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The Impact of Peer Accountability Groups in a Mathematics Classroom

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HONORS PROJECT

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Abstract

This research study will examine student goal attainment through self- and peer analysis. The participants of this study will be students in an eighth grade mathematics class. Research was conducted through Google forms where students were able to list their goals, ideas for reaching those goals, and respond to weekly prompts. Overall, the peer accountability groups tended to be beneficial for most students.

Introduction

The National Council of Teachers of Mathematics (NCTM, 2000) suggests that students learn more and understand better when they control their learning through setting goals and monitoring their progress. Students can do this by analyzing the task they need to accomplish and discussing strategies for accomplishing this task. Afterwards, they should receive assistance in monitoring their progress towards completing the task. This allows students to learn strategies that are effective for them (Pape, 2005). In addition, achievement has also been found to correlate with learning environment (Gherasim, Butnaru, & Iacob, 2011). A positive learning environment is created by establishing a sense of community in the classroom (NCTM, 2009). A positive learning environment leads to students setting and achieving goals. All of these elements; goal setting, goal achievement, and a positive learning environment; allow students to build valuable skills.

I will use the results of my action research project to impact my teaching. The phenomenon that I will be researching is students' goal attainment. I would like to help my future students set and reach their academic goals in my classroom through self and peer analysis. I will do this by creating a positive learning environment with a focus on mastery goals. This study is important because students need to be able to set goals for themselves and work towards meeting these goals. This process helps to provide benchmarks that will help students learn mathematics. Students should also support each other and encourage their peers to reach their goals. I anticipate that the self and peer analysis will support goal achievement because students will receive and give feedback about reaching goals. The reminder and accountability involved in this study will help students stay on track and reach their goals.

Literature Review

Achievement goal theory was developed in the late 1970's and early 1980's as researchers started looking into motivation in "competence-relevant settings" (Kaplan et al., 2002, p. 22). As multiple researchers started sharing their findings they found that they had similar insights about the differences in students' learning. One aspect that made these researchers stand out was their focus, not only on differences in strength of students' engagement in learning, but on the quality of student engagement (Kaplan et al., 2002). Goal theory was a way to conceptualize student motivation. This theory was different from others because it was concerned with the reasons students feel they should engage in achievement-related behavior and the meanings they give to their achievement (Turner, Meyer, Midgley, & Patrick, 2003). Achievement goal theory looks at the big picture instead of specific aims that students have. It does not focus on the psychological, cognitive, affective, and behavior consequences and instead involves ways that students think about themselves, their tasks, and the outcomes of these tasks (Kaplan et al., 2002). Achievement goal theory examines performance and mastery goals.

Goals are general reasons for why an individual performs a certain task, which impacts an individual's motivation. There are two main types of goals: performance and mastery goals (Zusho, & Pintrich, 2001). A performance goal is built around demonstrating competence or avoiding demonstrating having a lack of competence (Kaplan et al., 2002). Performance goals can lead to more anxiety, an increasing chance of distracting thoughts, and less cognitive capacity, (Zusho, & Pintrich, 2001). An example of a performance goal would be setting a goal to receive the highest grade in the class. A mastery goal focuses on developing one's competence (Kaplan et al., 2002). Mastery goals are centered on the intrinsic value of learning and the belief that effort leads to success. This leads students to prefer challenging work, persist through difficult problems, and have a sense of satisfaction in their effort (Turner et al., 2003).

Mastery goals help students maintain their self-efficacy when facing failure, help avoid negative affect and allow for cognitive achievement and engagement (Zusho, & Pintrich, 2001). A mastery goal would be striving to understand a concept. Mastery goals tend to benefit students but there are other components that impact the type of goal a student sets. However, students need motivation to reach their goals for both mastery and performance goals.

One study in particular, the study of Ms. Clark and Ms. Robinson, illustrates these results. This study was conducted in two sixth-grade classes in an urban school district in the Midwest. The teachers taught mathematics and other subjects in self-contained classrooms. Ms. Robinson had 18 students in her class participate in the study and Ms. Clark had 16 students in her class participate. Ms. Robinson had 22 years of experience and a master's degree and Ms. Clark had 15 years of experience and 30 credit hours beyond her bachelor's degree. Ms. Robinson and Ms. Clark used some of the same strategies while teaching but the environments in their classes were different (Turner et al., 2003).

There were some strategies that both teachers used. For example, both teachers taught strategies that students could use to help them understand and remember concepts. These strategies provided chances for students to develop self-regulation strategies (Turner et al., 2003). Self-regulated learners frequently begin their assignments earlier, plan how they will accomplish this task, and are very proactive. Self-regulation is important because self-regulation strategies are predictive of academic achievement and success at problem solving (Pape, 2005). Both teachers were also aware of student misunderstandings which supported their students' abilities to respond to confusion in a positive way (Turner et al., 2003). This is important because even when teachers are discussing difficult concepts they can still motivate their students and create a positive learning environment (Willis, 2010). One way to create a positive

environment is to establish a community where students learn a variety of approaches and solutions (NCTM, 2009). In order to create a positive learning environment, teachers need to make sure they are consistent with the messages they send their students and work to establish a sense of community in the classroom.

Ms. Robinson did this in her classroom and as a result, had a positive learning environment. Ms. Robinson consistently supported and encouraged her students. One strategy that Ms. Robinson utilized to do this was encouraging students to ask questions when they did not understand a concept. For example, when one student factored 75 differently from another student, Ms. Robinson asked the class a question, which helped all students understand the student's question and took the pressure off one student. She would also ask students questions when they gave explanations to problems to ensure that they understood the material and that their peers understood. These strategies contributed to the support and encouragement that Ms. Robinson provided for her students. Discourse that assures that questions and mistakes are part of learning has been shown to be beneficial to students (Turner et al., 2003). The teacher's role is to orchestrate oral and written discourse in a way that contributes to students' understanding (NCTM, 2007). Ms. Robinson utilized discourse in a way that supported and encouraged her students, which led to her students reporting lower negative affect (i.e., feelings). Her students were also less likely to practice self-handicapping. Researchers believe that this was a result of how Ms. Robinson encouraged, engaged, or complimented her students on their learning (Turner et al., 2003). This is because a teacher's actions and norms within the learning environment encourage student participation and build rapport (Zusho, & Pintrich, 2001).

The learning community and environment is in part based on the norms for speaking and listening in a classroom (NCTM, 2003). Some appropriate norms include, everyone listening,

being involved, sharing ideas, making sure that no one is left out and ensuring that everyone understands the mathematics by the end of the lesson (Cirillo, 2013). Responding to students in this way helps students to assess their competence and allows students to feel less need to protect their self-worth since their teacher assures them that they are competent, which helped Ms. Robinson build rapport. Ms. Robinson also recognized students' accomplishments, both as a class and individually. She encouraged students to support each other and to collaborate with each other. She wanted her students to be comfortable admitting they were confused and she would not stop until students understood the material (Turner et al., 2003). I want to run my classroom this way so that my students support and collaborate with each other. I also want my students to feel comfortable sharing their goals with their peers and me. Ms. Robinson also presented the curriculum as being fun. She expressed her high expectations and her confidence in her own ability. She told students that she struggled with new math and that if they tried they would improve (Turner et al., 2003). Ms. Robinson demonstrated a characteristic of an effective teacher as described by the National Council of Teachers of Mathematics (2000) by believing that every student can and will understand math and working to support each student in that goal. A teacher can prepare students for a difficult task by informing students that the task might be unusual or confusing but that the teacher will be there to support them. This creates a positive learning environment that helps motivate students (Willis, 2010). I would also like to do this in my classroom as this contributes to a mastery learning environment which I believe will benefit my students more.

Ms. Clark sent her students mixed messages. At times Ms. Clark was unsupportive, especially to struggling students. This caused her students to have high levels of anxiety and to doubt their self-worth. This teaching strategy also caused Ms. Clark to miss opportunities for

students to demonstrate their learning. This was because Ms. Clark was more likely to notice her student's shortcomings and blame her students for not trying rather than celebrate her student's success. The way a teacher approaches instruction, including class policies and student norms, influence the personal goals that students work towards in their class (Kaplan et al., 2002). However, students' interpretation of the classroom environment is beneficial in predicting students' motivation, behavior, and cognition (NCTM, 2007). In fact, researchers proposed that "...it is the meaning or purpose for engaging in academic behavior, as construed by students, that affects their motivation." (Kaplan et al., 2002, p. 22). Based on Ms. Clark's responses to students, students probably perceived a classroom where performance goals were valued. This is not motivating to students who are not good at math. When it came to mathematics specifically, Ms. Clark told her students that some students were not good at math but they needed to know certain facts by the end of the year (Turner et al., 2003). Research has shown that the subject matter and difficulty greatly influence student motivation, self-efficacy, and interest (Zusho, & Pintrich, 2001). So presenting material in this manner did not help motivate Ms. Clark's students to succeed. In fact Ms. Clark's statement about students who are not good at math just needing to know certain facts by the end of the year could influence the goals those students set for themselves. This study found that performance goals, like the ones in Ms. Clark's classroom, can lead to the avoidance of challenging tasks and that performance goals result in negative affect following failure (Turner et al., 2003). For this reason I will try to avoid the strategies that Ms. Clark used in her classroom.

Classes with an effective learning environment may support students in creating and working towards mastery goals instead of performance goals in a mathematics class. This is important because classes that support mastery goals have positive outcomes whereas classes

that support performance goals have more negative outcomes (Kaplan et al., 2002). This is because an emphasis on mastery goal structure encourages effort by viewing mistakes as constructive and beneficial for learning. The study of Ms. Clark and Ms. Robinson showed that a focus on understanding and learning encourages self-confidence and encourages students to choose challenging tasks which in turn leads them to enjoy math more. Teacher's actions communicate the purpose of achievement and influence the goals that students create for themselves through goal structures (Turner et al., 2003). I will work to create a positive, mastery goal environment for my students to learn and support each other.

The study of Ms. Clark and Ms. Robinson focused on the impact that classroom environment had on two self-contained classrooms. However in another study, which examined 350 seventh grade students, there were similar results. These students came from three schools in the same town and were from various socioeconomic backgrounds. This study examined intrinsic motivation, achievement goals, learning environment, perceived competence, and school achievement. This study found that achievement was positively correlated with learning environment, mastery goals, and some performance goals. This study also found that achievement goals were more powerful in predicting student achievement than intrinsic motivation (Gherasim, Butnaru, & Iacob, 2011). This could be because of the task value students assign to achievement goals. The motivational components of task value that a student assigns to a task influence the goals they set. Two components that influence goals are attainment and utility value. An individual's personal importance of doing well on a task is the attainment value and the utility value is how important a task is for their future goals (Eccles, Wigfield, & Schiefele, 1998). Even though these influences are personal to each student, the study found that the learning environment and motivational beliefs were important in

achievement and the level of competence that students felt (Gherasim, Butnaru, & Iacob, 2011). A positive learning environment influences student's achievement goals and how they reach these goals. So I will work to have a positive learning environment in my classroom throughout the study.

The impact of the learning environment on students' goals is based largely on how students perceive instructional policies and practices. It is important for teachers to realize that students vary in how they interpret the goals that teachers try to communicate (Kaplan et al., 2002). Creating a supportive, positive learning environment impacts social goals and interactions among students. The way that students interact with their peers impacts how students collaborate and the level of respect that students have for their classmates (Kaplan et al., 2002). This collaboration and respect is important because studies have shown that collaborative learning is very beneficial to students (Zusho, & Pintrich, 2001). I will investigate student goal achievement through self-accountability and peer accountability groups because of the information found in this research. I will work to utilize the effective strategies from the studies so that I can help my students reach the goals that they set for themselves. I will be looking to see if accountability helps students reach their goals in a mathematics classroom during my student teaching.

Method

The majority of my action research project took place during student teaching. However, in order to prepare for the research, I laid the foundation during my methods field experience. In my methods and student teaching experience I worked with eighth-grade students in a middle school.

School and Class Settings

The district I worked in is considered an urban district by the Ohio Department of Education due to the high student poverty and the average student population (Ohio Department of Education, 2013). I worked with students in the Math 8 class (pre-algebra). This course is a year-long course that meets for 84 minutes every day. For my research, one Math 8 course was selected at random. The class had a total of twenty-three students, which included nine males and fourteen females.

Procedures

Preparations for study.

The first step in preparing for my research was observing my students while co-teaching with my cooperating mentor teacher (CMT) during the Fall 2013 semester. During this observation, I took notes regarding the procedures and routines of the classroom. Students sat in groups of either two or four throughout the fall semester. Students were frequently given time to participate in group work and were fairly comfortable in doing so. When students were given group work, I observed that some students tended to work together when they are given the chance to choose their partners. Following this observation, I investigated the ways the individual groups worked together in order to determine if these groups were productive. Their productivity was determined by the time on task during the allotted period for group work. This was important for the research project because the groups in this study needed be productive so that students were really working together to reach their goals. I also chose to use Google Forms to collect data for the research. About two weeks before I began collecting data, students completed a survey on their group preferences. The survey asked students to state their name, class (based on the hour of the class), as well as one person they would like to work with and one person they would not like to work with (Appendix A). Based on the responses to this survey

and the observations, students were placed into their accountability groups. Students began completing surveys at the beginning of a new unit. For this survey students set a mathematics goal for the chapter, stated how they would work to reach that goal, and shared if they have met a goal before and how they met it. Students then completed a survey on each computer lab day, Tuesdays and Thursdays. On Tuesdays students completed a survey where they stated their mathematics goal for the week, and how they planned on meeting that goal, as well as what advice group members gave them (Appendix B). Finally, on Thursdays students completed a survey where they provided a self-assessment, on a scale of one to five, on how they felt they were meeting their goal as well as what students thought were contributing to their level of success (Appendix C). All of the surveys were prepared before the study began.

Present study.

Students were placed in groups of about four students. These groups were a combination of the peers that they chose to work with and peers that they effectively and productively work with. These groups were determined by student input, my observations, and input from my mentor teacher. This provided confirmation to the previous observations and ensured that students were placed in groups where students would support each other in their goals.

Students were introduced to their groups within the second and third weeks of student teaching (i.e., early January 2014). When students first met in their groups, they completed a survey through Google Forms concerning their goal for the chapter. This survey asked them to state their goal for the chapter, how they planned on reaching this goal, and what goals they have met before, if any (Appendix D). Students met in their groups twice a week for about 10 minutes at the beginning of class on Tuesdays and Thursdays. During this time students discussed their

goals, and their progress towards the goal that they wrote at the beginning of the week. They completed a survey again and included the advice their group members gave them.

Students' surveys were completed to analyze their goals and to observe the suggestions or help offered by their group. Students' responses to the surveys were organized by group number and kept in an excel file. Students' goals were analyzed and then classified as mastery goals (MG) or performance goals (PG) in the excel document. In a separate word document, notes were made regarding anything that was observed while students completed their survey. This allowed the data to be organized in a manner that was easy to refer back to.

These procedures were repeated throughout the (four-week) unit. Students set a goal each week in the unit. This allowed students time to become familiar with the accountability groups.

Data Analysis

I began by classifying students' chapter goals as either a performance goal or a mastery goal. This was the starting point for student goals. Students then began setting their weekly goals. I also classified these goals each week as students set them. Later that week students provided an indication, on a one through five scale for how they felt they were reaching their goal.

I then went through and first looked at the groups and what kinds of goals the members of each group set. I then looked at the goals after that to see if there were any changes in the kinds of goals that each member of each group set. I then compared my observation notes to the progress that individual group members felt they were making towards their goals. This allowed me to determine if there was a correlation between the ways groups interacted and the progress individuals were making towards their goals. I also observed if individuals or groups changed

how students self-assessed their progress towards their goal throughout the process as well as what students think is contributing to their level of success.

I also examined students' self-reflections throughout the process. For example, I looked at students' responses regarding if they felt that writing down goals was beneficial and why. I then took this data and looked at the average for each student as well as the standard deviation. This provided insight as to how my students felt that writing goals was helping them, if it was at all. I also examined student responses regarding how much their group helped them as well as why this was the case. This provided information on how students perceived the groups and how it impacted their goal setting. So while a majority of the analysis was qualitative, there was also a quantitative aspect.

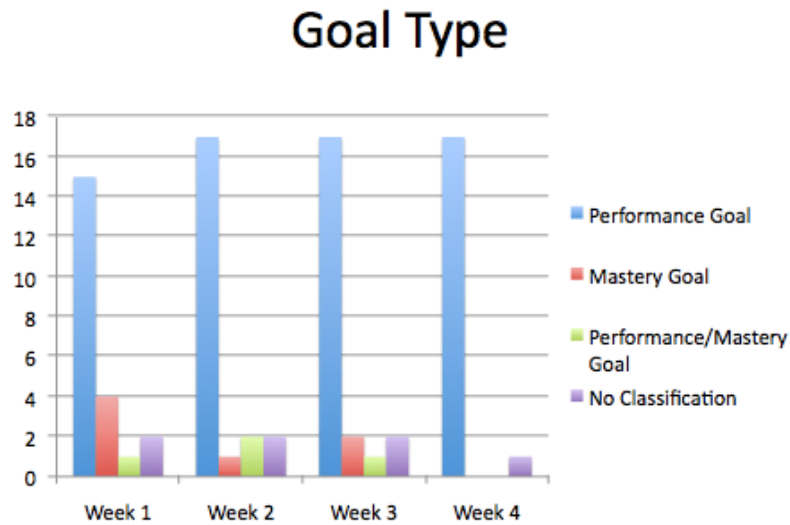
Results

Weekly Goal Findings

Each week as students set their goals, I classified the goals that students set as either a mastery goal or a performance goal. Some examples of goals that I classified as mastery goals were "to understand how to find volume of a [sic] object" and "to understand what we are learning." Some examples of goals that I classified as performance goals were "to get a good grade on the math test coming up" and "my mathematics goal for the week, is to receive an A+ on my project." A majority of the goals set by students fell in one of these categories. However, as I was classifying goals, a few students had goals that were both performance and mastery goals. For this reason, I added a third classification performance/mastery goal to my analysis. Some examples of performance/mastery goals were "to more fully [sic] understand the lesson more [sic] and to do good [sic] on the test" and "to complete all my homework and completely understand it." In these examples students are striving to do well on an assignment or complete

an assignment as well as understand the concept, making it a performance/mastery goal. I also added a fourth classification, no classification. Some students wrote goals that did not fall in any of the previous categories. For example, “not be absent [sic]” or “not to get distracted by personal reasonings [sic].” Instead of throwing these goals out, I classified them as having no classification.

I then tallied the number of goals in each classification for all four weeks. The results are shown below.



When students first started out, there were four mastery goals, fifteen performance goals, one performance/mastery goal, and two no classification goals. As the weeks progressed, the types of goals that were set changed as the work for the week changed. For example, at the end of week two, there was a test. That week many goals related to scores students wanted to get on the test, thus increasing the number of performance goals. During the third week, the number of performance goals remained steady but there was an increase in the mastery goals. Finally, during the fourth week, students had a large project that was due, so every goal, except one that

was unclassifiable, was a performance goal related to completing the project and receiving a good grade.

Self-Assessment Findings

Students had the opportunity to self-assess how they were doing towards reaching their goal. Students based their assessment on a scale from one to five, with one being that they were not doing well towards reaching their goal and five being that they were almost at their goal. Data was analyzed for each individual student, for each group, and per week. Overall, the average response from the self-assessment was approximately 4.12, which tells me that most students felt that they were continually making progress towards their goal. As for the per week self-assessment scores I calculated the average self-assessment score and found the standard deviation for the self-assessment scores. The following results were calculated: $WK1_{avg} = 3.90$, $WK1_{SD} = 1.18$, $WK2_{avg} = 4.50$, $WK2_{SD} = 0.62$, $WK3_{avg} = 4.00$, $WK3_{SD} = 0.94$, $WK4_{avg} = 4.16$, and $WK4_{SD} = 0.83$. Based on these data, I noticed that the average self-assessment score increased, with the exception of week two to week three where there was a decline in the average self-assessment score. Week two was the week where students had a test, on this test most students did very well, which would explain why the average self-assessment rating was higher for this week, this would also explain why there is the smallest change in the standard deviation for week two. Based on these data, students were more successful towards reaching their goal as the weeks progressed.

There were six different groups in this class. I also examined the average self-assessment score as well as the standard deviation within each group. The following results were calculated:

	Mean	Standard Deviation
Group 1	5.00	0.00
Group 2	4.09	0.83
Group 3	4.80	0.41
Group 4	3.17	0.39
Group 5	3.62	1.19
Group 6	4.20	0.78

These data is significant when the members of each group are analyzed. On average group one was comprised of students who are above average, group two was comprised of students who are about average, group three was comprised of students who are above average, group four was comprised of students who are below average, group five was comprised of students who are about average, and group six was comprised of students who are below average. The data show that the group with the lowest average was group four, a group comprised of students who perform below average whereas the group with the highest average, group one, was comprised of students who tend to perform above average.

Conclusion

My research looked at 23 eighth grade, pre-algebra students. The students had various levels of mathematical knowledge. Each student set a goal every week for four weeks and provided a self-assessment of how they were doing towards reaching that goal. Goals were classified as mastery goals, performance goals, performance/mastery goals, or no classification each week. This information was then analyzed in a bar graph. Students provided self-assessment scores each week regarding their goal attainment. This information was then used to determine averages and standard deviations as a whole class, per week, and per group. All of this information led to the conclusions of my research.

Throughout the research, I learned a lot about my students. For example, I learned how insightful students were regarding problems that get in the way of their education. For example, one student said the following when describing what was contributing to her level of success “by

ask [sic] help if I don't understand and when I do ask for help it makes more sense and I do well on my quizzes and my test and I understand my homework more [sic]." Another example is "to turn in missed HW [sic]" this student's grade was suffering due to missing homework assignments so setting this as his goal told me that this student recognizes what he needs to do to improve his grade. I also learned that the longer students participated in the peer accountability groups, the higher the average self-assessment score towards reaching individual goals was. This shows me that the overall, main message from my research is that peer accountability groups tend to be beneficial. I say that they tend to be beneficial due to a trend I found when analyzing the data. One result that surprised me was the difference in the feedback from students when considering which students tend to perform above average, which students tend to perform average, and which students tend to perform below average.

Based on the feedback I found, students who tend to perform above average did not really benefit from the peer accountability groups. These students said things like, "no because I still got the same grades with and without the goals" when discussing if they thought setting goals was beneficial. While this isn't mentioned in the literature, it does align with the information about self-regulation. The students who tend to perform above average were the self-regulated learners, those who started early, created a plan, and were proactive in their learning. These students were already setting goals for themselves and reaching them independently, so the peer accountability groups didn't necessarily help them. As for the students who tend to perform average, the peer accountability groups were beneficial. These students said things like "they have help [sic] me a lot and I think this was the case because they wanted to see me have confidence in myself and have having [sic] that im [sic] doing good [sic] on my test and quizzes" when reflecting on how much their group was helping them achieve their goals. They also said

things like “yes...because everytime [sic] I thought I was getting off topic I would think back to my goal” which shows me that writing down goals was beneficial to these students. Finally, students who tend to perform below average had mixed feedback about the goal groups, in some cases they were beneficial and in others they were not. These students said things like “Yes,Because [sic] It Makes me Think Aout [sic] If I could achieve my goals [sic]” or “a lot because If I don’t understand something they were there to help me [sic]” when reflecting on setting goals and the role their group plays in the achievement of their goal. However, this group of students also said things like “not really because it didn’t help much it really was just something written down and I don’t think that’s going to help me” or “no bcuz [sic] I don’t set goals” when reflecting on the impact setting goals had on these students. So for some students who perform below average, it was beneficial but for others it was not. There was no information that I found in my literature review which mentions this result.

The results of this research will influence my teaching because I can see that setting goals was beneficial for most students, even to serve as a reminder of what they should be doing and working towards. It also allows me to learn about my students and see their self-assessments and reflections on their goals as well as things going on in the class. This research also has practical implications for fellow teachers. The most important of which being the impact the peer accountability groups have on different students, as discussed above. The peer accountability groups are worth trying if they will help students who tend to perform average and students who tend to perform below average. Students who tend to perform average tend to get pushed through the system without much added support or challenges. Having these students set goals and work in groups of their peers to reach their goals, challenges the students to work towards their goal while also helping to instill self-regulation skills. This research also matters to

teachers because it gives students a place to share and reflect on their thinking. This can provide beneficial information that can help guide one's instruction. For example, when reflecting on a goal a student said "no because I still don't understand some of the homework and I did [sic] complete page 565 because I didn't now [sic] how." This shows me that this student did try to do the homework; however, they are still struggling with the concept. I then used this information to guide my instruction and review this concept.

While there were many positive aspects to my research, there were also some limitations. One limitation to my study was snow days. There were many snow days in January and February thus delaying the start of my research. Due to these snow days I did not start collecting data until mid-February. The snow days also caused problems during week two because there was a snow day on a Wednesday. Since students set their goals on Tuesdays and reflected and completed a self-assessment on Thursdays, we had to push back the self-assessment for that week to the Tuesday of the next week. So, students had to reflect on their week two goals on the same day that they set their week three goal. Another limitation was the days that we had access to the computer lab. Due to the computer lab days, students had about a day and a half to work towards their goal before they had to reflect on that goal. Ideally, I would want students to have more days to work towards their goal before reflecting on their goal. Finally, another limitation was student attendance. When students missed school on the days they set or reflected on goals, there was data missing. It also did not help students with their goal setting and attainment.

Looking back, I would also have goals accessible for students to refer back to. Sometimes students forgot what their goal was by the time they had to reflect on how they were reaching that goal. While I could look this up for students, I did not know that they did not remember unless they told me. So to make the research stronger, I would have found a way to

provide each student with a reminder of what his or her goal for the week was. In continuing this research with other students I would be sure that students had access to their previous goals. I would also mix up the groups after four to six weeks so that students are still collaborating with at least one person they request, but are working with new people. This way members of groups that are not productive have the opportunity to experience a productive accountability group. Utilizing this information I will be able to improve on this research and help my students productively and successfully reach their goals.

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Appendix A

Group Preferences

What is your first name?

What is your last name?

What class are you in?

If you could pick one person in the class to work with, who would it be?

You should feel comfortable sharing your goals with this person. If you don't have any preferences type N/A.

If you could pick one person in the class you DO NOT want to work with, who would it be?

If you don't have any preferences type N/A.

Appendix B

Tuesday Weekly Goal Sheet

What is your first name?

What is your last name?

What class are you in?

What group are you in?

What is your mathematics goal for this week?

How do you plan on reaching this goal?

What advice did your group members give you?

Appendix C

Thursday Weekly Goal Sheet

What is your first name?

What is your last name?

What class are you in?

What group are you in?

How are you progressing towards reaching your goal for the week?

1 Not well 5 Almost there

What do you think is contributing to your level of success?

Appendix D

Chapter Goals

What is your first name?

What is your last name?

What class are you in?

What group are you in?

What is your mathematics goal for the chapter?

How do you plan on meeting that goal?

Have you ever successfully completed a goal that you set for yourself before? Explain.