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Reviewing, Rethinking and Revising Homework Expectations in a Seventh Grade Math Class

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Math in the Middle Institute Partnership
Action Research Project Report

In partial fulfillment of the MA Degree
Department of Teaching, Learning, and Teacher Education
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Reviewing, Rethinking and Revising Homework Expectations in a Seventh Grade Math Class

Abstract
In this action research study of my seventh grade mathematics class, I investigated whether de-emphasizing homework assignments as daily grades while stressing them as daily practice encouraged students to focus more on the learning rather than the daily grade. As part of this study, I also looked at how this change in homework expectations affected my daily teaching. I discovered that having students keep notes, examples, practice problems and homework assignments in a notebook helped them concentrate more on the process of getting answers and why they may have had an incorrect answer. Students were more likely to discuss with their peers how answers were found when comparing answers showed differences. When we reviewed the answers, they were more willing to ask questions about why their answer was wrong and then make corrections. As a result of this research, I plan to continue having seventh graders keep using notebooks to organize their notes, examples and assignments.
Introduction

The issue of teaching I investigated for my action research was homework. I was and still am interested in helping my students gain more knowledge from their homework assignments rather than just getting answers on the paper to get a grade. For simplification I considered homework as work that was assigned by the teacher that may be done either at school or outside the school. Homework did not include the practice problems done during class.

I have taught for nine years in a rural southeast Nebraska school district that was formed in 2000 by consolidating two adjoining districts. The elementary students (K-6) attend school in one town and the junior/senior high students (7-12) attend in another town about 11 miles away. There was a total student population in the elementary and junior/senior high of 238 for the 2008-2009 school year. The 12th grade graduating class for 2009 was 15 students. The seventh grade class that participated in my action research project had 14 students.

Along with the seventh grade, I taught Algebra Concepts I, Algebra Concepts II, Geometry, Geometry Concepts, Probability/Statistics and Consumer Math during the 2008-2009 school year. The last two subjects were single-semester classes. The district had one other math teacher at the high school who taught eighth grade Math, Algebra I, Algebra II, Trigonometry/PreCalculus, and Calculus. Class size during the 2008-2009 year ranged from four students to 17, with the average of about 10.

The students were mainly children who had grown up in the area; many had a parent who attended one of the pre-consolidated districts. The majority of students lived on farmsteads, even though their families did not consider farming their main source of income. The rest of the students lived either in one of the two towns aforementioned or one of two townships within the district boundaries. There are fewer than 10 Hispanic students in the district; they all speak
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English almost as fluently as their peers. The socioeconomic ranking of the student body would be from lower class to middle class with about 29% receiving free or reduced lunches.

Nearly every school day for years, students in my classes had been given homework that was to be finished by the next day. When my students turned in their homework, I was never sure if they did it themselves, or copied it from another student. In one instance, a parent did the homework so the child got a good grade. Sometimes time or effort was put into the homework, but many times it was not. Although I put time and effort into grading the entire assignment or selecting a couple problems and grading them, I was never certain what the student really learned from the material.

I always had thought of homework as practice so students would know how to work problems for quizzes and tests. If students could use and apply the concepts and skills for the quizzes and tests, they could use and apply them beyond the classroom. As I struggled to get students to complete and turn in quality homework, I began to wonder if my expectations of what students should get from doing homework were different from their expectations. I felt that my students were not really involved in learning; they were just doing whatever I told them to do. Some were trying to do quality work, but many were just getting answers on their paper. With nearly every assignment, big or small, came the question of whether it was graded. Even as I proceeded with my action research, a few students asked if the written responses and interviews were for a grade.

I had tried making some changes in my grading of homework assignments in the past. A couple years ago I stopped picking up every homework assignment from my sophomore Geometry class. I noticed there were more discussions between students on how they had worked a particular homework problem. Students seemed more focused on the process of
working problems rather than just getting answers. I still collected a few assignments and getting late papers continued to be a problem. Some students gambled that I would not pick up work that day and did not finish their assignment before class. Because of this I was not sure the seventh grade math class had the maturity to complete the homework without handing it in for grading.

In September of 2008, my school district had a meeting of all district teachers to develop a new mission statement. Our discussions focused on what we needed to do to teach students in the 21st century. As I reviewed my own classroom procedures I decided to reorganize my classroom setup. I had trapezoidal tables in rows that I moved into hexagonal groups. Since people rarely work on work-place problems in isolated situations, I felt students should not work in these types of situations. I discovered that many classes began working together on their assignments by discussing the problems. The geometry students especially did, but so did other classes, including the seventh graders. It was not always a give and take effort, but most of the time it was a sharing of ideas and processes.

The importance of sharing ideas and processes in solving math problems was something I learned from Math in the Middle. The Math in the Middle Institute Partnership through the University of Nebraska-Lincoln had been working to provide middle-level teachers with the necessary knowledge and skills to improve student success in math. The courses I had taken with Math in the Middle were either on-campus during the summer or off-campus during the fall or spring. The on-campus classes were good examples of cooperative learning where we shared ideas and theories on problems to solve them. For me, the off-campus classes were examples of working alone, even with Breeze group meetings. Most of our Breeze meetings were asking for help on a problem, with some discussions on different ways to look at and evaluate the problems.
It was very difficult to work some of these problems alone without some discussion. Yet I expected my students to work alone when I assigned them homework.

Homework assignments are not directly addressed in The National Council of Teachers of Mathematics [NCTM] *Principles and Standards for School Mathematics* (NCTM, 2000), but homework does relate directly to two NCTM principals. The NCTM Teaching Principle emphasizes that teachers should analyze how their students are doing with a variety of strategies. Homework is one of these strategies that can be used to adjust instruction and to assess students’ progress because it evaluates and reflects what students are learning. The NCTM Assessment Principle states the assessing students is more than just a test after covering selected material. Rather, the assessment should guide teachers in their teaching and enhance students’ learning. The assessments also should be worthwhile and reflect instructional goals. Given these NCTM recommendations, my homework assignments, as one of the assessment methods, might not be valid if the students were not truly learning the mathematical ideas from the material, but were just working toward answers without understanding.

In this research project I investigated a better use of homework to support students’ learning. I revised my own homework expectations by putting less emphasis on homework assignments for a grade and more importance on learning the topic or concept. To help these seventh grade students make this transition I required them to use a notebook for this class. In their notebook students wrote notes on new topics, did practice problems in class, and kept all homework assignments. Students were still given homework, but the assignments were reviewed for understanding, not for a grade. Grades were recorded from quizzes, chapter tests and other projects or worksheets. By de-emphasizing homework grades I hoped students would
Homework was a topic that appeared in many of my Math in the Middle journal entries last fall. As I reflected on issues of teaching within my own math classes, repeatedly the frustration I had over students not completing and turning in homework assignments emerged. Yet at no time during my math methods courses do I recall discussing how much and what kind of homework is needed for students to learn and become proficient at a topic or concept. It was always left to the individual teacher and/or school district.

This issue is important in many ways. Homework can be a battleground between teacher and student, student and parents, and even parents and teachers. By not having students turn in every homework assignment, I hoped to be able to focus my students more on the learning than just getting correct answers for a grade. I hoped to be able to show that the assignments that I had students do would enhance their learning. I was realistic enough to know that some students would just as soon have no homework ever, but I hoped many students recognized that homework could help them learn more effectively if completed with the goal of understanding. I wanted to find the best method to achieve this goal by my study of homework.

As teachers we want our students to learn mathematics and then be able to use what they have learned in different situations. All teachers want an effective method to assist all students to learn, apply and retain the mathematics we teach. Teachers also need to be able to assess what their students have learned. Through my research I expected to find that using homework for learning rather than grades, students would be more involved in mathematical thinking and have an improved level of mathematical understanding.
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**Literature Review**

Homework: good, bad, too much, too little, not worthwhile, good practice, not turned in, too much to get graded. All of these were issues I had struggled with as I decided what homework to assign – and if I should assign homework – to my students. While focusing on reviewing literature concerning homework for my action research, I found that the homework debate has been going on for many years. Studies from as far back as the 1890s showed no consensus on how much and what type of homework was best. The history of the homework debate was highlighted in many of the articles on homework I read. There was a great deal of overlap in the themes of the literature on homework with the most common themes being time spent on homework, attitudes, effort, and motivation for doing homework and how they affected achievement, along with what results were expected from homework.

**History of Homework Research**

As early as the 1890s, homework has been an issue of education. Gill and Schlossman (1996) reviewed literature and studies from the 19th century to the 1990s. They found that little homework was assigned to students before the 20th century and memorization for recitation was the purpose of any that was assigned.

An anti-homework movement began about this time that tried to abolish homework as it was considered detrimental to students’ health: emotionally, mentally, and physically. While many schools defended homework, the cities of Boston and San Francisco limited or banned homework. Edward Bok, editor of the *Ladies Home Journal*, an influential publication at the time, championed the anti-homework movement. He proposed that children not start school until age 7 and there be no homework for children while they were in grammar school or under the age of 15.
The rationale that homework was a hazard to children’s health because they could not exercise, relax or sleep as much as they needed continued until the late 1920s. Classroom instruction then became more about active learning and less about recitation. There were too many distractions and other interests in the home for this type of learning. Also, parents were not experts in pedagogy, and were not inclined to, nor was it considered their business, to teach their children. In fact, Gill and Schlossman (1996) stated the attitude of some educators was, “abolishing homework might reduce the damage that parents could cause” (p. 50). This attitude led to the addition of supervised study in schools, with teachers doing the supervising. Such study halls were considered superior to homework as a way to learn. Studies done from 1930-1940 seem to confirm this conclusion, although Gill and Schlossman point out that most studies, or experiments as they were called, had many methodological and statistical problems.

After World War II, there was an effort to redefine what homework was and what it should accomplish. Gill and Schlossman (2000) reported that homework reformers proposed that homework be child-centered and focus on what the child needed. There was a movement to go beyond textbooks and memorization to comprehension and absorption. While reformers wanted homework to remain challenging and rigorous, they thought it should be more personalized for the individual child. According to Gill and Schlossman, reformers also wanted more learning by doing and “homework should be learner-driven, independent, and voluntary” (p. 39). This would allow the child to be more actively involved in their learning.

By the mid-1950s, many schools began to regulate homework, specifying what types and how much should be assigned. Some schools prohibited homework to be scheduled on weekends so it did not interfere with other learning and activities. From the late 1950s until the early 1980s, the issue of homework was largely ignored in educational research. There were some studies, but
no national movement for change as there had been since the 1890s (Gill & Schlossman, 2000). Coulter (1979) reported that there had been “few well-designed studies which might support any particular viewpoint on the kind or amount of homework which should be assigned” (p. 21). His overview of homework research concluded either very little or no correlation between homework and mathematic achievement except in high-achieving students.

After the 1983 report, *A Nation at Risk*, homework was again analyzed to find what type of practice was effective to reach education goals. Throughout the 1980s and 1990s, surveys found that students did about the same amount of homework as students had in the 1940s. Throughout the 20th century, anti-homework activists and homework reformers had been at odds on what and how much homework students should be expected to complete. Yet, by the end of the century, there did not seem to be any real changes (Gill & Schlossman, 2000). The literature on more than a century of research on homework did not give me any definite answers on the amount and value of homework for my class.

**Effort on Homework and Student Achievement**

Previous studies on homework discussed extensively students’ efforts on homework and its relationship with achievement. Related factors affecting student effort such as time, attitude, and motivation also have been constantly examined. Below, I review relevant studies that provided the basis for my action research. Time spent on homework was mentioned in many studies, but there was no consensus if more time resulted in better effort or achievement.

Natriello and McDill (1986) surveyed 12,146 sophomores, juniors, and seniors from 20 high schools and found that time spent on homework was an indicator of effort. “Unlike time spent on in-school tasks, time spent on homework is unconstrained by the scheduling practices of schools; therefore, it is a relatively clear indicator of student effort” (p. 18).
In contrast to Natriello and McDill’s findings, Chen and Stevenson (1989) stated that time spent on homework was not necessarily related to academic achievement since some children can complete homework quicker than others. Chen and Stevenson’s findings were supplemented by other cross-national studies. Stevenson (1998) reviewed the Third International Mathematics and Science Study (TIMSS) case studies that focused on schools in the United States, Germany, and Japan. In Japan, homework was not assigned, but students were expected to spend several hours reviewing previous lessons and preparing for the next day’s lesson. In Germany, the amount of homework depended on what type of school a student attended; students spend anywhere from half an hour to more than two hours on homework. In the United States schools, most homework was done at school. Teachers expected the assignments to be done by the next class time and reasoned that students associated homework with studying.

The relationship between time spent on homework and achievement also was studied by Trautwein, Lüdtke, Kastens, and Koller (2006). They stated in their study of 2,712 students in grades 5, 7, and 9 in Germany that, “students who spend more time on homework do not necessarily outperform their peers” (p. 1095). They also noted “effort invested in homework has proved to have a more consistently positive impact on achievement gains than has time on homework” (p. 1095). This contradicted Natriello and McDill’s (1986) findings that time on homework was an indicator of effort, but it is consistent with Chen and Stevenson’s (1989) results.

Trautwein et al.’s (2006) study showed that there was an increase in time spent on homework between grades 5 and 7, but no discernable increase in time between grades 7 and 9, which led the researchers to conclude that homework effort and time spent on homework were unrelated. When analyzing the difference or lack of difference in time spent on homework from
grades 7 to 9, the researchers looked at how conflicting motivations (extracurricular activities, gender role expectations, etc.) had a negative impact on homework effort. Trautwein et al. concluded that as students got older, they may be able to do the homework, but did not see the point in doing it. They attributed this to the repetitiveness of math homework in German schools. Trautwein also conducted three studies in 2007 to investigate the relationship between homework and achievement. The first study surveyed 24,273 students in Germany and found the relationship between homework time and achievement was only moderate at the school level and was negative at the individual level. The second study involved 2939 students in lower secondary schools (grade 7 & grade 8) who participated in TIMSS. This study found that “homework frequency—not homework time—was a significant predictor of achievement at the class level” (p. 381). The third study involved 483 eighth graders who attended a high-achiever’s school. Trautwein examined student behavior in two areas, homework effort and homework time, and looked at how each affected achievement. Homework effort showed a positive relationship to achievement, but homework time was negative or not significant. He concluded that homework assignments and the frequency of homework had a positive impact on achievement, but time spend on homework did not have an impact.

Cooper, Robinson, and Patall (2006) reviewed studies from 1987 to 2003 on the effects of homework and found consistent evidence of positive influence of homework on achievement. They defined homework as “any task assigned by school teachers intended for students to carry out during non-school hours” (p. 1). Cooper et al. reported that there was a positive relationship between achievement and time spent on homework after at least an hour of homework. They stated that the optimum benefit for high school students was to have at least an hour and a half to two and a half hours of homework per day.
How students view homework assignments can affect their effort. Thomas (1993) reviewed research on study practices of adolescents’ and found that homework assigned to middle grades required little thought and students devoted little time to it. He found little evidence to support the view that raising the workload would increase effort. His conclusion was that students needed homework that was challenging and they should be given feedback on their work. This was similar to the results from Trautwein et al.’s (2006) study, which was designed to look at the differences in effort between homework and class work, and the motivations that created those differences. The researchers noted “students’ perceptions of the quality of homework, teachers’ homework control, and teachers’ homework-related attitudes can affect homework effort” (p. 1096). Their conclusion stated that homework motivation and effort are also affected by the “nature and characteristics of homework assignments” (p. 1109). They stated that if students were motivated to see the value of homework, they would put more effort into it, “the higher its perceived value, the more effort students invested in their homework/classwork” (p. 1105).

The perceived value of homework can be positive or negative. When Natriello and McDill (1986) investigated the relationship between students and performance standards that were expected by parents and teachers, they found that “high standards set by teachers, parents, and peers also generate greater effort on homework” (p. 29). These researchers concluded that if students were held to a high standard, they would be motivated to put more effort into their homework, but if students were held to extremely high standards, it actually had a negative effect on students and lead to distancing them from school.

Minotti (2005) found that by using study strategies consistent with their learning styles, students showed an improvement in their attitudes about homework. This study involved 167
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students with various learning abilities and ethnic backgrounds in grades 6-8. The experimental group teachers employed teaching strategies that were consistent with the students’ learning style. The control group classes were taught with traditional methods such as “lecture, assigned readings, drill, and independent practice” (p. 68). The results showed both the experimental and control groups started at similar levels and both improved after a two-week treatment, but the experimental group had greater improvement in all subjects.

Various Perceptions/Expectations for Homework

What is expected from homework varies as well as the perceptions of homework. Corno (1996) defined homework as “schoolwork that is brought home” (p. 27). Her review of existing studies on homework and homework policies found that teachers were assigning more homework after *A Nation at Risk* was published in 1983. She concluded that assigning and grading homework rarely does what people outside of education expect it to do. Coulter (1979) in his review of homework research found that one area that was not given enough attention was “students’ responses to the expectations which teacher set for homework” (p. 29). He surmised there was not enough known about how students go about the process of doing their homework.

Chen and Stevenson (1989) conducted cross-national studies by interviewing more than 3,500 elementary school children along with their mothers and their teachers in China, US, and Japan, centering on children’s time spent on homework, parents’ assistance with homework, as well as children’s, parents’ and teachers’ attitudes toward homework. Cross-cultural differences were identified although they were not significant. For example, American students did what needed to be done but they did not like doing homework, Chinese students liked doing it and wanted to avoid teachers’ punishment, and Japanese students were in between. Chen and Stevenson pointed out that while the Chinese students did spend more time on homework than
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Japanese and American students, it was not a noteworthy amount. Chen and Stevenson summed it up with, “Homework is a form of practice. If the assignments are interesting and children can see they are useful, this form of practice can facilitate academic achievement” (p. 561). This may be why Chinese students claim to enjoy doing homework and have high achievement.

The Metlife Survey of The American Teacher for 2007 was titled “The Homework Experience.” In this study, 1,000 public school teachers, 501 parents of children in grades K-12, and 2,101 students in grades 3-12 were interviewed. The results showed that most students, parents, and teachers surveyed believed in the value of homework, but many students stated their homework was irrelevant to their class work and life goals. Parents ranked the homework from their child’s school as fair or poor. Teachers and students may put substantial time into homework each week, but no causal relationship was found to show this translated into better grades. The survey also showed a teachers’ level of experience influenced their views on homework’s value and/or purpose and that experienced teachers were more likely to review homework assignments and give students feedback on their completed homework.

Summary

The literature I reviewed showed there is no consensus on what homework does or does not do. This discussion is not something new, but has been debated since the 1890s. Depending on which study I read, time spent on homework may or may not be an indicator of effort and achievement. Expectations by parents and teachers for students should be high, but should not be unreachable. When students see the value in homework, they give a better effort and have an improved attitude about doing homework. But it is not clear if that value is a grade or the learning. In my action research I explored if de-emphasizing the grade from homework assignments would benefit the learning.
What is clear from the literature is that when homework is assigned, it should apply to what students are learning and be considered important by the student, their parents, and teachers. The expectations should be individualized to the student, even if the homework assignments are not. In the research I read, Chen and Stevenson (1989) and the MetLife Survey of The American Teacher (2007) were the only studies to survey students, parents, and teachers. My action research surveyed how students, their parents, and teachers viewed homework and what their perceptions were of homework. Based on the information I gathered, I reviewed my expectations and teaching methods in hopes of reaching the best goal for my students.

The research I read either was a review of previous studies or a study done by the researchers. Many used surveys or questionnaires, some conducted interviews and others used achievement test results. Stevenson (1998) did a quasi-ethnographic study that incorporated interviews with classroom observation by researchers. Minotti (2005) used pre- and post-test results along with achievement tests and student study logs. Minotti’s was the only study to look at results after some type of intervention, the implementation of a learning-style model of teaching. None of the research I read explored how students responded to a teacher’s changed expectations for homework, something Coulter (1979) questioned 20 years ago. My action research contributed to this field by observing teacher actions to changed expectations for homework, conducting interviews before and during the execution of changes in my classroom process of doing homework, and collecting student writings concerning their thoughts during the semester on the changes I implemented. These results along with the grades from various assessments during the semester provided me an overview of how these changes were affecting students’ attitudes and achievement.
My action research was conducted in a small school district in southeast Nebraska in a seventh grade classroom of 14 students. It is unusual in that most studies I reviewed were conducted in large cities including ones outside the United States (e.g., Chen & Stevenson, 1989; Stevenson, 1998; Trautwein, 2007; Trautwein et al., 2006). In addition, previous studies mainly studied how homework can improve student learning from an outsider’s (researchers’) point of view. While my study has the same purpose, it was conducted from a new angle, that is, from a teacher’s perspective to investigate how to enhance student learning with improved homework expectations.

**Purpose Statement**

The purpose of my action research project is to re-evaluate my homework expectations and de-emphasize homework as a grade. I put more focus on student understanding and learning by having students use notebooks to record notes, sample problems, and homework assignments. I investigated whether changing my expectations of homework would result in an improved student outlook concerning learning and retention as well as student attitudes about completing homework. In addition, I explored how this process affected my own teaching. Four research questions were used to guide my project. The first examined what current expectations were and how they differed between students, their parents and teachers. The next two questions looked at consequences of the changes in students’ learning corresponding to my changed expectations of homework. The last question relates to my teaching.

- How do students’, their parents’ and teacher’s perceptions of homework assignments differ?
- What will happen to student attitudes about homework as I revise my expectation of homework?
• What happens to the level of student understanding when I modify the amount of and my expectations of homework?

• What will happen to my mathematics teaching as I modify the amount and my expectations of homework assignments?

Method

I began collecting data for my action research project on February 12, 2009, and ended on April 23, 2009. Surveys were completed by the 14 students in my seventh grade class, eight of their parents, and 24 of the teachers in my district. I interviewed six students, and all 14 students wrote responses to prompts I gave them. I kept daily journal entries and then wrote weekly formal journals. I also kept copies of my students work from their notebooks, along with copies of their grades.

Parent-Teacher conferences were held on the evening of February 12. With the assistance of the business teacher, parents who attended were given the permission forms and the parent survey. The forms were mailed to those not attending conferences. A few parents completed the forms during the evening of conferences and returned them to the drop box in the business classroom; a few others returned them the next week. Extra copies were distributed the beginning of March and again the last week of school, when they were finally all returned. The business teacher, who had all the seventh graders in computer applications, collected the student permission forms and administered the student surveys on February 16.

To gather data for my first research question my seventh grade students completed a pre-research survey on their perceptions and attitudes on homework. By knowing some information on how students viewed the assignments that I gave and homework in general, I hoped to find a common goal that both my students and I could use to improve learning. I also wanted to find
out what kind of differences my students and I had concerning homework and its purpose. I surveyed my students’ parents to see how their perceptions of homework compared with my students’ perceptions and mine. I surveyed other teachers in my district (12 from the junior/senior high school and 12 from the elementary completed the survey) to determine the similarity of our views of homework. If the parents and teachers considered homework unimportant or not necessary for learning, I could understand how these students might feel the same way.

The surveys for the students, parents, and teachers were similar with 11 questions each and multiple choice answers for all except the last question. Questions included “How important is doing homework,” with possible answers of very important, important, somewhat important, and not important. Differences in the survey questions were used when considering the person answering, for example, “On a typical school week, how often are your assigned homework?” or “On a typical school week, how often is your child assigned homework?” or “On a typical school week, how often do you assign homework?” (see Appendices A, B, & C for the details).

I scored the surveys by tallying the number of replies for each question category and entering them in a table. These numbers were compared to the total surveys returned from that group to find the percent for each question category (see Appendix D). Answers that were divided among more than one category were given appropriate decimal values; for example, one student answered the question, “Who do you ask the most often for homework help?” by circling sibling(s), friends/classmates, and others. Sibling(s) and friends/classmates were given 0.33 each, with others given 0.34 of the answer. Time spent on homework was in hours and appropriate decimal values for partial hours were used. The median was used for any time given in intervals, such as the answer of 1-2 hours would have median of 1.5 hours. One student’s answer to the
question, “On a typical day, how much time is spent on homework?” was discarded. The answer of nine hours was not valid and would have skewed the results.

As I was analyzing the data for this paper I recognized that three of the questions did not focus on the objective of this paper. While the results of these three questions were interesting I did not report these results in this paper. The questions asked how often students were assigned homework, when they were assigned homework how often was it completed and turned in on time, and how often students feel stressed about doing homework.

To explore more about the students’ perspective on homework, on February 20 I had students write what they liked and did not like about homework. Some wrote short replies, for example, “Don’t like about homework - too confusing,” “Takes up most of my free time,” or “I like homework because it helps with are (sp) grades.” One student wrote nearly half a page of what she had to do after school along with the homework. I also did a pre-research interview with three students on February 18 (see Appendix E).

I planned to interview students pre-research and then weekly during my research period to get a sense of what students thought about the changes I had made, and the students’ perspectives on homework, but scheduling interview times became a problem. Nine of the 14 seventh grade students do not live in town so they ride a bus to and from school. The bus arrives at school at approximately 8:15, the same time school starts, and leaves at 3:25, the same time school dismisses for the day. Except for an occasional day when a parent could pick up a child, it was not possible to interview students before or after school. The junior high lunch is at a separate time from the high school lunch period, which is when I have my lunch break. Wednesdays after school were not available even for in-town students since most had church school at 4:00. These issues made it very difficult to schedule a time for interviews.
I was able to arrange a few interviews, but was disappointed in the feedback from the students. I do not know if it was because they were talking to a teacher after school or if being recorded bothered them. They seemed to be answering with what they thought I wanted to hear, which might not be their actual feelings or thoughts. Because of the scheduling issue and the inadequate interview answers I was getting, I used some of my planned interview questions as writing prompts (see Appendix F).

I was able to get clearer feedback from students by having them write responses to prompts I gave them; possibly they felt free to share their true thinking by writing it. Some gave short quick answers, such as “I guess so” or “no” or “yes” when asked to reply to, “Do you think the changes we have made help you learn better, or not?” However many wrote thoughtful replies like one student’s reply to the same question from above: “Yes, because we take notes and we can go back in our notebook to remember.” I had them write anonymously; a student collected the papers in a manila envelope. I hoped this would encourage them to write freely. Since this type of writing in math class was something very different for them, I thoroughly explained what I was asking for and gave them plenty of time for writing.

In order to answer my second research question, I asked all the students on March 11 and on April 8 to write about their thoughts concerning the changes I had made in collecting daily homework and grading it. I wanted to know if my revised expectations and assignments would improve student effort and attitudes about homework. I also interviewed three students on March 17 and 18 about their thoughts on the changes I had made. When trying to arrange these interviews I discovered what a problem setting up a time for interviews was going to be. My journal entries on my observations of student effort and attitude on homework was my other data source.
I used two separate journals. I kept a hand-written daily journal for short reflections on my observations each day. I then typed a weekly journal to reflect on writing prompts about what I had observed that week on my students’ effort and attitudes, their ability to work assignments, and changes in my teaching (see Appendix I). These helped me focus on observing what my students were learning along with how the changes I made were affecting them.

For my third research question, the data I used included copies of my students’ work. Students were expected to take notes in class and work practice problems in class in notebooks, and then do their homework assignment in the notebook. I reviewed their notebooks at the end of the chapter and made copies of various students’ work. I wanted to see if students were actually keeping notes, doing the practice problems and working the homework. Since I was evaluating what happened to their level of understanding when I modified the way homework was graded, I reviewed the students’ quarter grades to make sure the grades on these were not significantly decreasing. The topics that were covered in this class during my research period did vary; however, the difficulty of the topics was not noteworthy. There were a variety of topics covered each quarter, but the change in difficulty would be more evident in the chapter grades, not in the quarter grades that average 3-4 chapters. I dropped the grades of one student who was only in class first semester and one student who was there for only part of the second semester, then found the mean and median for each quarter.

Data also was collected on April 21 by having students write about how they felt they understood the math without being graded on their homework. Prompts included “What kind of homework helps you the most?” and “Do you think you need to work problems to understand math?” My journal entries on my observations of students’ abilities in working on assignments also were considered.
In order to answer my last research question, I used my journal entries on my observations of what was happening to my teaching, along with student interview answers and student writings. Students were asked, “What would you tell someone who is new to our class about what it takes to be successful in this math class?” Answers included, “Keep up the notebooks,” something I had not used before this semester. For a final writing I gave my students the prompt, “This semester I have changed some of my teaching practices. What advice would you give me about continuing these changes next year?” Along with replies to “keep up the notebooks” and to “keep doing what you’re doing but explain how to do it more,” was this one: “You should continue, because I think it makes people remember how to do it and if they don’t they can always look back in their notebook.”

During the data collection period, I wrote three analytic memos for my Math in the Middle class. These memos helped me focus on reviewing and evaluating my data throughout the collection period. I also referred to my four research questions to guide my project. As I analyzed the data I was collecting, it helped to consider the questions and organize my information around these questions.

Findings

Before reporting my research findings, I will first describe my average day of teaching, which provided a context for the findings. I then presented the results in terms of four research questions.

Average Teaching Day

An average day for my students starts at 8:15 and ends at 3:35. There are seven class periods that are each 50 minutes long. Lunch periods are 30 minutes for high school and 25 minutes for junior high. The junior high is at music while the high school eats lunch, and then
while the junior high eats lunch the high school has an Individual Academic Period. This is a combination of a study hall, organization meeting time, and opportunity to do group work.

The seventh grade math class is during second period. After daily housekeeping tasks like attendance, we review problems from the previous lesson. Students ask questions on homework they didn’t understand; quite often it is problems that they just did not get done. I work these problems on the board, normally with student input. Then I read the answers to the assigned problems and again answer questions on problems students did incorrectly.

An area that was a conflict for me as a teacher versus a researcher was students not doing their homework assignment if they did not have to hand it in for a grade. I noted in my daily journal that I observed that a few students developed the attitude that they could just copy down the answers as we went over them instead of working the problems before class. Student effort and attitudes about homework was an area I hoped to improve through the changes I made in my homework expectations. As a teacher, I wanted the students to work every problem, while as a researcher, I wanted to see what happened if they did not work the problems. Having the students give the answers to the assignment helped this problem for a while, but it continued to be an issue throughout my action research. There were many comments in my daily journal that I thought I could predict students’ test scores just by looking at their homework notebooks. In general, those who had put effort in their homework notebook by working practice problems and doing the homework scored well on the tests.

After reviewing homework, I introduced and discussed new material, then worked some sample problems on the board. Students took notes and worked sample problems I gave them or from their textbook. My district used the *McDougal Littell Middle School Math* series for fifth grade through eighth grade. At the high school level we used the *McDougal Littell* textbooks for
Algebra I, Algebra II, and Geometry. The Course 2 textbooks we used in seventh grade had example problems and sample problems. Students worked the sample problems in their notebooks at their tables and usually were involved in some discussion of the problems with other students at the table.

Getting these students to work together proved more difficult than I thought and was another area of inner conflict between the teacher and researcher. They were used to working individually at a desk, now I was expecting them to work cooperatively at a table. Some lacked and continue to lack the maturity to work with students they may not like or want to work alongside. They refused to share ideas and suggestions, many preferred to only ask me for help with the homework problems. Depending on which students were sitting together, table work went smoothly or not so smoothly. The teacher in me wanted them to all get along, but did answer questions; the researcher wanted to observe how they worked it out at each table.

Normally more sample problems with increasing difficulty followed, along with more discussion on the new topic. I found that during discussions, directly asking a student questions told me more about whether they were following what I was talking about rather than just having students ask questions. I wrote in my daily journal on February 18 that I observed that students paid attention better and worked better when I called on them individually for answers rather than table-group answers. Since I was no longer grading homework this gave me an opportunity to check for understanding, especially from students who tried to avoid working sample and homework problems.

After questions are answered, the students worked on their homework assignment, sometimes discussing problems with the other students at the table. As I walked around the room checking on progress, a few students asked me questions on problems they did not understand. I
recorded in my journal on February 19 that I thought some students followed what I had discussed, had taken notes and worked sample problems, but were not able to translate what was covered to their homework problems. The combination of calling on students individually and having them do a wider variety of sample problems (some that I had students work on the board) helped with student understanding of homework.

Students occasionally finished their homework before the end of the class period; a few times I asked to see their notebooks to confirm that they had worked the problems correctly. As a teacher, I wanted to make sure they had done the work. Quite often they had not actually finished, they had just quit for the day. These students tended to be the same students who did not always do their homework assignments. This was another area of conflict for me as both a teacher and researcher with the role of teacher wanting to discipline students for not doing their homework and the researcher wanting to let students take responsibility for their own learning.

Overall, I found that changing my expectations of homework by not using it for a grade did not make major differences in students’ attitudes, effort, or grades. Those students who worked hard to learn the material in order to get good grades before I began this action research were the ones concerned about taking notes and doing their homework correctly, even without it being graded. Students who struggled to finish their homework pre-research still struggled to do well on quizzes and tests. These students complained that their grade did not change as much during my action research due to the lack of homework grades, yet still did not recognize that they had the power to improve their own grades by preparing for quizzes and tests. What follows are detailed findings in terms of four research questions.
How do students’, their parents’, and teachers’ perceptions of homework assignments differ?

Students, their parents, and the teachers from my district agreed on the importance of homework, that it develops a sense of responsibility, and that homework is not just busywork not related to what students are learning in class. They all agreed that class discussion is the most helpful for student learning when compared to homework, quizzes, and tests. There were mixed results on whether homework helped students learn and who helped students most often with their homework. Students also did not agree with their parents and the teachers on the amount of homework they were given. These assertions are from the survey results and the student writings and interviews. The full survey results regarding students’, parents’, and teachers’ perceptions of homework were presented in Appendix D. Below, I elaborate the main assertions.

My first assertion is that students, their parents, and teachers agreed on the importance of homework. On the survey forms that my students (n=14), their parents (n=8), and the teachers (n=24) in my district filled out, the first question was, “How important is doing homework?” (Questions #1, simply called Q#1). They also were asked if homework develops a sense of responsibility (Q #4) and if homework is just busywork and not related to what is being learned in the classroom (Q #9). Table 1 presents corresponding results:
Table 1 Student (n=14), parent (n=8) and teacher (n=24) responses to Q#1, #4, and #9.

<table>
<thead>
<tr>
<th>Q</th>
<th>Survey group</th>
<th>Very important / strongly agree</th>
<th>Important / somewhat agree</th>
<th>Somewhat important / somewhat disagree</th>
<th>Not important / strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>#1</td>
<td>Student</td>
<td>5</td>
<td>35.7%</td>
<td>7</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>5</td>
<td>62.5%</td>
<td>3</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>6</td>
<td>25.0%</td>
<td>13</td>
<td>54.2%</td>
</tr>
<tr>
<td>#4</td>
<td>Student</td>
<td>5</td>
<td>35.7%</td>
<td>7</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>4</td>
<td>50.0%</td>
<td>4</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>11</td>
<td>45.8%</td>
<td>13</td>
<td>54.2%</td>
</tr>
<tr>
<td>#9</td>
<td>Student</td>
<td>3</td>
<td>21.4%</td>
<td>10</td>
<td>71.4%</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>1</td>
<td>12.5%</td>
<td>3</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>1</td>
<td>4.2%</td>
<td>4</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

The above results regarding question #1 show that there were nearly 86% (35.7% + 50%) of the students and 100% (62.5% + 37.5%) of the parents who returned the survey who thought homework was very important or important. There were 79.2% of the teachers who thought that homework was very important (25%) or important (54.2%). Since teachers from grades K-12 were surveyed, the fact that 20.8% did not consider homework was important was not surprising. The teachers included elementary teachers, fine arts teachers, and physical education teachers who do not regularly use homework for assessment.

On question #4 there were 100% of the parents and teachers who did the survey, along with 85.7% (35.7% + 50%) of the students who agreed that homework develops a sense of responsibility. This shows the importance this group of people place on homework, as does the
fact that a clear majority did not agree with the statement in question #9 that homework was busywork and not related to what students were learning in class. Students, along with their parents and teachers, place a value on doing homework even when some of those students do not like doing homework.

When I asked students on April 8 to write about homework, I gave them the prompt, “Do think your ideas about what homework is and what it is for have changed since the beginning of the semester? How?” Typical replies included,

S1: A little, I still don’t like homework, but I need to do it to get smarter.

S2: Yes, maybe a little, we still have homework so we can understand the steps better and we can remember them better.

S3: I think homework is meant to be so you are always thinking about what you did in school that day and my thoughts have not changed.

S4: No, because I thought its work that helps you study for tests its just practice.

S5: A little, it seems more like test prep now than it did.

When three students were interviewed the week of March 16, I asked, “Do you think you need to work problems to understand math?” One student replied, “Yes, having some homework is a good thing, but not a lot.” Another student said, “sometimes yes, sometimes no,” and that even when I explain something in class, students needed to work a couple problems. The third student added that he could “focus better with less problems.” It seemed while these students recognize the usefulness of doing homework, they did not want do a lot of homework problems.

For their final writing on April 21, I asked all the students, “Do you think you remember what you learned better when you have homework? As expected there was a wide variety of answers including, “No, it’s to hard,” “sometimes,” “yes,” and “probably.” One student wrote,
“Yes, it gives me more time to store it in my brain,” while another wrote, “No, I usually forget it pretty fast.” Students need time to process new information, something I have seen many times in our Math in the Middle classes. However the answer that stood out for me was, “No, it makes it harder for me because I can’t ask anyone for help.” This student made a valid point. If students have no one at home to help when they have a question on their homework, what do they do? My students have told me they just leave the problem till the next school day if they cannot solve it.

My second assertion is that students, their parents, and teachers agree that class discussion is more helpful for learning for retention than homework, quizzes, and tests. When asked, “What helps students the most to learn for retention?” (Question #7) Table 2 shows the survey results:

Table 2. Student (n=14), parent (n=7), and teacher (n=24) responses to Q #7.

<table>
<thead>
<tr>
<th>Q</th>
<th>Survey group</th>
<th>Class Discussions</th>
<th>Homework</th>
<th>Quizzes</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>#7</td>
<td>Student</td>
<td>11</td>
<td>78.6%</td>
<td>2</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>6</td>
<td>85.7%</td>
<td>1</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>18</td>
<td>75.0%</td>
<td>5</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Table 2 illustrates that there were only two out of 14 students who thought homework helped them the most to learn for retention, one student and one teacher split their answers between quizzes and tests. Students may see the importance in homework, but that does not mean they want to do homework. With regard to the question, “How much do you agree or disagree: Doing homework helps students learn more in school,” (Question #3), Table 3 presents the results:
Table 3. Student (n=14), parent (n=8) and teacher (n=24) responses to Q #3.

<table>
<thead>
<tr>
<th>Q</th>
<th>Survey group</th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
</tr>
<tr>
<td>#3</td>
<td>Student</td>
<td>9</td>
<td>64.3%</td>
<td>4</td>
<td>28.6%</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>4</td>
<td>50.0%</td>
<td>3</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>4</td>
<td>16.7%</td>
<td>14</td>
<td>58.3%</td>
</tr>
</tbody>
</table>

Even though the majority in each group agreed with the statement, 28.6% of the students and 25% of the teachers disagreed that homework helps students learn more in school. This may be due to some teachers not using homework as a learning tool, but could also be that homework is just part of the learning process, not that homework helps more.

In an interview on February 18, I asked three students, “Do you think you learn more when you have homework?” One student replied, “No, I think you can do the same amount in class, you can learn the same amount.” I clarified what they meant by asking, “so you like class work, just not when you take it home,” which was confirmed. The other two students were not as certain, one replied, “yes, it probably helps me when we do it,” and the other said, “probably remember it better.”

In the final journal writing that all students did, 10 students answered class discussions when asked, “What helps you learn the most: class discussion, practice problems, homework?” The other four students listed practice problems as helping them the most. These answers were interesting to me since I seemed to battle daily to get students to give me their attention when we started new topics and to work all the practice problems we do in class. Their answers seemed contradictory to my observations of their behavior.
My third assertion was that students, their parents, and teachers disagreed on the amount of homework assigned. When asked, “How do you feel about the amount of homework assigned?” (Question #10), Table 4 showed the survey results:

Table 4. Student (n=14), parent (n=8), and teacher (n=24) responses to Q #10.

<table>
<thead>
<tr>
<th>Q</th>
<th>Survey group</th>
<th>Too Much</th>
<th>Right Amount</th>
<th>Too Little</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>#</td>
<td>Student</td>
<td>6</td>
<td>42.9%</td>
<td>6</td>
<td>42.9%</td>
</tr>
<tr>
<td>10</td>
<td>Parent</td>
<td>7</td>
<td>87.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>20</td>
<td>83.3%</td>
<td>2</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

The results show 42.9% of those students surveyed think they were being assigned too much homework. The rest of the students, their parents, and the teachers thought the amount about right except for a few exceptions. This agrees with my statement above that many students recognize the need for homework, just as some will always wish for less or no homework. The teacher results were surprising in that if teachers thought students were not being given enough homework, they should assign more in their classes or possibly these teachers were evaluating how much homework was being given in other classes.

When I asked three students the question, “How does the amount of homework in math class compare with your other classes?” replies were, “about the same, it varies,” or “less, English has pages and we have to do them all, more than science,” and “more, I know the English and can get it done in class, math we have to take home.” These students are all in the same classes and have the same assignments. Yet they have different views on the amount of
homework, possibly based on the amount of work they needed to put in individually to get the assignments done.

Student replies to the writing prompt, “What specifically don’t you like about homework?” included, “homework takes a long time to do,” or “it is sometimes way to long,” and “because we have homework in other classes.” This made me question if when the students said they had too much homework they were actually saying their homework took up too much time.

Many students mentioned in their writing that the time it takes to do homework is something they disliked about it. Some listed the chores they had to do and one talked about how tired she was after sports as reasons they would rather not do homework. The survey results on “On a typical day, how much time is spent on homework?” (Q #11) were consistent. Parents had the highest median and mean, with teachers having the lowest. Table 5 shows all times in hours:

Table 5. Student (n = 13), parent (n = 8), and teacher (n = 24) results from Question 11.

<table>
<thead>
<tr>
<th>Survey Group</th>
<th>Time Spent</th>
<th>Mode</th>
<th>Median</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>0.5,.75,1,1,1,1,1,1.5,1.5,1.5,2,2.75,3</td>
<td>1.0</td>
<td>1.0</td>
<td>1.4</td>
<td>0.72</td>
</tr>
<tr>
<td>Parents</td>
<td>1,1,1.5,1.5,1.5,1.5,2,2</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>0.35</td>
</tr>
<tr>
<td>Teachers</td>
<td>.25, .33, .33, .34, .5, .5, .5, .5, .5, .5, .5, .5, .75, .75, 1, 1, 1, 1, 1.25, 2, 3, 3.5, 4.5</td>
<td>0.5</td>
<td>0.6</td>
<td>1.1</td>
<td>1.07</td>
</tr>
</tbody>
</table>

The median was used whenever an interval was given, such as 1-2 was listed as 1.5. One student had written nine hours as the amount of time he spends on homework, which was not a reasonable amount for a typical day, so this value was dropped. By looking at the median and the mean for each group I can reasonably state that students spend about 1 to 1.5 hours doing
homework. Students may think they are spending a lot of time on homework, but the numbers do not support that statement.

The survey results showed many similar perceptions on homework between students, their parents and the teachers in my district. These results were confirmed in some interviews or student writings and were contradicted in others. The majority of those surveyed agreed that homework was important and develops a sense of responsibility. However, whether homework helped students learn more or whether class discussion did better was not a clear answer.

*What will happen to student attitudes about homework as I revise my expectations of homework?*

Regarding this research question, my assertion was that student attitudes and effort may have changed by subject and day, but my expectation changes were not the motivation. I changed my expectations of homework by putting less emphasis on homework for a grade and more importance on learning the topic or concept. Students were expected to do homework assignments, but did not hand them in for a grade. I hoped students would have improved attitudes about doing the homework assignments and put more effort into the learning.

When asked in an interview, “Do you think the changes we have made this year make it easier for you to learn math or harder?” the three students interviewed gave the answers “Sometimes, depends on what we are doing;” “Yes, we get to keep working for days rather than just one;” and “It works easier but grades don’t change that often, only with tests.” None of these give real insight into whether the changes made any differences in their learning and the last student was still focused on the grades. I asked the same question of all the students as a writing prompt and one student wrote, “Yes, a little, we still have homework so we can understand the steps better and we can remember them better.” Another student wrote, “Sometimes yes,
sometimes no, some I don’t get and I can work on them for a couple days.” When asked to answer the question, “How do you feel about the changes we have made lately in grading homework assignments?” student answers included, “I like it because we pretty much have more time to work on it (even though I’m usually done in class), but it’s still a lot better”; “I don’t like the grading system because if I have homework to do I don’t do it because it’s not graded”; and “It is a little more confusing. It is ok writing notes, but doing the homework is harder.” These were not really the answers I had hoped for, still, many of the other replies included comments about having more time to complete homework assignments. However, the following student’s comment told me something was going right:

“I like it this way better because you can go back at home and say this is what I did wrong for when you review for a test or quiz. And you will have examples to study off of also.” (Student writing, April 8)

My journal entries on student efforts included: “Student efforts were up and down,” “I expect students to work on the problems I assign them and understand the process of getting the answer,” “I am finding that this hasn’t changed, but the student’s effort on doing this really goes up and down,” “When grading their notebooks this week it was very clear that students who take good notes and work the assignments, ask questions, do well on the test,” and “Simply by looking at their notebooks I can predict how they will do on the test.” (Weekly Journal, Feb. 9-12, Feb. 23-27, & March 23-27)

Student attitudes varied no matter what changes were made. Seventh grade attitudes about math changed day-by-day, subject-by-subject. Most of my students liked not having to hand in homework. Many continued to work all the problems and asked good questions for their own learning, but a few used it as an opportunity to not work or not complete their assigned
work. I was not sure if these students would have done any better having to hand in daily homework. A few had real issues with learning and retaining what they learned in math and other subjects.

**What will happen to the level of student understanding when I modify the amount of and my expectations of homework?**

My assertion to this research question is that the students’ level of understanding is not necessarily improving, but neither is it declining. Student grades stayed nearly the same from the first quarter to the fourth quarter. The changing of my expectations did not change much regarding the students’ level of understanding; however, the note taking may have contributed to improved students’ understanding.

When I reviewed copies of the students’ work in their notebooks from the beginning of my action research to the end, I could see some improvement by students in their ability to write notes for their own use and in the correcting and redoing of their homework (see Appendix G for examples). However, I cannot say with certainty that the improvement in these translated into an improvement in the students’ level of understanding. Later in the semester some students’ work in their notebooks showed they were not completing assignments, especially after they had been absent. As mentioned before, an area I was concerned about was students not doing the work necessary to learn the material. In my journal I wrote several times that by looking at the notebooks and effort on homework assignments I could predict how well students would do a test. On March 25 I wrote,

“Funny or maybe not how the grades (on tests) are such good predictors of how complete their notebooks are. A few just didn’t do the assignments and didn’t do well on the test. The school year is three-fourths gone and they still don’t get it.”
I could not seem to convince all of these seventh graders of the importance of working the homework problems. However, some students did put a very good effort into their work.

When I interviewed three students in March, I asked, “What kind of homework helps you the most?” One student answered, “Writing in the notebook and doing the practice part, not just homework problems but the practice.” The other two gave the practice problems as helping them the most. Another question asked in the same interview was, “What would you tell someone who is new to our class about what it takes to be successful in this math class?” The student answered, “Like the notebooks, keep those up” and “Practice every night on the stuff you don’t get.” The third student agreed and added, “Ask the teacher questions and keep up the notebook.”

Changes in a student’s level of understanding were difficult to evaluate considering I only did my action research for two months. There were many factors that may influence student understanding, including the difficulty of the topics studied. These students used a similar textbook last school year in the sixth grade and were familiar with the majority of the topics covered. I wrote in my weekly journal for March 9-11, “When they remember a little about what they are doing they tend to work harder at it.” Since I did not believe it was a valid comparison to look at chapter test scores for this research question, I compared the mean and median of the four-quarter (Q) grades for the entire class. The results were presented in Table 6.

Table 6. Mean and Median of Quarter Grades for 2008-2009 School Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>85.0</td>
<td>80.2</td>
<td>84.3</td>
<td>82.2</td>
</tr>
<tr>
<td>Median</td>
<td>84.0</td>
<td>78.0</td>
<td>84.0</td>
<td>83.0</td>
</tr>
</tbody>
</table>

My action research was conducted during the last half of quarter three and the first two-thirds of quarter four. From the table we see that there was not much change in the mean or median, less
than five points for the mean and six points for the median. Quarter grades may not directly reflect student understanding, but they do give an overall picture of the student’s knowledge (see Appendix H).

A student’s level of understanding is difficult to measure and evaluate to determine what if anything is changing. It can be looked at on a daily basis or over a period of time. I found that as I looked at my students’ level of understanding over my research period it varied; sometimes they comprehended the material, other times they did not. My not grading their homework and having them take responsibility for their own learning was not a determining factor one way or another.

What will happen to my mathematics teaching as I modify the amount and my expectations of homework assignments?

My assertion to the last research question is that I was more focused on teaching, not on grading. By not grading homework assignments and therefore spending less class time trying to collect missing or late assignments, I was able to concentrate more on the needs of individual students, especially those who did not understand the homework. In my daily journal on March 10, I wrote, “There are a few students I need to watch, they seem to be struggling.” Examples of my weekly journal responses to the question “What did I learn this week that will enlighten my teaching and/or journaling next week?” included, “Directly asking a student questions tells me more about whether they are following what we are talking about then having them ask questions” (February 16-20, weekly journal) and “Rather than tracking the whole class so closely I feel I can focus more on a couple students” (March 9-11, weekly journal). I had always answered students’ questions about their homework, but now I was able to walk around the
tables and see how different students were getting along with their assignments. On April 17, I wrote in my daily journal,

“Made it a point to walk around and check on students during discussion and working of sample problems. No slackers allowed! A couple students needed prodding on getting going. It was a good way to check on their progress.”

I also assert that I am improving my presentations of new material. Because of de-emphasizing homework and emphasizing the process of learning, I expected students to take notes and work practice problems, which could help them understand the math and to provide examples for their later homework. I found I needed to provide them with clear information for their notes and appropriate examples. The week of February 23-27, I wrote in my journal, “I need to organize my writing on the board better. I can see where it would be difficult to take notes.” Having students write notes was different for me, a few students had chosen to write notes previously, but I had not requested that they take notes. On April 8, when given the writing prompt, “How do you feel about the changes we have made lately in grading homework assignments? What do you like, what do you not like, and why?” two students gave the following answers, “The lessons are easier with notes,” and “It is helpful seeing the examples so I can see how to do the problems.” Apparently I am not where I needed to be in my presentations since one student wrote in his final journal at the prompt, “This semester I have changed some of my teaching practices. What advice would you give me about continuing these changes next year?” that I needed to, “keep doing what you’re doing but explain how to do it more.” This feedback was important to me for my action research and for my teaching in the future.
Conclusions

Change is usually difficult for me; I am rather set in my ways. This action research project showed me that changes in my teaching could be accomplished without diminishing student learning. I get very frustrated at trying something new and it not working as I expected, for the students or for me. There are not enough days in the school year and too many things to complete to waste days. A wasted day for me is when students get nothing positive and insightful from the class discussions or the work they are doing. I expect something, no matter how small, to be accomplished everyday. I noted in my literature review that Trautwein (2007) found that students’ homework effort might be impacted by the teachers’ homework attitude and Coulter (1979) suggested more attention be given to how students respond to the teachers’ homework expectations. As the teacher I need to put forth a positive attitude and clear expectations if I want my students to respond with a positive attitude.

Making changes in my homework expectations and especially in how I grade homework allowed me to be able to listen in on student discussions while they worked on their homework. This may sound strange, but as a teacher I am thrilled when students exchange ideas and essentially teach one another. Minotti (2005) found that the “effects of students teaching themselves were greater than those of classroom instruction” (p. 84), which I agree with completely. Sometimes my role might have been to referee a disagreement on how to solve a particular problem, but even those disagreements showed that students were taking ownership of their own learning. Students did not just accept that the other student had the correct answer and change their answer in hopes of getting a better grade.

One of my concerns in not grading homework assignments was that students would not work the assignments and not learn what was required of seventh graders in my district. A few
students did not do all the homework, but only a few. Most of my students recognized the need to complete the homework assignment. The few that did not do homework were apt to be those students we all have that struggle because they are not willing to put in the time and effort needed to learn. Some have other issues in their lives that make it difficult to learn and I work to accommodate those issues, but some were not willing to work to get a passing grade. When discussing middle school students’ study behavior, Thomas (1993) found, “surveys of their routine study practices reveal that they devote relatively little time to out-of-school learning and almost no time to studying for test” (p. 579).

Teachers wanting to make changes in their grading of daily homework need to consider the maturity of their students. The seventh grade class I had this year did well when I first made changes and did not have them hand homework in, but as the school year neared an end, they were getting more lax about completing assignments. As I mentioned in the introduction of this paper, I stopped picking up every homework assignment in my sophomore Geometry class a couple of years ago. Each year since then, the majority of students in my geometry classes have shown the maturity and personal responsibility to work at their own learning. The seventh graders’ attitude and lack of effort may have been due lack of maturity, the nearing of the end of the school year, or lack of motivation to complete the homework. This agreed with Xu and Corno’s (2003) findings that middle school students motivation for homework was lower than for other after-school activities and that “By middle school, most students have found ways to manage their own motivation” (p. 513). I believe my students had not found that ability yet.

Doing homework is an important part of learning as are classroom discussions, note taking and working practice problems; they all help students learn and retain information. Some students may not want any homework at all, but most recognize that doing homework does help
Homework 40

in the overall process of learning. While students may feel that class discussions and practice problems help them learn the most, if they do not participate in the class discussions or do the practice problems, they may not be learning. Class discussion and practice problems may involve others, but homework requires that students work more independently. Thomas (1993) concluded that students needed to be taught study skills and strategies to become better independent learners and that, “maturational factors make the middle grades an ideal time to stress independent learning” (p. 576). Teaching these skills and strategies is something I plan to introduce at the beginning of the school year and emphasize throughout the year.

While students may agree with their parents and teachers on the importance of homework, they believe that if there is too much homework, time is taken away from other things they want or need to do after school. My findings agreed with the findings of The MetLife Survey of the American Teacher (2007), which reported that 77% students and 81% parents surveyed felt doing homework was important or very important. Students participating in the MetLife survey also were asked about how their time was spent and the results showed “homework ranks after time with family, time with friends and time spent participating in activities (such as sports, clubs, music, art or hobbies) as a pursuit that occupies at least an hour of their time on a school day” (p. 54). This is not a new discussion since according to Gill and Schlossman (1996), balancing homework with other after school activities like chores and family time has been an issue noted in education research since the 1890s. Having time for homework and other activities was mentioned by a few of my students in interviews and their writing, but the time they indicated on the survey that they spend on homework did not support this claim. Time is not necessarily an indicator of effort; however, too little time on homework may signify that my students were not making enough of an effort to understand the material. When effort on
homework was suggested by many studies (Natriello and McDill, 1986; Cooper et al., 2006) as an important factor to improve students’ achievement, I was left wondering what other strategies or methods may be needed to increase my students’ level of understanding.

My action research on changing my homework expectations by not grading daily homework and therefore letting students take charge of their own learning showed that some of the students in this seventh grade class were able to embrace this method, while others were not. Trautwein (2007) wrote, “Homework is an issue of tremendous everyday importance for students, parents, and teachers alike” (p. 386). My method was not the final solution for student learning, but I do believe as I continue to expect homework to be done this way, and I further explore other strategies such as improving my skills, my students will improve their abilities and understanding of math.

**Implications**

I plan to continue having my seventh grade class use notebooks for homework assignments next year and to not grade daily homework. Student comments on the notebooks have convinced me that having students keep notes and homework in a notebook is beneficial to their learning. I hope to have students do some journaling in their notebooks; I think it will help them to explain how or why they are working problems in a certain way. I do plan to make some changes in how I assess the students; I plan to add some homework quizzes on an irregular basis to remind students of the importance of doing homework, even when it is not for a grade, and to check on their understand of the subject matter. My school requires teachers record at least two grades a week; I do feel I struggled with that during my action research, and I will need to have a better plan for taking grades. The homework quizzes will help, and I am also considering weekly quizzes over material covered that week.
Having students do more answering of questions is something else I plan to utilize next year. Time is always an issue and 50 minutes goes by very quickly, but I want to move away from me being the main answer source. I hope to read some other action research projects and see if anyone looked at a similar topic.

Since I will be starting the school year with these plans I hope to avoid many issues that developed during my research project. I plan to instruct students at the beginning of the year on how I expect them to work at their tables and in groups. I need to make sure students understand that they need to explain what process they used and not just give the answer. This is another area I hope someone explored in his or her action research project; I would like to read how it was done. I know I could find research articles out there on these topics, but knowing the research was done in classrooms similar to mine would make it much more relevant to me.

Personally I need to continue to work on letting students be more in charge of their own learning. As I mentioned before, I want to move away from being the main answer source - students need to be able to work to solve difficult homework, not just expect me to tell them how to do it. They need to be able to discuss with their peers how to work homework problems and work on solving these together. I need to make sure they have the skills for these and my students need to learn, and be allowed, to work more independently.
References


Appendix A
Student Survey

Please circle your answer.

1. How important is doing homework?
   Very Important    Important    Somewhat Important    Not Important

2. On a typical school week, how often are you assigned homework?
   Every Day    Every 3-4 days    Every 1-2 days    Less often

3. How much do you agree or disagree with the following statements:
   Doing homework helps me learn more in school.
   Strongly Agree    Somewhat Agree    Somewhat Disagree    Strongly Disagree

4. How much do you agree or disagree with the following statements:
   Homework helps develop my sense of responsibility.
   Strongly Agree    Somewhat Agree    Somewhat Disagree    Strongly Disagree

5. When you are assigned homework, how often do you complete it and turn it in on time?
   Nearly Always    Sometimes    Hardly Ever/Never    Not Sure

6. Who do you ask the most often for homework help?
   Teacher(s)    Parents(s)    Sibling(s)    Friends/Classmates    Others

7. What helps you the most to learn for retention?
   Class Discussions    Homework    Quizzes    Tests

8. How often do you feel stressed about doing homework?
   Very Often    Often    Sometimes    Rarely/Never

9. How much do you agree or disagree with the following statements:
   Homework is just busywork and is not related to what I am learning in class.
   Strongly Agree    Somewhat Agree    Somewhat Disagree    Strongly Disagree

10. How do you feel about the amount of homework you are assigned?
   Too Much    Right Amount    Too Little    Not Sure

11. On a typical school day (M-F) how much time do you spend doing homework?
       ________ hours (estimate).
Appendix B
Parent Survey

Please circle your answer.

1. How important is doing homework?
   Very Important     Important     Somewhat Important     Not Important

2. On a typical school week, how often is your child assigned homework?
   Every Day     Every 3-4 days     Every 1-2 days     Less often

3. How much do you agree or disagree with the following statements:
   Doing homework helps students learn more in school.
   Strongly Agree     Somewhat Agree     Somewhat Disagree     Strongly Disagree

4. How much do you agree or disagree with the following statements:
   Homework develops a sense of responsibility.
   Strongly Agree     Somewhat Agree     Somewhat Disagree     Strongly Disagree

5. When your child is assigned homework, how often does he/she complete it and turn it in on time?
   Nearly Always     Sometimes     Hardly Ever/Never     Not Sure

6. Who does your child ask the most often for homework help?
   Teacher(s)     Parents(s)     Sibling(s)     Friends/Classmates     Others

7. What do you feel helps students the most to learn for retention?
   Class Discussions     Homework     Quizzes     Tests

8. How often does your student feel stressed about doing homework?
   Very Often     Often     Sometimes     Rarely/Never

9. How much do you agree or disagree with the following statements:
   Homework is just busywork and not related to what my child is learning in class.
   Strongly Agree     Somewhat Agree     Somewhat Disagree     Strongly Disagree

10. How do you feel about the amount of homework your child is assigned?
    Too Much     Right Amount     Too Little     Not Sure

11. On a typical school day (M-F) how much time does your child spend doing homework?
    __________ hours (estimate).
Appendix C
Teacher Survey

Please circle your answer.

1. How important is doing homework?
   Very Important    Important    Somewhat Important    Not Important

2. On a typical school week, how often do you assign homework?
   Every Day      Every 3-4 days      Every 1-2 days      Less often

3. How much do you agree or disagree with the following statements:
   Doing homework helps students learn more in school.
   Strongly Agree    Somewhat Agree    Somewhat Disagree    Strongly Disagree

4. How much do you agree or disagree with the following statements:
   Homework develops a sense of responsibility.
   Strongly Agree    Somewhat Agree    Somewhat Disagree    Strongly Disagree

5. How often do you assign homework (typically)
   Very Often      Often      Sometimes      Rarely/Never

6. Who do your students ask the most often for homework help?
   Teacher(s)      Parents(s)      Sibling(s)      Friends/Classmates      Others

7. What do you feel helps students the most to learn for retention?
   Class Discussions      Homework      Quizzes      Tests

8. How often do your students feel stressed about doing homework?
   Very Often      Often      Sometimes      Rarely/Never

9. How much do you agree or disagree with the following statements:
   Homework is just busywork and not related to what my students are learning in class.
   Strongly Agree    Somewhat Agree    Somewhat Disagree    Strongly Disagree

10. How do you feel about the amount of homework you currently assign?
    Too Much      Right Amount      Too Little      Not Sure

11. On a typical school day (M-F) how much time do you expect your students to spend doing homework?
    __________ hours (estimate).
Appendix D
Survey Results

1. How important is doing homework?

<table>
<thead>
<tr>
<th>Total</th>
<th>Very Important</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>5</td>
<td>35.7%</td>
<td>7</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
<td>4</td>
<td>50.0%</td>
<td>4</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>12</td>
<td>50.0%</td>
<td>12</td>
</tr>
</tbody>
</table>

2. On a typical school week, how often is homework assigned?

<table>
<thead>
<tr>
<th>Total</th>
<th>Every Day</th>
<th>Every 3-4 Days</th>
<th>Every 1-2 Days</th>
<th>Less Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>5</td>
<td>35.7%</td>
<td>1</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
<td>0</td>
<td>0.0%</td>
<td>7</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>4</td>
<td>16.7%</td>
<td>8</td>
</tr>
</tbody>
</table>

3. How much do you agree or disagree: Doing homework helps students learn more in school?

<table>
<thead>
<tr>
<th>Total</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
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<td>57.1%</td>
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</tr>
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<td>Parents</td>
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<td>4</td>
<td>50.0%</td>
<td>4</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>14</td>
<td>58.3%</td>
<td>8</td>
</tr>
</tbody>
</table>

4. How much do you agree or disagree: Homework develops a sense of responsibility?

<table>
<thead>
<tr>
<th>Total</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>5</td>
<td>35.7%</td>
<td>7</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
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<td>50.0%</td>
<td>4</td>
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<tr>
<td>Teachers</td>
<td>24</td>
<td>11</td>
<td>45.8%</td>
<td>10</td>
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</table>

5. How often do you assign HW?

<table>
<thead>
<tr>
<th>Total</th>
<th>Very Often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>5</td>
<td>35.7%</td>
<td>2</td>
<td>14.3%</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
<td>5</td>
<td>62.5%</td>
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<td>12.5%</td>
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<tr>
<td>Teachers</td>
<td>24</td>
<td>9</td>
<td>37.5%</td>
<td>2</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

6. Who helps the students most often with homework?

<table>
<thead>
<tr>
<th>Total</th>
<th>Parent(s)</th>
<th>Studying</th>
<th>Friends</th>
<th>Classmates</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3</td>
<td>21.4%</td>
<td>5</td>
<td>35.7%</td>
</tr>
<tr>
<td>Parents</td>
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<td>3</td>
<td>37.5%</td>
<td>4</td>
<td>50.0%</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>4</td>
<td>16.7%</td>
<td>3</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

7. What helps students the most to learn for retention?

<table>
<thead>
<tr>
<th>Total</th>
<th>Class Discussion</th>
<th>Homework</th>
<th>Quiz</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>4</td>
<td>28.6%</td>
<td>2</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
<td>4</td>
<td>50.0%</td>
<td>2</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>2</td>
<td>8.3%</td>
<td>17</td>
</tr>
</tbody>
</table>

8. How often do students feel stressed about doing homework?

<table>
<thead>
<tr>
<th>Total</th>
<th>Very Often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>4</td>
<td>28.6%</td>
<td>6</td>
<td>42.9%</td>
</tr>
<tr>
<td>Parents</td>
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<td>2</td>
<td>25.0%</td>
<td>3</td>
<td>37.5%</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>4</td>
<td>16.7%</td>
<td>6</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

9. How much do you agree or disagree: Homework is just busywork and not related to what students are learning in class?

<table>
<thead>
<tr>
<th>Total</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>4</td>
<td>28.6%</td>
<td>6</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
<td>1</td>
<td>12.5%</td>
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<tr>
<td>Teachers</td>
<td>24</td>
<td>1</td>
<td>4.2%</td>
<td>4</td>
</tr>
</tbody>
</table>

10. How do you feel about the amount of homework assigned?

<table>
<thead>
<tr>
<th>Total</th>
<th>Too Much</th>
<th>Right Amount</th>
<th>Too Little</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>14</td>
<td>4</td>
<td>28.6%</td>
<td>6</td>
</tr>
<tr>
<td>Parents</td>
<td>8</td>
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<td>25.0%</td>
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</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>4</td>
<td>16.7%</td>
<td>6</td>
</tr>
</tbody>
</table>

11. On a typical day, how much time is spent on homework? (in hours)

<table>
<thead>
<tr>
<th>Total</th>
<th>Median</th>
<th>Mean</th>
<th>SD</th>
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<tr>
<td>Students</td>
<td>5.57</td>
<td>5.15</td>
<td>0.73</td>
</tr>
<tr>
<td>Parents</td>
<td>5.15</td>
<td>5.15</td>
<td>0.35</td>
</tr>
<tr>
<td>Teachers</td>
<td>5.25</td>
<td>5.25</td>
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</tbody>
</table>

Note: median was used for any intervals given, such as 1-2 was considered 1.5
One student answer dropped
Appendix E
Student Interviews

Interviews will be done with small groups and/or individual students.

February 18 Pre-Research Interview Questions:
- Do you like doing homework?
- What is your definition of homework—what do you think homework is?
- What do you think is the purpose of homework?
- Do you think you learn more when you have homework?
- What would you tell someone who is new to our class about what it takes to be successful in this math class?

March 17-18 Student Interview Questions:
- What kind of homework helps you the most?
- How does the amount of homework in Math class compare with your other classes?
- What do you think it takes to be good in math?
- Do you think you need to work problems to understand math?
- Do you think the changes we have made this school year make it easier for you to learn math? Or harder?
- What would you tell someone who is new to our class about what it takes to be successful in this math class?
Appendix F
Student Writing Prompts

February 20 Writing Prompts on likes and dislikes of homework:
- What specifically do you like about homework?
- What don’t you like?

March 11 Writing Prompts on changes:
(These were originally planned as interview questions)
- How do you feel about the changes we have made lately in homework assignments?
- Do you think the changes we have made help you learn better, or not?
- What do you think would help you learn math better and remember what you have learned longer?

April 8 Writing Prompts on changes:
- How do you feel about the changes we have made lately in grading homework assignments? What do you like, what do you not like, and why?
- Do you think your ideas about what homework is and what it is for have changed since the beginning of the semester? How?

April 21 Final Writing Prompts:
- What helps you learn the most: class discussion, practice problems, or homework?
- Do you think you learn more when you have homework?
- Do you think you remember what you learned better when you have homework?
- What do you think it takes to be good in math?
- Do you think the changes we have made this school year make it easier for you to learn math? Or harder?
- This semester I have changed some of my teaching practices. What advice would you give me about continuing these changes next year?
<table>
<thead>
<tr>
<th>Grade</th>
<th>% of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10%</td>
</tr>
<tr>
<td>A-</td>
<td>20%</td>
</tr>
<tr>
<td>A-</td>
<td>30%</td>
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</tr>
<tr>
<td>A-</td>
<td>90%</td>
</tr>
<tr>
<td>A-</td>
<td>100%</td>
</tr>
</tbody>
</table>

The table shows the distribution of grades among students. The percentages indicate the proportion of students who received each grade.
Appendix I
Weekly Journal Template

Date ___________

What changes have I observed in my students efforts and attitudes on homework this week?

What changes have I observed in my students ability to work math this week?

What event really went well or not so well this week, related to my teaching issue of homework?

What changes have I observed in my homework expectations this week?

What did I learn this week that will enlighten my teaching and/or journaling next week?