

Running Head: Student Achievement and Goal Setting

A STUDY ON STUDENT ACHIEVEMENT OF CLASSES THAT SET GOALS  
AND SELF-MONITOR THEIR ACHEIVEMENT

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## ABSTRACT

This study investigates the need for student achievement using intrinsic motivation. The research findings answer the question, “Is there a difference in student achievement when students set and monitor class goals?” The research was conducted by comparing the spelling scores of two 4<sup>th</sup> grade classes of students with various learning needs. One class, CL-1, set and monitored their achievement toward an end of quarter class spelling goal; the other class, CL-2, did not set a goal. The findings were analyzed through descriptive analysis using ASP statistical software. The findings indicate that there is a significant difference in student achievement based on goal setting. It was determined that there is a significant difference in student achievement based on goal setting. The students who set goals had significantly higher student achievement than the students that did not set goals. Goal setting does affect student achievement.

## INTRODUCTION

### *Background, Issues and Concerns*

A suburban district located in Missouri, hereafter referred to as RT, has experienced an influx in the number of students that qualify for free or reduced lunch. In 2006 the percentage of students qualifying for free or reduced was 40.8%. By 2010, the percentage of students qualifying for free or reduced lunch had increased to over half of the student population to 53.9%. As the number of free or reduced lunch students increases, student achievement decreases. The school district has implemented Response to Intervention for both reading and math to help improve student achievement. This project will involve students setting goals as a class, and monitoring their own achievement on spelling tests. The analysis of results will differentiate between a group of students that track their own achievement and students that do not set goals or monitor their achievement.

### *Practice under Investigation*

The practice under investigation is the effectiveness of students setting class goals and monitoring the goals. Many districts in Missouri continue to have a decrease in student achievement. Research was needed to determine if students that felt ownership over their education and learning would increase student achievement through setting class goals and working as a unit to meet the goals.

### *School Policy to be informed by the Study*

Students in the RT school district are required to meet grade level expectations each quarter throughout the school year. When students are informed of the expectations from the beginning they are motivated to reach that goal. Students work harder when they take a role in

their own learning. It is overwhelming for students to be required to meet large goals at the end of each quarter. By setting goals throughout the quarter students feel a sense of accomplishment for meeting a smaller goal, which keeps them on the right track to meeting the larger goals at the end of each quarter.

### *Conceptual Underpinning*

According to Kutler, P., Laskin, R., Winship, C., Atkin, M., Besaw, J., Kissinger, J., ... Unhjem, J. (2007), *Homework Guidelines*, based on Allen Newell and Paul S. Rosenbloom, explain, in order for students to reach a mastery level students must practice the concept for days, sometimes even weeks. When students practice a concept for only a few days, they are only to the halfway mark of mastery. Students cannot be rushed to reach mastery of a concept. Studies show it takes students twenty-four or more practice sessions to reach a mastery level of 80%. The purpose of this study was to help students set goals for a concept that they are expected to reach mastery on according to the grade level expectations, and to help them break that goal into smaller more achievable goals according to their learning needs. According to Robert J. Marzano (2001), in order for students to gain understanding, processes must be broken down into smaller skills. Students should be allotted time to practice these skills. After completing assignments students should be provided feedback in a timely manner. Student learning increases when they know right away of their mistakes and can correct their mistakes. In this study students that self-monitored determined whether or not they met their goal immediately after taking their spelling test. The students had a basis for determining how close they were to reaching their set goal for the following week, and if they were close to meeting the overall grade level expectation.

*Statement of the Problem*

As the diversity and apathy increases in the RT school district there is a decrease in student achievement.

*Purpose of the Study*

The purpose of the study is to determine if student achievement increases when students set and monitor goals as a class. The information gained will help teachers motivate their class and to show their students how to take in active role in their education, which in turn will increase student achievement.

*Research Question*

*RQ 1:* Is there a difference in student achievement between students who set and monitor class goals and students who do not set class goals?

*Null Hypothesis*

H<sub>0</sub>: There is no difference in student achievement between students who set and monitor class goals and students who do not set class goals.

*Anticipated Benefits of the Study*

The results of this study will inform school officials about the importance of students setting and monitoring class goals. It will inform teachers of a strategy they can use to motivate their students.

*Definition of Terms*

DESE: Missouri Department of Secondary and Elementary Education

RTI: Response to Intervention

*Summary*

RT is a suburban school district in Missouri with eight elementary schools. The elementary schools require students to meet goals defined by the grade level expectations throughout the school year. This study investigates the use of student goal setting and self-monitoring to increase student achievement. The study compares the achievement between students that set and monitored goals and students that did not set and monitor goals. The benefit of this study determined that students that set and monitor goals have higher achievement.

## REVIEW OF LITERATURE

Goal setting as defined in the book, "Classroom Instruction that Works", "is the process of establishing a direction for learning" (Marzano, 2001, p. 93). In order for students to take ownership in their learning they must be aware of the overall goal. They need to make small goals along the way to track their success and feel like they are on the path to meeting the overall goal. Students need to track their own successes, rather than comparing their achievements to that of their classmates. According to Aristotle, "first, have a definite, clear, practical ideal; a goal, an objective. Second, have the necessary means to achieve your ends; wisdom, money, materials, and methods. Third, adjust all your to that end" (Braude 1962). Giving students the direction and tools to be responsible for setting their own appropriate and reasonable goals will lead to improved self-esteem and higher achievement.

According to Jenkins (1994) "one of the biggest problems facing students in school is not the inability to learn the material, but rather irresponsibility" (Bogolin, Harris, Norris, 2003, p. 33). Educators must teach students responsibility and how to take ownership over their goals. "Teachers need to teach students how to become masters of their own learning" (Zimmerman, 1990, p.4). According to Nicholls (1978), "students are not putting forth their best effort when they have the ability to do so" (Bogolin, Harris, and Norris, 2003 p. 33). Often, students feel that they cannot control their ability to do well; therefore their motivation level is decreased.

When students are given the tools needed to improve their learning and manage their own individual goals, motivation is a natural outcome. According to Zimmerman (2002), "self regulation increases student motivation and engagement by enabling students to customize and take control of their own learning through conscious knowledge of effective strategies and choices" (Campbell, 2009, p. 98).

According to Schunk (2003), “goals can be seen as important factors in motivation and learning” (Campbell, 2009, p. 98). “It is also possible that some bright children underachieve due to poor sense of self-efficacy” (Morisano & Shore, 2010, p. 251). “It is imperative that children be encouraged and enabled to assume increasing responsibility for their own learning” (Morisano & Shore, 2010, p. 256). Students that self-regulate or use self-management skills correctly, tend to have increased levels of self-efficacy, motivation, and school achievement (Zimmerman 2002).

The best practice for student goal setting is a classroom that is structured toward perceiving goals that work best for each particular student and then providing that student with the skills to discern what they want as a personal end result. In the article, *Effects of classroom structure on student achievement goal orientation*, Self-Brown and Mathews (2003) determined whether different types of classroom structures had an impact on student goal orientation. “It has been suggested by Ames (1992) that students should be oriented towards mastery goals where the focus is on effort, not ability” (Campbell, 2009, p. 100). According to Schunk (1990), “it is also important for students’ goals to be realistic and attainable, though, they also need to be challenging” (Campbell, 2009, p. 98).

Teachers and parents need to encourage students to accept more responsibility for daily and weekly goals, and eventually students will have the skills to dissect large, end-of-quarter and end-of-year assignments. Assignments that previously appeared impossible in the eyes of students become very attainable. Parents and educators “need to teach children how to set goals that are specific, proximal, and reasonable, so that self-efficacy is bolstered and motivation grows” (Morisano & Shore, 2010, p.256). Students learn that a long-term goal is something they want to accomplish for the entire school year and that a short-term goal is something they want to accomplish on a weekly or monthly basis (Rader, 2005, p.124).

Students with a solid understanding of how to set a goal that is pertinent to their individual learning will be able to evaluate their personal progress. According to Webb, Meckstroth, & Tolan (1982), “when children set inappropriate goals, it can put their developing self-esteem at risk. Goals that are set too high, or too low, or in terms that are too vague might lead the child to think of himself or herself as a failure” (Morisano & Shore, 2010, p. 253). For students to have an understanding of their academic progress, they need to understand their goals and be able to work with their teachers to determine if they are making progress (Swain, 2005, p. 259). It is important for goals to be general enough to provide students with some flexibility. One variation of goal setting is to contract with students for the attainment of specific goals. This provides students with a great deal of control over their learning (Marzano, 2001, p. 95).

The history of goal setting can be traced back to the Greek philosopher, Aristotle. Educators and philosophers have continually researched, studied, and given on various theories and results of goal setting. Psychologist Edwin A. Locke is known to be a pioneer in this subject and in the mid 1960s began studying how goals can impact individuals and activities. In his manuscript, *Goal setting and task performance: 1969-1980*, Locke (1981) demonstrates his direct correlation between goal setting and Aristotle’s doctrine on causality. The 2<sup>nd</sup> edition of the *Encyclopedia of Philosophy* discusses Aristotle’s theory: It was not long after the very beginning of philosophy in ancient Greece that serious reflection concerning the nature of causation arose, with Aristotle’s famous discussion of causation in Book 2 of his *Physics*. The result was Aristotle’s doctrine of four types (or, perhaps, aspects) of causes- material, formal, efficient, and final- an account that was immensely influential for about two thousand years.

Commencing goal setting in early grade levels allows time to perfect the process of goal setting as students advance through middle and high school. Through process students will

continue to build confidence. According to German, Martin, Marshall, & Sale (2000), “becoming motivated and attaining self-determination are necessary in order for the goal setting process to continue. Teaching students these skills and giving them an opportunity to practice them leads to self-determination (Bogolin, Harris, and Norris, 2003 p. 16).

In a study by Bogolin, Harris, and Norris (2003), it was determined that children struggle to construct long-term goals, and children that do attempt to set goals for their academics set unreasonable goals. When students set their own goals and track them they become more goal-orientated. They can see their progress and use the information to set further goals. Students who see the success of their goals have higher levels of self-efficacy which results in higher student achievement. According to Fulk & Montgomery (1994) “when students are involved in creating their own goal, recording and graphing their own data, and are made to reflect on their work, they are more likely to become more motivated” (Bogolin, Harris, Norris, 2003, p. 43-44). When students write down their goals, they are forced to examine themselves and see their own dreams (Rader, 2005, p. 123).

It is important for teachers to work towards balancing self-esteem with student achievement. Research has proven that when students are involved in setting personal goals, they are more likely to improve in their academics. According to Schunk (1985), when goals are set, students take ownership of their learning and are motivated to improve their performance. “It is possible that some bright children underachieve due to poor sense of self-efficacy” (Morisano & Shore, 2010, p. 251).

Allowing students to practice goal-setting and inserting their own control will lead to improved achievement and self-efficacy. According to Webb, Meckstroth, & Tolan (1982), “when children learn how to break down difficult goals into intermediate and manageable tasks, a sense of control and proficiency is triggered” (Morisano & Shore, 2010, p. 255).

Parents and educators must remember there is an important difference between their goals for the child and the child's goals. According to Aristotle "All men seek one goal: success or happiness" (Braude 1962). Educators must persist in guiding students to set proximal, appropriate, and individual goals, to ensure that students discover success.

## RESEARCH METHODS

### *Research Design*

Data collected from two fourth grade classrooms served as the research design. The alpha level was set at 0.25 for the t- test with this research. The independent variable was the category of students; students who set and monitor goals, and students who did not set goals. The dependent variable is the spelling test scores. The study will compare the spelling test scores between two groups of students: students who set and monitor class goals and students who do not. The data will be tested using a t-test analysis.

### *Study Group Description*

The study group for this research consisted of 32 fourth grade students from two separate classrooms. One classroom, hereafter referred to as CL-1 contained 16 students, while the second classroom, hereafter referred to as CL-2 contained 16 students. Each class consisted of fourth grade students with a variety of learning needs. Each student completed a weekly spelling test consisting of fourteen words. Prior to the first spelling test the students in CL-1 worked as a group to set an end of the quarter class spelling percentage goal. The students in CL-1 were informed of the grade they received on their test immediately after completing their test, and the class average on the spelling test. A class discussion followed to determine how close the average was to the end of the quarter goal, if there was an increase or decrease from the previous week, and actions necessary for assurance for meeting the end of quarter goal. Students in CL-2 were informed of the grade they received on their test three days after completing their test. No goal was set for CL-2, and a class discussion did not occur regarding spelling grades.

### *Data Collection and Instrumentation*

All 32 students participated in five weekly spelling tests. Prior to the first spelling test students from CL-1 set a class goal for the class average they wish to achieve by the end of the quarter. After completion, the spelling tests were immediately graded and the class average was calculated. A class discussion followed to determine if the class was on track to meet their end of quarter goal. The spelling tests were passed back to each individual to determine how their score affected the class average. If necessary the class discussion continued to determine how to increase the class average. Students in CL-2 participated in the weekly spelling test and received their test with the number of words spelled correctly indicated at the top. Students continued this process for five weeks. Student scores were collected for each spelling test at the end of the five weeks, and were recorded by class in an Excel spreadsheet.

### *Statistical Analysis*

A Statistical Package (ASP) software was used to complete the statistical calculations in this study. The data was tested using a t-test analysis. Microsoft Excel was used to compile the data used in the t-test analysis.

## FINDINGS

To determine if there is a difference in student achievement between students who set and monitor goals and students who do not data was collected from 32 fourth grade students on 5 weekly spelling tests. The data was tested using a t-test Analysis.

**t-Test Analysis Results for Student Spelling Scores**

Source	Mean	Mean D	<i>t</i> -test	df	<i>p</i> -value
Goal Setting (n=96)	12.76				
No Goal Setting (n=96)	12.09	0.667	1.878	190	0.062

Note: Significant when  $p \leq 0.25$

Spelling scores were collected for 32 fourth grade students to observe the difference in student achievement between students who set goals and student who do not set goals. The strategy of goal setting was used to create two groups: 1, students that set goals (16 students) and 2, students that did not set goals (16 students). The mean of group 1, the students who set goals was 12.76, and the mean of group 2, the students that did not set goals was 12.09. The Mean D, or difference of the two groups was 0.667. The t-test result was 1.878 and the df was 190. The null hypothesis states that there is no difference in student achievement between students who set goals and students who do not set goals. The p-value was 0.062 and the alpha level was 0.25, therefore the null hypothesis is rejected. It was determined that there is a significant difference in student achievement based on goal setting. The students who set goals with a mean score of

12.8 had significantly higher student achievement than the students that did not set goals with a mean score of 12.1. Goal setting does affect student achievement.

## CONCLUSIONS AND RECOMMENDATIONS

The null hypothesis stated that there is no difference in student achievement when students set and monitor class goals. The results of this study indicate that there was a significant difference in student achievement when students set and monitor class goals. Students that set and monitor goals have significantly higher achievement than students who do not set goals. Goal setting does have an effect on student achievement. Students cannot be expected to reach mastery after practicing a concept for only a few days. For higher student achievement, students must set an overall goal, and then work, over an extended period of time, while self-monitoring their achievement, to meet that goal. When students receive regular feedback on a long-term goal, they are held more accountable for meeting that goal.

The school district should consider an in-depth study of student goal setting, including further studies conducted to compare student achievement through goal setting in various academic areas, various grade levels, and individual goals rather than whole class goals. Also, it would be recommended that teachers be involved in professional development to receive training on implementing goal setting in the classroom. This could be done by having a small group of teachers that have implemented goal setting in their classroom lead training sessions for teachers that have not implemented goal setting.

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