pts., little impact on Lexile	22
26)	Goal of 20 pts.; decrease of 5 pts.	-5
27)	goal of 6 pts., met & exceeded	22
28)	Ambitious goal of 40 pts., not met, increase of 2 pts.	2
29)	goal refers to Lexile, increase of 19 pts, slight impact to Lexile	19
30)	Goal of 20 pts. goal not met, decrease of 10 pts.	-10

Research Questions

RQ$_1$: How does the goal setting process change the students' perceptions about their achievement as measured by post-to-pre-student questionnaire comparison?

When asked how they felt when they accomplished something, responses to the pre-questionnaire were generic, 'good,' but in the post-questionnaire, the responses were more explanatory, 'excited, accomplished, successful, and proud.' A telling response from the post-questionnaire: 'refreshed, reassured, and motivated to accomplish more,' exemplified the attitudinal shift that deepen, included more emotion, and positive feelings from pre to post questionnaire.

RQ$_2$: Once the teacher taught students how to interpret their Aimsweb R-CBM and MAZE assessment data and establish individualized goals, what behavioral changes did the students choose to make to reach their goals as measured by post-to-pre-student questionnaire comparison?

One of the trends that emerged from the questionnaire data was that students better understood the SMART goal setting process. In the focus group, many students admitted using the process for 'the assignment,' but few actually acknowledged using the process for personal goals or on their own when goal setting was not part of the assignment. Students in the study group did realize the purpose of goal setting for testing and many found it beneficial, but did not generalize the process to other settings. A positive trend emerged in student perseverance that was evident in both the pre and post questionnaires; students in the study group 'keep trying' when faced with failure, there were only three negative responses to question 4 in the post questionnaire about failure as

compared to six in the pre-questionnaire. Goal setting may have affected their attitude about perseverance.

RQ_3: How does informed student goal setting contribute to self-efficacy as measured by a self -efficacy pre and post- qualitative question?

Alispahic (2013) stated that self-efficacy had direct influence on performance, as well as the difficulty level of the goal chosen/accepted, the commitment to goals, the response to negative feedback or failure, and the choice of task strategies. The majority of the responses on the post-questionnaire indicated that trying again is the preferred strategy when faced with failure. Twenty-one of the 27 respondents mentioned, 'try again,' 'keep trying' which slightly decreased from 24 'try again' responses in the pre-questionnaire; the number of responses that indicated 'learn from mistakes,' 'set a goal to improve,' increased to seven responses from three, which accounted for the difference. Question six asked, when you do not accomplish your goal is that a failure? The majority of responses were 'no,' which further exemplified the study group's self-efficacy perceptional shift. Even though the difficulty of the goal chosen as an efficacy measure was not part of the questionnaires, the researcher found evidence of the goal difficulty levels in the goals the students wrote (see Table 1). Twenty students wrote quantifiable goals for improvement on the R-CBM, the amount of goal-expected increase ranged from 61 to 6 points, with an average increase of 27 score points for the group. Four students wrote goals about improving their reading Lexile levels, those goals were increases of 10, 10, 15, and 20 points. These rigorous goals exemplify the self-efficacy perceptions students had, because they deemed themselves capable of achieving such gains.

Quantitative Results

Null H_1: Student goal setting does not contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on Aimsweb and MAZE.

As evaluated using ANOVA statistical analysis with a *z*-test for difference in means, the hypothesis was unsupported when comparative analysis ANOVA showed the *p*-value = 0.060, greater than the alpha, 0.05, which indicated that the R-CBM measure for the treatment group saw no statistically significant change. Additionally, the F-value of 2.905 was less than the critical value of 3.10. Therefore, the data did not reject the null hypothesis for this measure with this group of students. The researcher additionally used a *z*-test that confirmed the non-rejection of the null hypothesis, the *z*-values for the test one to test two comparison yielded $z = -1.093$, which supported the non-rejection of the null hypothesis, and the test one to test three overall comparison yielded $z = -2.36$, which supported rejection of the null hypothesis, as compared to the critical value of 1.96. There was not a consistent statistically significant difference for the treatment group on the R-CBM.

Table 3

Treatment R-CBM ANOVA: Single Factor

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
RCBM 1	28	4436	158.4286	1237.8836
RCBM 2	28	4709	168.1786	1104.96693
RCBM 3	28	5051	180.3929	1158.6918

Table 4

ANOVA RCBM

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	6782.357	2	3391.17	2.9054	0.0604	3.1093
Within Groups	94541.64	81	1167.18			
Total	101324	83				

Table 5

RCBM Means

z-Test: Two Sample for Means		
	RCBM 1	*RCBM 2*
Mean	156.7931	166.724138
Known Variance	1285.68	1104.96
Observations	29	29
Difference	0	
Z	-1.093796	
P(Z<=z) two-tail	0.2740444	
z Critical two-tail	1.959964	

Table 6

RCBM 1 to 3

z-Test: Two Sample for Means		
	RCBM 1	RCBM 3
Mean	155.4	177.066667
Known Variance	1285.68	1242.89
Observations	30	30
Difference	0	
Z	-2.360018	
P(Z<=z) two-tail	0.0182741	
z Critical two-tail	1.959964	

Null H_1 C: The control group's ANOVA and *z*-test for difference in means for the R-CBM test one to test two revealed a *p*-value of 0.005 comparative to the alpha-value of 0.05. Since the *p*-value of 0.005 was smaller than the alpha-value of 0.05, the

null hypothesis was rejected and there was a statistically significant difference, which was also validated by the *z*-test value of 2.0, compared to the critical value of 1.96. This data further indicated that the goal setting treatment did have a statistically significant impact on the achievement of the study group for the R-CBM.

Table 7

Control ANOVAs: Single Factor

Groups	*Count*	*Sum*	*Average*	*Variance*
C- RCBMRaw	28	4201	150.03571	880.3320106
Raw2	28	4652	166.14286	927.8306878
Raw3	28	4985	178.03571	1177.294974

Table 8

Group Variances

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	11058.88095	2	5529.4405	5.5563	0.0054	3.1093
Within Groups	80607.35714	81	995.1525			
Total	91666.2381	83				

Table 9

z-Test for Raw Scores

	C- RCBMRaw	*Raw2*
Mean	150.0357143	166.14286
Known Variance	880.33	927.83
Observations	28	28
Z	2.004375554	
P(Z<=z) two-tail	0.045029846	
z Critical two-tail	1.959963985	

Table 10

z-Test: Two Sample for Means

	C- RCBMRaw	*Raw3*
Mean	150.0357143	178.03571
Known Variance	880.33	1177.29
Observations	28	28
Z	-3.26628789	
P(Z<=z) two-tail	0.001089674	
z Critical two-tail	1.959963985	

Null H_1 B: Student goal setting does not contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on MAZE.

As evaluated using ANOVA statistical analysis with a *z*-test for difference in means. The hypothesis was unsupported because the treatment group's MAZE ANOVA had a *p*-value of 0.21, which was greater than the alpha-value 0.05, and an *F*-value of 1.55, which was less than the critical-value of 3.11, which showed the treatment group had no statistical difference. This conclusion further validated by the *z*-test for difference in means, yielded a *z*-test value of -0.655 compared to the critical-value of 1.96, which also resulted in a non-rejection of the null hypothesis. There was no significant difference with the MAZE measure for the treatment group.

Table 11

Treatment ANOVA: Single Factor

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
MAZE raw	26	646	24.84615	89.33538
MAZE2	26	689	26.5	76.02
Maze 3	26	759	29.19231	75.60154

Table 12

ANOVA of MAZE

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	250.230	2	125.115	1.55773	0.21735	3.11864
Within Groups	6023.92	7	80.3189			
Total	6274.15	7				

Table 13

MAZE *z*-Test

	MAZE raw	*MAZE2*
Mean	24.84615	26.5
Known Variance	89.335	76.02
Observations	26	26
Z	-0.6558	
P(Z<=z) two-tail	0.511951	
z Critical two-tail	1.959964	

Table 14

z-Test: Two Sample for Means

	MAZE raw	*Maze 3*
Mean	24.84615	29.19231
Known Variance	89.335	75.601
Observations	26	26
Z	-1.72558	
P(Z<=z) two-tail	0.084424	
z Critical two-tail	1.959964	

Null H_1 B: The control group *ANOVA* had a *p*-value of 0.55, which was greater than the alpha-value of 0.05, and an *F*-value of 0.611, which was less than the 3.12 *F*-critical

value. Therefore, the null hypothesis was not rejected and there was no statistically significant difference on the MAZE tests for the control group. This statistically demonstrated that as a group, neither the control nor the treatment groups had significant differences on the MAZE measure.

Table 15

MAZE Comparisons

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
MAZE raw	24	597	24.875	55.94022
MAZE2	24	642	26.75	78.54348
Maze 3	24	657	27.375	68.24457

Table 16

MAZE ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	81.25	2	40.625	0.6011	0.5510	3.1296
Within Groups	4662.7	69	67.5760			
Total	4744	71				

Table 17

z-Test: Two Sample for MAZE 1 to 2 tests

	MAZE raw	*MAZE2*
Mean	24.875	26.75
Known Variance	55.94	78.54
Observations	24	24
Z	-0.7921	
P(Z<=z) two-tail	0.428304	
z Critical two-tail	1.959964	

Table 18

z-Test: Two Sample for MAZE 1 to 3 tests

	MAZE raw	Maze 3
Mean	24.875	27.375
Known Variance	55.94	68.24
Observations	24	24
Z	-1.09906	
P(Z<=z) two-tail	0.271744	
z Critical two-tail	1.959964	

Null H_2: Student goal setting does not contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on Aimsweb and MAZE to the building grade-level post-to-pre score growth on Aimsweb and MAZE.

The *t*-test for difference in means assessed the perspective growth of individuals between R-CBM tests one and two. The comparative analysis looked for statistical growth between the control and treatment groups. In the first *t*-test comparison, the mean of the control group was observably greater than the mean of the treatment group: 16.107 compared to 9.931; however, because the *t*-test value was 1.43 and was less than the *t*-critical of 2.00, the null hypothesis was not rejected and there was not a statistically significant difference in growth between the two groups. The same was true for the comparison between the first and third tests. No statistically significant difference between the groups was indicated by the *t*-test value of 1.3 compared to the 2.00 *t*-critical, even though the mean for the control was observably greater than the mean for the treatment (28 < 21.6). There was no statistical significance between achievement of the two groups, which resulted in the non-rejection of the null hypothesis and non-support of the hypothesis.

Table 19

t-Test: Two-Sample 2 to 1

	2 to 1 C	*2 to 1 T*
Mean	16.10714	9.931034
Variance	218.3214	309.4236
Observations	28	29
Pooled Variance	264.7007	
Df	55	
t Stat	1.432775	
P(T<=t) two-tail	0.157582	
t Critical two-tail	2.004045	

Table 20

t-Test: 3 to 1

	3 to 1 C	*3 to 1 T*
Mean	28	21.62069
Variance	327.9259	287.8153
Observations	28	29
Pooled Variance	307.506	
Df	55	
t Stat	1.373054	
P(T<=t) two-tail	0.175308	
t Critical two-tail	2.004045	

Table 21

R-CBM t-Test: Paired Two Sample for Means

	RCBM 2	*RCBM 1*
Mean	166.7241	156.7931
Variance	1126.85	1271.241
Observations	29	29
Pearson Correlation	0.872554	
Df	28	
t Stat	3.040302	
P(T<=t) two-tail	0.005083	
t Critical two-tail	2.048407	

Table 22

Treatment Total Growth t-Test: Paired Two Sample for Means

	RCBM 3	RCBM 1
Mean	177.0667	155.4
Variance	1242.892	1285.628
Observations	30	30
Pearson Correlation	0.8902	
Df	29	
t Stat	7.118135	
P(T<=t) two-tail	7.83E-08	
t Critical two-tail	2.04523	

The *t*-tests discussed thus far looked at the growth of individuals in the treatment group. The first paired *t*-test compared R-CBM test one with R-CBM test two. There was an observable difference in the means and the *t*-test value of 3.04 was greater than the *t*-critical value of 2.04, which indicated rejection of the null hypothesis and support of significant statistical growth for individuals in the treatment group. Likewise, in the *t*-test comparison of R-CBM test one to R-CBM test three, the *t*-test value was 7.11, which was greater than the *t*-critical value of 2.04. Therefore, the null hypothesis was rejected and significant achievement growth was supported for individuals in the treatment group. The researcher interprets the relation of this significance to the goal setting treatment in Chapter Five.

Null H_2 B: Student goal setting does not contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on MAZE to the building grade-level post-to-pre score growth on MAZE.

As evaluated using a paired *t*-test.

The following *t*-test for difference in means results demonstrated the comparisons between treatment and control groups for the MAZE. Table 23 is a comparison between

the second and first testing episodes. Table 24 shows the comparison of overall growth for the two groups. Both *t*-test comparisons of MAZE data yielded no statistically significant difference in growth between the control and treatment groups. The first *t*-test analysis yielded a *t*-test value of 0.15, compared to the 2.01 *t*-critical value, while the second analysis yielded a *t*-test value of -1.04, compared to the 2.01 *t*-critical value. This resulted in a non-rejection of the null hypothesis. There was no significant difference in growth on the MAZE measure for the two groups.

Table 23

t-Test: MAZE 2 to 1

	2 to 1	*2 to 1*
Mean	1.875	1.653846
Variance	25.50543	25.83538
Observations	24	26
Pooled Variance	25.67728	
Df	48	
t Stat	0.15418	
P(T<=t) two-tail	0.878114	
t Critical two-tail	2.010635	

Table 24

t-Test: MAZE 3 to 1

	3 to 1 C	*3 to 1 T*
Mean	2.5	4.346154
Variance	32	45.19538
Observations	24	26
Pooled Variance	38.8726	
Df	48	
t Stat	-1.04605	
P(T<=t) two-tail	0.300776	
t Critical two-tail	2.010635	

Summary

The SMART goal setting process had an affective impact on the middle school students in the study group, because there was qualitative data that demonstrated attitudinal shifts about goal setting. The students also demonstrated improved understanding of goal setting in general. One student in the focus group was able to articulate the reason for goal setting and its relationship to the standardized tests the students took. However, using the R-CBM and MAZE measures to isolate the variable of goal setting between the treatment and control groups, did not demonstrate any statistically significant differences when scores were analyzed using ANOVA *z*-tests and *t*-tests which resulted in non-rejection of all null hypotheses. The *t*-tests for the individual students of the treatment group did yield statistically significant growth on R-CBM, demonstrating that goal setting is an individual process best measured over a longer duration. One variable that did not relate to any hypotheses was the students' improved knowledge about their assessment data; the researcher needs further investigation of this element. Chapter Five provides further discussion about the researcher's reactions and interpretations.

Chapter Five: Discussion and Reflection

Introduction

The purpose of this study was to add to the large-body of previous research on goal setting in schools. What made this study different was the use of informed goal setting with students, not just *for* students. During her undergraduate work, the mantra of her teacher preparation work was, 'become a reflective practitioner'; Chapter Five is the epitome of that reflective mantra. The researcher kept an anecdotal journal throughout the research process and much of that journal helped with the writing of this chapter. First, the researcher reviewed the triangulation process that made this study unique. Then the researcher provided commentary on the methods, results, and discoveries made during the process. Reflection about the study concludes with recommendations to the study school and district and to the academic research community.

Research Questions

RQ_1: How does the goal setting process change the students' perceptions about their achievement as measured by post-to-pre-student questionnaire comparison?

RQ_2: Once the teacher taught students how to interpret their Aimsweb R-CBM and MAZE assessment data and establish individualized goals, what behavioral changes did the students choose to make to reach their goals as measured by post-to-pre-student questionnaire comparison?

Added RQ_3: How does informed student goal setting contribute to self-efficacy as measured by a self -efficacy pre and post- qualitative question?

H_1: Student goal setting does contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on Aimsweb and MAZE.

H_2: Student goal setting does contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on Aimsweb and MAZE to the building grade-level post-to-pre score growth on Aimsweb and MAZE.

Triangulation

Data and instructional triangulation was pivotal in the design of this research project (See Appendix I). The first part of the triangulation was qualitative. Students completed a pre-questionnaire that assessed their personal beliefs about motivation, failure, success or accomplishments, and goal setting (see Appendix B). To avoid bias and ensure instructional integrity, the researcher did not evaluate the questionnaires until after the post-questionnaire was completed and when the school year ended. The researcher used open coding and analyzed the pre and post-questionnaires for trends within the questions and for the individual students. Between the two questionnaires and throughout the school year, the researcher provided a triangulation of direct instruction about the SMART goal setting process and the use of assessment data to all students (not just those in the study group). This instruction was part of the instructional routine that supplemented the usual curriculum.

The instruction began mid-first quarter in preparation for conferences. The study district began a new initiative that required all conferences to be student-led and goal setting in nature. For the first time, the study district used mid-first quarter goal setting conferences. This was serendipitous for the researcher, because she had been advocating for student goal setting for over two years and the conference preparation, fell right in-line with her study. The researcher also played a key role in launching the goal setting

preparation at the study school. The researcher was part of a three-person committee who trained the other staff during their PLC time about the construction of student SMART goals. The PLC process had just begun the use of data analysis and the creation of class SMART goals, so student SMART goals was a new concept. As with any change, this process met with some resistance, but the perseverance of the researcher and her colleagues convinced naysayers to get on board and conferences were a success.

Throughout the year, the researcher used her own personal and academic goals as models for the goal setting process instruction. Instruction about goal setting and data interpretation coincided with the transition times between the end of the quarters and beginning of the next. Coincidentally, these times also aligned with the assessment calendar at the study school.

The second part of the triangulation, was the use and analysis of the quantitative data yielded from Aimsweb/R-CBM and MAZE, both tests prescribed by the study district and school. The researcher provided assessment reports to *all* students and provided instruction about how to read and interpret the reports. The reports were time-consuming to gather, the researcher had to print each individual student report separately. The researcher instructed *all* students about the SMART goal-setting process. The SMART process provided a format for students to create a goal (Goals written by the students in the treatment group are in Table 1). Unfortunately, time did not allow for two goal-setting conferences or a second use of the SMART goal sheet. One drawback to the SMART goal-setting process was that it was cumbersome and time-consuming, as noted by Newman (2012); the researcher did not have time for the follow-through and feedback that should have accompanying the results of the assessments (DuFour & Marzano,

2011). During the focus group, at least three students commented about their lack of follow-through with the goals. Additionally, one student commented on her questionnaire that 'goal setting is time consuming and did not work for her fast-paced learning.' The quantitative data provided analysis that the researcher used to isolate the goal-setting variable and calibrate with student responses.

As part of the instructional triangulation, all students wrote goals on bell-ringers (tasks the students do upon entering the classroom to either review or focus instruction) for the third quarter, fourth quarter, and English language arts. The researcher analyzed only the study groups' goals for trends and used this as qualitative information for this study.

The third tip of the triangulation was the qualitative review of focus group responses from students in the treatment group after they had completed the post-questionnaire. The focus group had pre-established questions but a third party facilitated the questions. The researcher recorded the proceedings and then coded the responses for trends and correlation to the other data.

Research Questions

How does the goal setting process change the students' perceptions about their achievement as measured by post-to-pre-student questionnaire comparison?

The study group originally had and maintained a rather high level of self-efficacy. For the most part, both the pre and post questionnaires demonstrated that students believed they could do 'the work/assignment'; the only exception was math. Many students openly admitted that Math caused problems for them, and at least six stated, 'I'm not good at math.' Providing students with their assessment data reports was revealing to

most. No one in the study group had ever seen the reports before, let alone used them for setting academic improvement goals. It would have been interesting to note their initial impressions after having first seen their reports. The researcher did not think of this until after the study was completed. The researcher would have also liked to gather information from a question more specifically about perceptions instead of the vague, tangential question. One thing was clear from the questionnaires, students believed failure was a result of not trying, and almost all respondents would 'keep trying.' This view of failure lends to the interpretation that the students in the focus group had high self-efficacy beliefs and would not let failure keep them from trying to achieve. The students' perceptions about their achievement were consistent pre to post questionnaire/treatment, but their understanding and cognition about how that achievement improved changed. Students had a better understanding of the interplay of goal setting, self-confidence, and personal achievement.

RQ1: Once the teacher taught students how to interpret their Aimsweb/R-CBM and MAZE assessment data and establish individualized goals, what behavioral changes did the students choose to make to reach their goals as measured by post-to-pre-student questionnaire comparison?

Students in the study district had used goal setting in elementary, but the researcher was not aware of that until her study started. She was not aware of the process that the students used or if they used their own data. However, one thing was clear, students either forgot or did not know the SMART process until the researcher reminded them or taught it. Only one student indicated doing SMART goals in sixth grade. Few students knew anything about their assessment reports, only the students getting Tier 3

reading interventions (seven students out of 72 and 0 in the study group) had seen the data reports before. Therefore, it was unclear what the students set goals on, if they had any previous experience. The researcher noticed a shift in all of her students' use of the SMART goal setting process. The questionnaires indicated that more students could describe the goal setting process and seven of the students recalled it exactly. The behavior change that was evident was their use of SMART terminology, or as student 26 explained, 'the reason for using goals was for the standardized assessments.' Another obvious change was in the opinions the students shared about goal setting and their individual use of setting goals. As they became more knowledgeable about goal setting, they were also more articulate in their responses to it, as evidenced by the questionnaires and personal interactions. Indecently, the bell-ringer goals improved over time and became more specific after instruction and with content specificity.

Goal setting is a personal, meta-cognitive strategy, that students would use naturally if allowed the freedom to do so, but when 'forced' to do it for an assignment, it was clear, that it held no appeal to them, and they willingly acknowledged that. They also willingly acknowledged that setting academic goals interfered with their personal goals. Although a direct correlation between goal setting and achievement was complicated because achievement is multi-variable, goals provide direction (Cheung, 2004). The focus group responses were enlightening to the researcher and validated the responses from question 14 of the post questionnaire. The researcher and the focus group facilitator never imagined such a separation between academic and personal goals. The disconnection between academic goals, done for school and personal goals astounded both researcher and facilitator. One opinion expressed vehemently, was the lack of

follow through caused disconnect or disillusionment with goal setting. The researcher acknowledged the lack of follow-through for the goals that were set in class, for tests, or at conferences. The researcher grappled with where the follow-through accountability should lie, but realized that time was a key factor in the lack of follow-through; students did not have enough class time to reflect on their goals and results. After the research was completed, the researcher discovered that students were setting goals in other classes and this saturation may have contributed to their inability to follow-through on all of their goals.

RQ2: How does student goal setting contribute to self-efficacy as measured by pre and post- self-efficacy questions?

The researcher believes one cannot teach self-confidence, it has to be nurtured, modeled, and encouraged. Perceptions are difficult to measure; the depth of understanding about goal setting was quantifiable, but also personal. The variable of self-efficacy was difficult to measure and isolate because of its interconnectedness with self-confidence and achievement (see Appendix F). The researcher observed self-efficacy as part of a reinforcing loop. Goal orientation and cognitive ability influenced self-efficacy and self-confidence, which influenced the goal which all influenced performance, but the results or feedback on that performance in turn influenced self-efficacy and self-confidence, and thus continued the reinforcing-loop (Diefendorff, 2004) (see Appendix G). The researcher concurrently taught the last writing unit, poetry, with reflections on goal setting. Student 23 combined her learning and wrote an ‘Ode to self-confidence’ (see Appendix H). This bright and articulate student recapitulated the beliefs she held about her own self-confidence. Thinking about self-confidence would not have

been possible, without the two instructional components coinciding. This poem epitomized some of the growth that students experienced.

The students' use of the word, *'strive,'* was further evidence of growth. On multiple occasions, *strive* was used to answer their commitment to their goals. The researcher never overtly taught the word, nor used it purposefully, so *strive* was a student generated term, which corresponded to their awareness of commitment and purpose. The use of *strive*, led the researcher to conclude that some level of generalized use of goal setting had transpired throughout the year, at the very least, students' understanding of the purpose and process of goal setting had improved.

RQ_3: How does informed student goal setting contribute to self-efficacy as measured by a self-efficacy pre and post- qualitative question?

Hypotheses

H_1: Student goal setting does contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on R-CBM/Aimsweb.

H_2: Student goal setting does contribute to a measurable difference in student achievement as measured by post-to-pre score comparison on MAZE.

The ANOVA and *z*-test statistical analysis showed no significant statistical difference on either test for the treatment group, nor in comparison to the control group, which indicated that for the R-CBM and MAZE measures the study group was no better or worse because they participated in the goal setting treatment, than their control group peers. The researcher did not reject the null hypotheses and had hoped that goal- setting process would have a statistical effect on achievement. Goal setting is such an individual process and although the group showed no statically significant difference; it was

important to note that goal setting did not have a detrimental effect. There were only four indications of unfavorable responses on the post-questionnaire to corroborate this conclusion. Those students (4, 16, 19, 26) indicated that goal setting played 'no part or nothing' toward their success, but even those comments are confounded by other responses from those students during the focus group. The qualitative information demonstrates evidence that goal setting has had made an impact on the students in the study group. The researcher recommended the use of other measures for further research, because she discovered through two meetings and several conversations with the reading interventionist that the interventionists would prefer to use the Scholastic Reading Inventory (SRI) as their diagnostic tool. Perhaps that tool would yield different results more in line with the hypotheses. There was observable growth from the baseline scores to the end-line scores, which indicated the group progressed from the beginning of the year to the end. It was also important to note, that although no statistical difference resulted for the group, the individuals did experience observable and statistically significant individual growth as evidenced in the next hypothesis.

Hypotheses 1 and 2

H_1: Student goal setting does contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on R-CBM/Aimsweb to the building grade-level post-to-pre score growth on R-CBM/Aimsweb.

H_2: Student goal setting does contribute to a measurable difference in student achievement as measured by participant post-to-pre score growth comparison on MAZE to the building grade-level post-to-pre score growth on MAZE.

The comparative *t*-test analyses between the treatment and control groups for both measures resulted in a non-rejection of the null hypotheses for R-CBM and MAZE. However, there was statistically significant growth on each measure for the students in the study group, which indicated that learning occurred regardless of the treatment. This result may also indicate that goal setting is a highly individualized process and statistically affects individual performance.

Personal Reflection

Since the beginning of this study, goal setting has become increasingly prevalent, not just in the study school but also in popular culture. The researcher discovered Pinterest pins solely devoted to promoting goal setting in elementary classrooms. Similarly, the study district used goal setting with elementary students. (Although she did not use them, they could be adapted to middle school.) However, after advocating for two years that the students themselves should be using goal setting at the middle school, the study school took heed. Originally, there was pushback from teachers about having goal-setting conferences at the middle of first quarter, but once the researcher and a group of peers created the structure and format (see Appendix A), teacher buy-in increased. The three-teacher committee used Professional Learning Community (PLC) time and trained other teachers about setting SMART goals for and with students. It was the charge of the language art teachers to train students on SMART goals for conferences. The study school just began the PLC process using data analysis and SMART goals to improve instruction and instructional outcomes. Along with the revised PLC process and goal setting for students, the study district also re-evaluated grading practices and looked at standards-based grading (*Rethinking grading*, by Vatterott, 2015). All of this

coincided with the book study of *Seven strategies of assessment for learning*, by Chappuis (2015) and the researcher's informed student goal setting research. The researcher combined all of this professional learning to instruct her students about their personal assessment data and set meaningful SMART goals.

The researcher recognized the 'No action-no gains' philosophy (Chappuis, 2015) was critical to improve student achievement and incorporated the lessons from her book study and research work into the lessons she taught the students. The researcher used her own goals as models for goal setting and data interpretation lessons. The researcher used her dissertation as an exemplar when teaching informative and proposal writing and the use of credible sources, primary verses secondary sources, and topic to subtopic outline using driving questions. Using the recommendations outlined in Chappius' (2015) book, the researcher inspired the students through her use of real-life examples and challenged them to adapt the higher-level rigor of a doctoral student to meet their own learning needs. The researcher improved her use of learning targets and modeled how to incorporate them into individual student goals. Those goals were set in the form exit tickets but not evaluated for the research. However, the researcher evaluated bell-ringers that used the SMART Goal process. The three bell-ringers were a half-and-half mix of accurately used SMART process and half not, non-specific goals. The researcher coded all three bell-ringers by type of goal orientation (Chappuis, 2015) and noted the quality of the goals improved in specificity over time, with a marked improvement from the first (January 4) to the second (March 10) goals. The majority of the goals were performance/ego orientation, which hoped to improve grades and when coupled with task completion orientation goals resulted in 80% of the goals. This was not surprising due to

the nature of the bell-ringers' questions. Content specificity bred goal specificity. It was rewarding to see that a few of the goals were learning oriented for learning ELA content. The researcher wondered, how much better goals would become if there was more time?

All students were engaged in the use of data to drive their goals, and the researcher hoped that more of her students would consent to the use of their responses for her study. She offered no incentives for the return of the consent/ascent forms, even though she frequently offered candy for other returned forms, such as permission slips and progress reports. Her recruitment for her group consisted of 33 "rule-following," conscientious students, but due to transfers reduced to 30. The general nature of middle school students' priorities may have accounted for the disinterest in participation in the study, but the researcher continued asking for students' participation until the May 12 date of the focus group, but as the results and data indicated, there were 30 students in the final study group. The researcher treated the 30 students no differently, and considered their qualitative information after the close of the school year. This was fortunate because the video responses from the students were adorable to the researcher, and she would have liked to comment, compliment, and thank each student for their honesty and participation.

The researcher decided to read aloud the questions on the questionnaires, even though the readability level was 3.7. She did this to avoid questions and leading the students to certain answers. However, questions still arose, specifically with the word, *mastery*. In the pre-questionnaire, the researcher said the standardized assessments recommended phrase, "Do your best." However, for the post questionnaire, the researcher explained *mastery*, this may or may not have influenced the students'

responses, but the researcher wanted to ascertain what students did to reach *mastery*, not have them define it. She was pleased to see that students were tenacious with responses that stated, 'try or practice,' but most pleased to see a change in their knowledge of goal setting, when 10 out of the 23 responses said something about 'using steps or goal setting to reach mastery.' The researcher previously judged adolescent perseverance level as low, but was pleased to see that failure was not an option for the majority of the research group.

Time was a key deterrent to the effective use of informed student SMART goal setting process, Newman (2012) warned about this. Every aspect of the treatment took more time than the researcher originally planned. Printing the reports from the password protected site, was cumbersome, and required the researcher to click on each individual student. To garner access, the researcher met with the reading interventionist on two different occasions. The researcher provided reports to all 74 of her students. The reports contained Lexile reading level, longitudinal box and whisker plot graphs of R-CBM scores, and longitudinal graph of MAZE scores. The researcher instructed students about every aspect of the report and for those students who 'weren't good at math'; she had to re-explain box and whisker plot graphs. She was also astonished to discover that only seven out of her 74 students had ever seen the report, coincidentally, those students all received reading interventions. Instruction about the assessment data reports and the SMART goal process consumed three class periods (approximately 40 minutes each). The researcher decided that a one-time use of this amount of time was enough to assess the effectiveness of the treatment and did not crowd her already hectic curriculum pacing with another full SMART goal process lesson the second time. The researcher also

postponed feedback due to the rush of time and curriculum content. The feedback was general instead of specific in nature, a decision the researcher regretted, as DuFour and Marzano (2011) recommended timely, quality feedback as a key to improved achievement. Better feedback and follow-through on the goals that the students set may have garnered statistically significant results, but as it was, time again was a deterrent.

Goal setting is an individual endeavor. The researcher strived to teach students the habit of goal setting, but it proved to be difficult to isolate this completely student-driven variable. Student goals were and are as individual as the students are. However, 26 out of the 28 students wrote goals in the correct SMART goal format after the instructional treatment. Two students from the study group did not complete the goal and two wrote goals but one was vague, 'try hard,' and the other was ELA related. The majority of the students demonstrated fidelity to the SMART process and their goals on bell-ringers became more specific over time and with content specificity. The students articulated this when they explained the process and purpose in the focus group discussion.

The focus group was a valuable part of the research design, but time-consuming to prepare and arrange. On a personal note, the researcher would like to thank the facilitator for is involvement and contribution to her study. He volunteered during one of the doctoral classes and to show her appreciation, the researcher gave him a gift card. The focus group yielded valuable enlightening information to the researcher and her research. Sometimes the motivations that students expressed did not align with the perceptions the researcher garnered from her regular instructional interactions. Some thought video recording students inhibited them, but the researcher thought, recording her

students on video was a great way to gain insight into the minds of the ever- developing middle school student. The researcher gleaned information that will improve her teaching for the rest of her career. She will continue to have a Democratic classroom that allows students to be in charge or their own learning. She will listen more by providing students opportunities to reflect and discuss. Students want teachers to know how they think and feel. In hindsight, the researcher could have conducted the focus group, but made the decision to have a neutral, third party conduct it, to avoid any inhibitions. Upon review of the video, the researcher discovered that the students might have been more comfortable with her. The researcher discovered how much students want to be involved in the instructional process and they want to be champions of their own learning. The students who spoke in the focus group talked honestly about the problems they saw with goal setting. They openly admitted to lack of follow–through and sharing on their part, but also clamored for more time to write and follow-through with the goals. The students' depth of understanding of the process encouraged the researcher to continue using goal setting in the future regardless of statistical insignificance. The researcher will continue to use goal setting but make sure that there is enough time built into the process for feedback and follow-through. The growth students achieved was observable, perhaps not quantifiably significant, but could have a longitudinal habit-forming effect.

Recommendation to the School

The preponderance of literature reviewed for this research study, showed the benefits of goal setting with students. We need to teach students to self-assess and set goals for their next steps, which will transfer the ownership of the learning to the student, and then they can provide their own feedback (Chappuis, 2015, p. 12). The study school

should continue to recognize and use true formative assessments that involve the students and build their capacity to monitor the quality of their own work during production (Chappuis, 2015). Teachers should devote more time for quality feedback that allows students to see specific learning errors, strengths, and weaknesses and then set goals for improvement (Chappuis, 2015; DuFour & Marzano, 2011). Teachers need to allow students to drive their learning by teaching them strategies that lead to learning goal orientation and decrease achievement and task goal orientations (Anderman & Midgley, 1996; Bandura, 2006; Chappuis, 2015; Conzemius & O'Neill , 2001). The PLC process utilizes SMART goals written for students, the study school should embrace writing SMART goals with students. The study school should continue its use of the Chappius (2015) book and use goal setting in conjunction with the other assessment for learning strategies outlined in the text.

Recommendation for Further Research

The researcher recognized the limitations posed by time to this study and the benefits of time to the goal setting process. The students in the study group demonstrated observable and statistically significant gains when compared over a longer period and individually. Goal setting is truly an individually rigorous endeavor and only improves in complexity throughout use and time. The use of a goal analysis tool similar to Goal Attainment Scaling (GAS) could be helpful in assessing the productivity of the goals and provide information for quality feedback. Unfortunately, more time is needed for implementation of this tool with goal setting, but it could be helpful in studies that are longitudinal in nature.

According to Moeller et al. (2012), the goal setting process needed to be studied further to see if it increased motivation, enhanced achievement or promoted learner autonomy. The researcher attempted to answer their question with her question: How do we teach students to set meaningful goals that will affect their academic and personal success? The quantitative results were statistically insignificant for this group of students with the R-CBM and MAZE measures, but there was still observable and qualitative data to support the use of goal setting with general education middle school students. Further research could yield different results within other demographic populations and with other measures.

The researcher would also like to recommend further research on the parent component of goal setting. The focus group uncovered a startling revelation that middle school students (at least those in the study group) did not share their academic goals with the parents, and kept academic and personal goals separate. It would be interesting to discover the impact that parents have on the goal setting and attainment process. Parent perceptions about goals would have added an additional layer to this research.

Finally, the researcher would have liked to explore the impact of the assessment data reports. She concluded that the students effectively used them to establish their goals for the assessments during the study treatment, but will students seek out the information and use it in the future? Someone once said, 'Good research asks more questions than it answered.' The researcher has more questions about isolating the effect of data reports on achievement.

Conclusion

John Wayne once said, “If you don’t set your priorities in life, someone will set them for you.” Until recently, this was certainly true in the study middle school. The researcher was interested in answering the question: How do we teach students to set meaningful goals that will affect their academic and personal success? The literature reviewed for this dissertation demonstrated that adolescents improve academic achievement and behavior when *they* personally choose the goal. The researcher taught her students how to interpret and use their own assessment reports to set SMART goals for improvement. This research study found that although there were no statistically significant differences in students’ achievement because of goal setting, there were qualitative attitudinal shifts about self-efficacy, confidence, and autonomy evident because of informed goal setting. For adolescents to be successful, middle school educators, first need to understand their brain development, cognitive growth, and motivational psychology; then tailor instruction that offers voice, choice, challenges, and consistently guides productive habits (Bogolin et al., 2003; Brandt & Tyler, 2011; Chappuis, 2015; Conzemius & O'Neill, 2001; DuFour & Marzano, 2011; Eccles, 2004; Hattie, 2012; O'Neill & Conzemius, 2006; Wormeli, 2001). Developing goal-setting processes is a habit worth developing.

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Appendix A

Fall Conference Goal Setting Form

STUDENT PORTION	
Strengths (my academics, my behavior, etc.)	
Successes (accomplishments that I'm proud of)	
Areas For Improvement (things I could do better with)	
S.M.A.R.T. Goal	
Specific goal you want to accomplish	
Measurement you'll use to determine if the goal has been met	

Achievable steps you'll take to meet your goal	
Relevant ways this goal will help you (*Hint: why is this goal important & useful?)*	
Time by which you plan to reach your goal	

TEACHER PORTION	
Areas of Strength:	
❑Exceeds behavior expectations for the school and/or classroom	❑Consistent, focused participation meaningfully adds to his/her learning
❑Ability to cooperate in the classroom promotes his/her learning	❑Student's organization of materials promotes his/her learning
❑Responds well to correction & uses it to support his/her learning	❑Student's effort and motivation positively impacts his/her learning

❑Consistent on-task behavior promotes his/her learning ❑Consistently coming to class prepared & on time promotes his/her success	❑Student handles transitions between classes/tasks in a way that keeps him/her focused ❑Consistent completion & return of both homework & class work positively impacts learning
Areas for Improvement:	
❑More careful behavior choices would positively impact student's learning ❑Improved cooperation with peers would positively impact learning ❑Improved cooperation with teacher(s) would positively impact learning ❑Responding better to correction would improve learning ❑Increased on-task behavior would promote his/her learning ❑Increased consistency in coming to class prepared or on time would promote his/her success	❑More focused participation would contribute to his/her learning ❑Improved organization would promote student's learning ❑Increased effort and/or motivation would positively impact student's learning ❑Improved management of transitions between classes/tasks would support his/her focus ❑More consistent completion &/or return of homework or class work would positively impact learning
Teacher Comments & What Could Be Done At Home:	

PARENT PORTION
Goal I Have for My Student (to be completed at conference time)

Appendix B

Questionnaire Questions

Name: _____ date: _____

Questionnaire:

1. What is your definition of academic success?

   _____

   _____

   _____

2. What has been your experience with the goal setting process?

   _____

   _____

   _____

3. Have you ever set goals for yourself? Explain.

   _____

   _____

   _____

4. What do you do if you fail at something?

   _____

   _____

   _____

5. What do you think helps some people achieve their goals while others might not?

   _____

   _____

   _____

6. If you don't accomplish a goal, is that a failure? Explain.

_____

_____

_____

7. What steps do you take to reach mastery? How do you know when you have achieved mastery?

_____

_____

_____

8. With regard to school: What is motivation? What motivates you? What do you think most influences your success?

_____

_____

_____

9. Whom do you think most influences your success or failure?

_____

_____

_____

10. If you could use goal setting to help you succeed, would you? Explain.

_____

_____

_____

11. What is the difference between a wish and a goal?

_____

_____

_____

12. How do you feel when you accomplish something?

_____

_____

_____

13. Can you describe a goal setting process?

_____

_____

_____

14. What part has goal setting played in anything that you have accomplished?

_____

_____

_____

Appendix C

Planned Focus Group Questions

How do you decide what your academic goals are?

Think of a time that you set a goal; explain your goal setting process.

How do you feel when you are working accomplish your goal? How does it feel when you do accomplish a goal?

Explain what you know about goal setting?

*Do you ever set goals for yourself? What are some goals you have right now?

*What is the difference between a wish and a goal?

When setting goals for yourself which approach works best for you?
A. Set lower goals rather than risk failure.
B. Set realistic attainable goals.
C. Set high goals that are challenging.
Explain why you chose that option.

How often have you used goal setting? Did you achieve your goal?

Has goal setting influenced your achievement? Explain.

**The facilitator took the liberty to adjust the line of questioning to meet the needs of the focus group, but maintain the integrity of the questioning purpose.*

Appendix D

Facilitator Questions for Focus Group

1. What are your career plans for the future?
2. How important is it to have a plan?
3. Right now, your teachers says, we have these assignments, how do you plan for that?
4. How do you prepare for high school?
5. Do you have a calendar?
6. How do you decide how to balance social calendar with academic?
7. Who has a social calendar (Had to explain social.)
8. Do you set your own goals or does someone else still set goals for you?
9. How do you integrate your goals into those of the people who are trying to influence you
10. How would you define goal?
11. Do you do that? Do you just know it exists, or do you personally set goals for yourself?
12. How are you going about achieving that?
13. How do you know whether or not you are just hoping something happens or you have a wish? What is the difference between a wish and a goal?
14. Can a wish become a goal?
15. So how does a wish become a goal? What has to happen?
16. How much of the goals you set are on your own or how much is for an assignment?
17. What are the things that stand in the way?
18. There's an old saying, that you can be anything that you want to be…" Do you believe that, in your heart, do you believe that?
19. Student 3 talked about confidence, through lack of confidence: doubt. So how do those things play into one another?
20. At this point in your life do you have a plan b
21. So how much are you influenced about what other people think about you. Different from parents and teachers trying to influence you, like Facebook?
22. How do you feel you are at setting goals? Do you feel you are good at goal setting?
23. When you are asked to set goals, is that effective for you, or are you just going through the motions so somebody will get off your case?
24. Tell me about, during one of these assignments and you, set a goal and you follow it up and accomplish that goal.
25. Ask a brave question: For those of you who have done the assignment, but have never followed up on a goal, why not?
26. For the assignment, can the goal be anything of does it have to be school related?
27. Has the assignment affected your own personal goal settings?
28. Ask again, has the assignment affected your personal goal setting habits?
29. How much do you think about the goals you set?

30. We know about the academic goals. Do your parents have you set goals?
31. Do you share any of these academic goals with your parents?
32. Why would you not share your academic goals with your parents? What keeps you from doing that?
33. Somebody mentioned the parent teacher conference. So what happens when the parents and teachers get together, "Well you know your son or daughter has set these goals…" What happens then?
34. So let me just ask this in general: When you know parent teacher conferences are coming up, are you kind of freaking out?
35. I'm just curious, have you shared your goal to improve your math grade with your parents? (Direct follow-up question to student 17.)
36. How do you know that you are not stuck out there and trying to reach this goal or where do you go for help to achieve the goals?
37. Are you concerned that someone will think you are a failure if you are not able to achieve your goal? Does that affect whom you tell?

Appendix E

SMART Goal Form

Name: _____ Date: _____Hour: _____

S.M.A.R.T. goal setting for Aimsweb & Maze

Review the data from R-CBM(Aimsweb) & Maze. Set a S.M.A.R.T. goal for the data.

Specific:

_____

_____

Measurable:

_____

_____

Achievable:

_____

_____

Relevant/**R**ealistic:

_____

_____

Time:

_____

_____

Here is some helpful information: The next Aimsweb/R-CBM & Maze tests will in January!

Appendix F

Figure 1

Model of relationship between goal orientations and performance

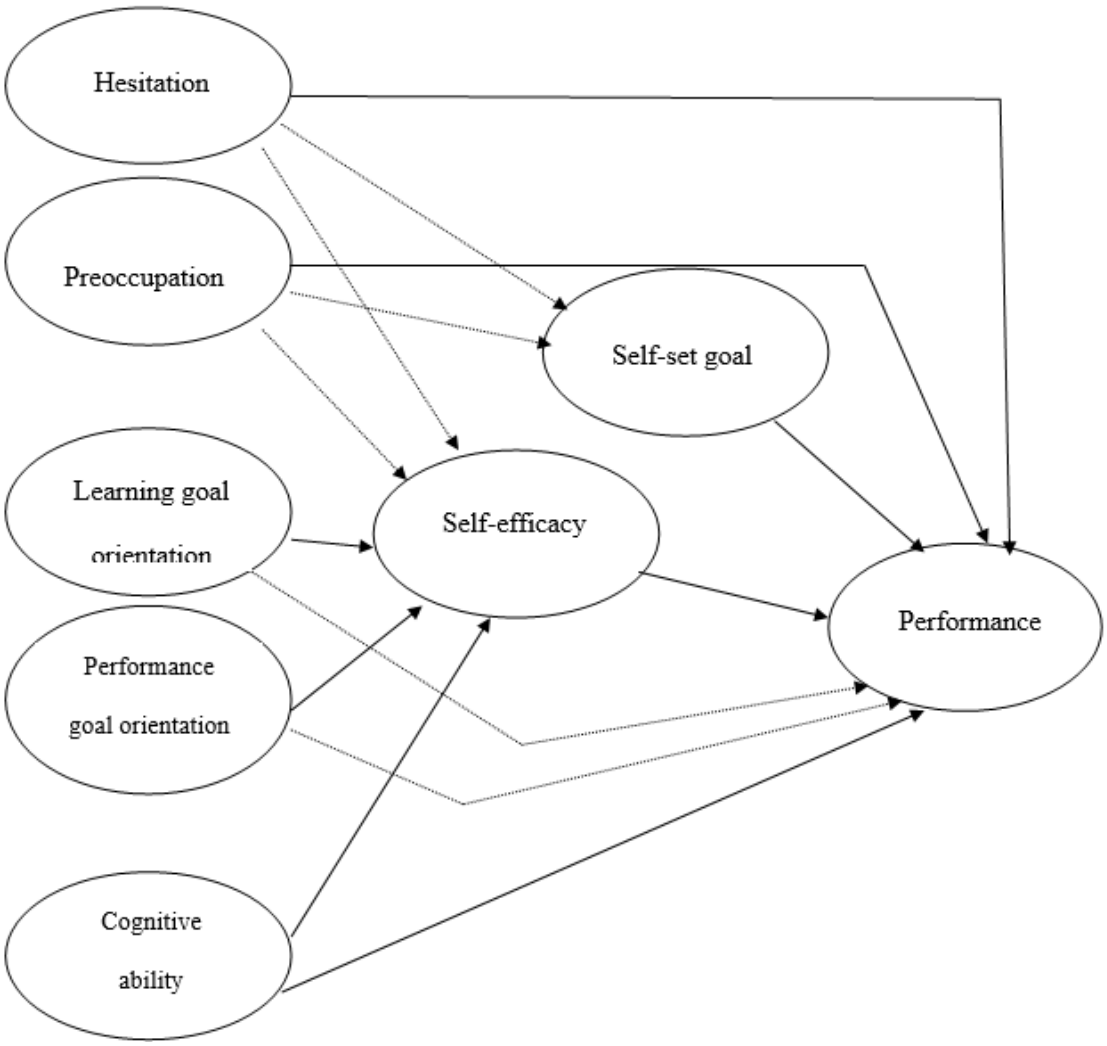
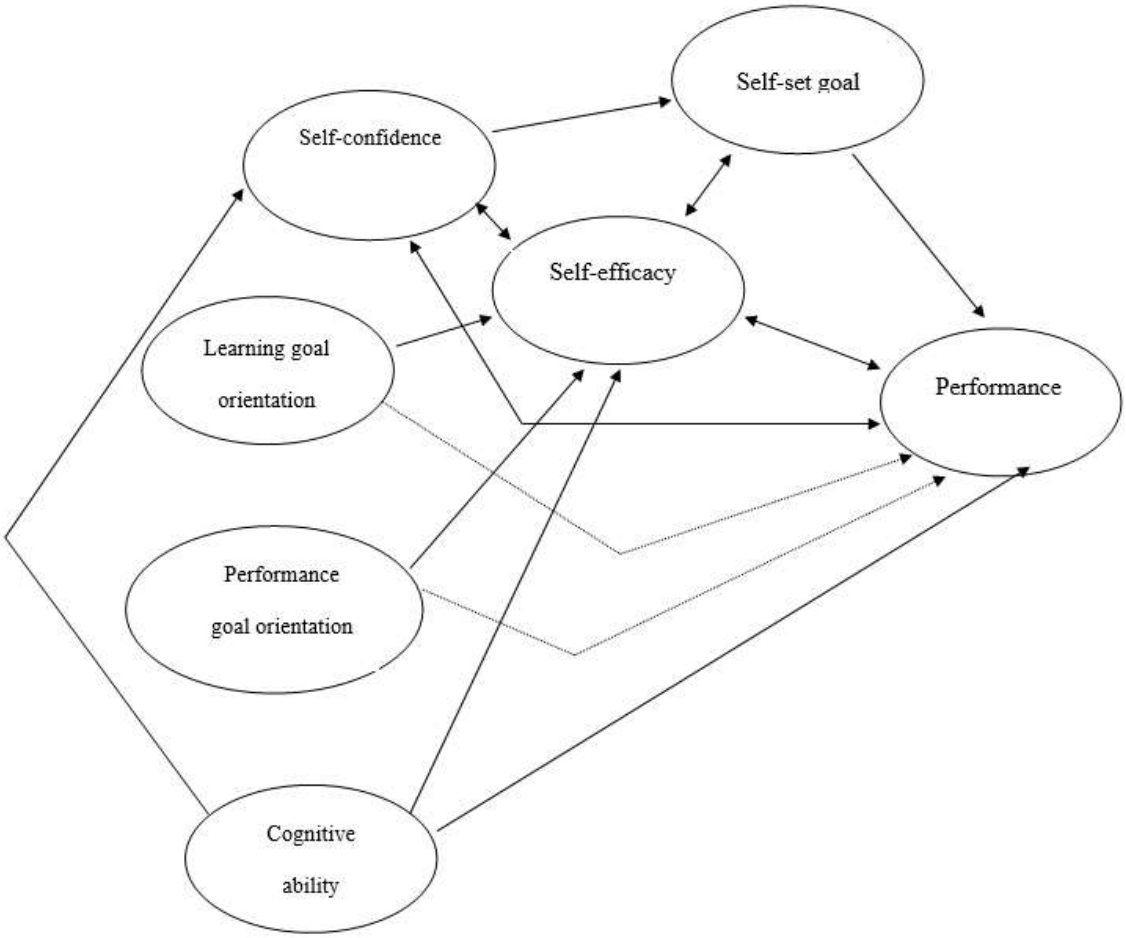


Figure 1: Hypothesized relationship: solid lines represent links dashed lines represent alternative links (Diefendorff, 2004). *Used with permission from the author and publisher

Appendix G

Figure 2

Researcher hypothesized relationship between goal orientations, self-efficacy, cognitive ability, and performance



Both learning and performance/achievement goal orientations influence the type of self-set goal.

Researcher hypothesized relationship: solid lines represent links dashed lines represent alternative links. (Borrowed with permission from Diefendorff, 2004 & publisher)

Appendix H

Student Poem

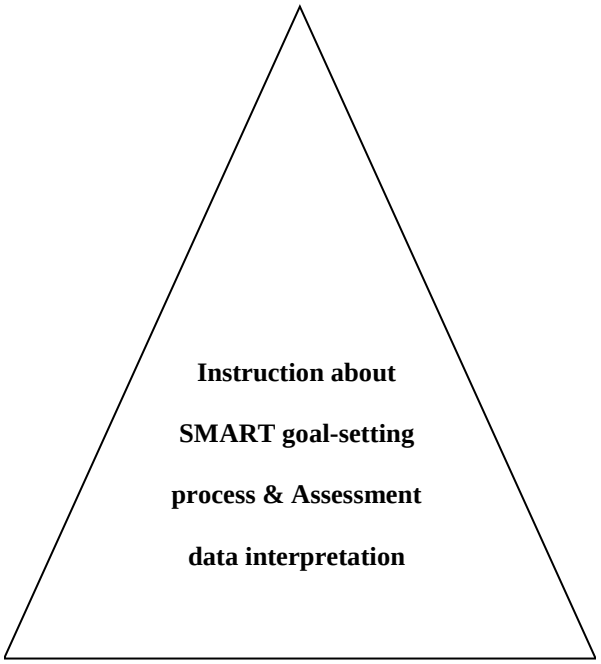
Ode to Self-Confidence

Doubt, always the one to take away hopes and dreams,
our feelings give and take as they please,
our hopes,
our dreams,
those are all dependent on our mind.
Whether our mind is giving, or cruel, we can change that,
we need confidence,
confidence.
Confidence is the best feeling in the world,
Self-confidence gives humans motivation,
the motivation to do more,
and to strengthen our world.
Self-confidence is the water to our flowers,
the gas to our cars,
the trees to our earth,
it saves us.
Confidence is the backbone to the world.
Without confidence we'd still live in jungle,
we'd still be writing solely in pictures,
but how is self confidence achieved?
It's a hard feeling to reach,
Is self-confidence a feeling?
It's more of a life style,
it shapes our lives like clay,
It shapes our everyday decisions.
To reach self-confidence is hard to teach,
You must achieve it on your own,
whether it’s by taking a risk,
or making a decision independently,
or just by following through with plans.
To reach self-confidence you must try to reach it,
You can't drown yourself in pity,
you must hold yourself up,
and believe in yourself.
As hard as it is to reach for most,
Once you reach it, it will be worth it,
to feel that warm glow in your stomach,
and to be happy with the decisions you make,
I'll tell you again,
Self-confidence must be the best feeling in the world,
because without it I wouldn't be writing this paper.

Appendix I

Diagram of Triangulation

1. Pre and post- Questionnaire



3. Focus group data

2. Quantitative Assessment data

Vitae

At the time of this study, Laura Conley taught seventh grade teacher in a suburban St. Louis, Missouri school district. She taught fifth, sixth, and seventh grades during the 27 years of her tenure. She also served as a Missouri STARR Teacher from 2003-2005. Throughout her teaching career, Laura has been a teacher leader through NEA and as a mentor to 15 first and second year teachers.

Laura achieved her plus 30 hours and her middle school certification at Maryville University. Her Master's of Arts in Education was from UMSL and her Bachelor's of Arts in Education was from Maryville University. Laura has an anticipated graduation date with her EdD in instructional leadership from Lindenwood University is December 2016.