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Bad Medicine: Homework or Headache? Responsibility and Accountability for Middle Level Mathematics Students

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Abstract

In this action research study of my 5th grade mathematics class, I investigated the issue of homework and its relationship with students and parents. I made some interesting observations and discovered that the majority of students and parents felt that the math homework that was given was fairly easy, yet issues of incomplete assignments and failing homework quizzes were notorious for some individuals. Comments were also made to make homework even easier and have shortened assignments despite the already indicated ease of the work. As a result of this research, I plan to look more closely at the history and development of homework, as well as the psychological implications and "hereditary" issues involving homework, which I believe are passed from one generation of learners to the next. My intent is to continue to study this phenomenon in future school years, trying to develop methods of instilling successful, intrinsic motivational skills to aid students in their homework endeavors. Finally, I will take a close inventory of my own beliefs and understandings toward homework: What is the purpose of having students do work away from the classroom, and how can homework serve as a proactive service for all who are involved?

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IN THE BEGINNING, teachers created homework, and it was good. But somewhere between then and now, it lost its meaning, its purpose, its affect on education. I have a belief that homework serves a purpose beyond its primary intention of reinforcing classroom instruction, for example, learning responsibility and placing an investment in one's own education. Homework is an issue that every teacher, student, and parent must face and approach. With so many people involved, it is clear that there will be diverse viewpoints and feelings about schoolwork that is to be completed outside of the classroom. This issue was relevant to my current classroom of fifth grade students such that I decided to do an action research study on the topic. My strongest feeling when approaching this issue was to get my students to understand that homework is a tool of learning and that they controlled how powerful and meaningful it was. I feel that every child possesses an internal motivation that can be applied toward homework, but I also realize that there are extracurricular activities and agendas that may hinder homework success.

As an upper elementary educator at the same building for eight years, I have noticed that homework has always been somewhat of an issue and concern for both students and parents. However, as I have progressed through my tenure, I feel that incomplete homework assignments and poorer quality in attempting to put forth a solid effort have raised the level of concern in the purpose for completing homework. When students and parents have a belief that homework is an educational evil or repetitious "busywork," then a teacher is placed in a challenging dilemma: The educator's expectations of homework and its benefits to education vs. family and society's diverse outlooks on education, and more specifically, homework.

As both a teacher and researcher in this situation, I found it challenging to separate my roles from one another. It has always been frustrating for me to see extremely capable

students give-in to the negative outlook of homework. I've always wished that I could help students in this area and by doing this action research project, I took a small step toward understanding both my students' and my own understanding of homework in mathematics.

PROBLEM OF PRACTICE

During my career as an elementary teacher, I have noticed a growing concern for student responsibility, as well as accountability, within the classroom. Each year there seems to be a growing amount of students who come to my class unprepared, unorganized, and more specifically, not finished with homework assignments. I find it challenging to understand the daily "dilemmas" which my students face because they are frequently lacking the responsibility skills necessary to succeed in a mathematical learning environment: not attempting any homework since the previous class period the day before, leaving homework at home or school, losing it, and being absent and not asking what they need to do to make up the missed work. These are only a few of the basic homework woes that contribute to homework problems in my classroom.

Currently, my math class consists of a heterogeneous mix of learners, ranging from average to well below grade level. There are many inconsistencies in regard to accountability and responsibility: Almost every day there are students who leave their homework in other classrooms, at home, or have it incomplete; notebooks are not utilized in a manner that has been modeled for them; papers, homework, and notes are shoved into folders and trappers as if there was no respect for the content on the pages. The list continues, and these are all commonalities that I encounter on a daily basis.

Ideally, my classroom would revolve around structured mathematics - where math was the central focus of our being in the classroom together. Homework would be finished, with

work shown, out on the desk, ready to be discussed. Students would be engaged in intellectual conversations involving math concepts and discussing connections between prior knowledge and past teachings. Effort would be looked upon as a trivial pursuit, because everyone would already possess the desire to do his or her best in learning mathematics. Everyone holding themselves accountable for learning each and every day would release tension in the classroom.

There is a tremendous mismatch between my ideal classroom and what I am experiencing this school year. I have a fear for some of these students who have a very limited understanding of math or numbers, in general. Basic fact recognition, which is generally started in second grade with addition and subtraction, is not as common as it once was. Answers are shouted out with no regard or respect to each other. It becomes a guessing game, not learned math. Viewing homework completion and inadequate skills becomes a "Which came first, the chicken or the egg?" effect. Did homework not get done because they lack the skills, or did students not learn the skills because their homework was incomplete? I believe that students need to have the responsibility of completing homework outside of class time. Students today are lacking fundamental skills that are essential in achieving the NCLB "philosophy." I feel that much stress has been placed on the educators of today's youth, while less has been placed upon students and their families. The students are the ones who still must learn, who still must pay attention, who still must desire the learning experiences placed before them. Is asking a student to complete, or even to attempt, their homework for 15 to 20 minutes a night (four nights a week) too much to ask?

Responsibility and accountability are essential in everyone's life. Coexistence is inevitable and we rely on one another to grow and learn. I believe that by researching the

topic of student responsibility, I will create an environment within my classroom that is proactive to learning, not reactive to situational hazards that hinder the progress of individual students, as well as the entire class. Likewise, fellow teachers in my immediate building and community may benefit from the findings and implementations that I locate and utilize. This is a common trend that is not localized to my classroom, but one that is rampantly expanding across our communities. The possibility of gaining new insights and knowledge into this lack of responsibility and accountability of students could be instrumental in teachers developing their own plans for their unique classroom environments.

According to the NCTM's Principles, equity implies that teachers have high expectations and strong support for all students. I believe that I have high expectations and I support each of my students. But have the expectations changed through society's eyes, and how can I support students who don't want the support? I also believe that my topic of concern addresses the learning aspect of the principles. It states that students must learn with understanding, actively building new knowledge from experience and prior knowledge. This indicates that students are also responsible for being active in developing their knowledge of mathematics. They will need to put effort into their learning in order to receive something in return. And finally, I believe that assessment is an overarching principle that is addressed when students have difficulties with responsibility. It is challenging to support students in their learning when information from assessment practices (especially daily homework) is not provided by the students.

There appears to be an increase of irresponsibility and unaccountability, by students, within our classrooms. Although each student is an individual and unique case, the alarming rate at which these occurrences are taking place is unsettling. As an educator and a person

who truly believes in the powerful implications of a good education, I must do something, if anything, to investigate why students are lacking these necessary skills. There are numerous factors involved in this topic of concern: Perceptions of homework and effort by teachers, students, parents, and society in general; self-monitoring of responsibility and lack of intrinsic motivation; understanding of consequences and praise; parental involvement and supervision; and past experiences with accountability. I believe that by helping my students evaluate their efforts through self-monitoring skills, as well as monitoring their responsibilities and holding them accountable, I will begin to observe some differences in them. By looking at these factors more closely, I will begin to develop a plan that will help students achieve a goal of consistency with completion of homework and increased effort. I feel that there are critical steps that I will need to make in developing this project. For example, when specifically looking at the concern of homework incompletion, there are steps that I really want to include: Reviewing what I feel is important and worthwhile for homework, communicating with students and parents about the meaning of homework and my expectations for completion, self-monitoring devices to help students monitor their efforts and accountability with homework, and time spent during class (using time more efficiently and effectively). I am very passionate about not only educating my students in mathematics, but also in helping my students learn the skills and practices of responsibility and how to hold themselves accountable.

LITERATURE REVIEW

Homework. This tends to be the one word that generates feelings of frustration and resentment between students, parents, teachers, and administrators. Every day, faces of students express "How dare you make me take work home" as moans of dissatisfaction echo across the classroom in a monotonous drone. Wlodkowski and Jaynes (1990) strongly believe that perhaps the greatest mistake we, as educators and administrators, ever made with homework was naming it as we did. "We should have called it homelearning or, better yet, homeplay" (p. 46).

Homework has often been considered a necessity for education, a continuation of academic learning brought into the home setting. According to McDermott, Goldman, and Varenne (1984), there are many advantages of homework. Some of these positive aspects include: the completion of unfinished work; using application, reinforcement, practice, and enrichment to further learning; helping students relate what they are learning to conditions outside of the classroom environment; building discipline, responsibility, and initiative; and helping students develop an appreciation for school and learning. Corno (1996) adds that teachers also assign homework for the intent to reduce time spent in front of the television by students. It is also understood that some parents request, even demand, homework for their children because the child needs to "experience it."

However, there appears to be disadvantages to homework: Homework can interfere with important family and community time; parents may cause their children to be confused with their assignments because of being inadequately qualified to assist them, which can cause great stress on both the parents and the children; and homework can make students less

enthusiastic about what school can offer them through education (McDermott, Goldman, & Varenne, 1984). Corno (1996) appears to agree with the previous statements based upon his "five realities of homework." These realities include: 1) Homework is easily misused and/or abused by both teachers and schools, 2) Homework can create great hardships for parents, especially in the early years of their child's education, 3) Homework can make students resent and avoid school rather than appreciate and enjoy it, 4) Some of the best homework may be work that is done at home and brought into school, not the other way around, and 5) Policymakers, educators, and parents can benefit by witnessing and continuing to analyze results of research on homework. This last comment seems to be taken lightheartedly by the author, but it is a valid comment. We must continue to look at and analyze the positive and negative associations and outcomes of homework, striving to make it the most beneficial element that it can be. McDermott, Goldman, and Varenne (1984) warn teachers, administrators, and policymakers to "be aware that their assignments can wreak havoc in a home and add to the number of failing children" (pp. 407-408).

Despite these disadvantages of homework, both parents and teachers "believe that doing homework helps students develop responsibility and personal management skills" (Shepard, 1999, p. 37). According to McDermott, Goldman, and Varenne (1984), several surveys showed that parents considered homework valuable because it helped their children prepare and do well on exams, which in turn, helped to promote them to the next grade level, which included getting to high school. The teachers who assigned homework also considered homework valuable. It endorsed students to develop their long-range organizational skills as well as helped students to be more aware of their resources. Even with this belief by both parents and teachers that homework is a powerful tool to promote academic enhancement for

students, it is still seen as a nuisance by all involved, including the aforementioned parents and teachers, who also value it. Parents often see homework as a struggle between themselves and their own children, where as "teachers see assigning, collecting, and evaluating homework as the least enjoyable part of their job" (Bryan & Sullivan-Burstein, 1997, as cited by Shepard, 1999, p. 37). In research studies of the 1960s and 1970s, McDermott, Goldman, and Varenne (1984) note that there was no conclusive evidence that homework had any (either positive or negative) effects on a student's academic achievement. In counterpoint, Juarez's (2001) recent research cites Cooper's (1998), where there are indications that the amount of time spent on homework was related to a student's achievement level. Juarez's own research results suggest that there is some correlation between the use of homework and the level of achievement by a student.

What does this all mean? There seems to be confusion about the benefits and appropriateness of homework, as well as how it should be used in our educational system. There appears to be a firm belief that homework is necessary, yet no one wants to be involved in the hassle and headache of it. Homework appears to be the bad tasting medicine of education: We know that it's good for us, but we cringe every time we see or hear mention of it.

Many factors play an integral role in the success of homework. Besides the actual implementation of the lesson and the students' comprehension of the concepts presented, some major factors consist of student motivation, student self-esteem and self-perception, parent communication and involvement, student organizational skills, and homework environment.

Student motivation can be defined as the purpose, reasoning, and drive for accomplishing a task. In general, there are two types of motivation: intrinsic and extrinsic. "Intrinsic motivation is motivation to become involved in an activity for its own sake. Extrinsic motivation is motivation to become involved in an activity as a means to an end" (Wiseman & Hunt, 2001, p. 35). A growing number of students show a lack of motivation toward schoolwork, homework especially. Wiseman and Hunt (2001) cite that many students lose an interest in the activities that schools offer and do not find them enjoyable. Teachers will rely on extrinsic rewards and incentives for this reason. Shepard also notes nine causes for the poor completion of homework by students, one of which was not being motivated to do homework. Some of the reasoning by students showed that they felt no sense of ownership when it came to homework, caring little about the assignments given, a feeling of being bored, as well as receiving little help at home. Shepard goes on to state that positive reinforcements can be used to motivate students with completion of homework. Pierce (1997) expresses her feelings of student motivation by saying that students feel that schools do not satisfy their needs. Teachers assign homework that is not enjoyable and has little personal meaning to the students. There is an overall feeling that extrinsic motivational techniques are effective in getting homework done, but at what cost? "Extrinsic rewards destroy the potential for real learning. They are ways of manipulating students" (Brandt, 1995, as cited by Pierce, 1997, p. 17). What every teacher wants to know is "How do you develop intrinsic motivation within students?"

Motivation begins with developing a student's self-esteem and self-perception as a person being capable of learning. Juarez (2001) states that a student's self-perception of ability is positively related to the motivation and achievement of that student. Both teachers

and parents can contribute to this positive image by doing some simple things. According to Juarez, when teachers gave support and showed confidence in their students, they felt a growth of confidence within themselves. As teachers provide genuine care and nurturance for students, the students begin to feel an obligation to meet the expectations set forth by their teacher. Likewise, teachers can also damage a student's self-image by making negative remarks and interpretations about a student's abilities in regards to homework and level of motivation.

Parents are a critical, but often forgotten, cornerstone in the success of a student's academic achievement and accomplishments. Wlodkowski and Jaynes (1990) state, "a positive relationship between the school and the home is an important contributor to students' achievements in school" (p. 55). In Corno's (1996) research, he cites Xu (1994) stating that "research shows that when personal responsibility is a goal that parents hold for their children and when parents systematically help support this goal through structure and supervision around homework, then homework can foster personal responsibility" (Corno, p. 28). Teachers are often frustrated with poor performance of homework completion by their students due to the fact that they cannot control what happens outside of the school setting. If homework is truly an important element in providing success in achievement for students, then there seems to be a need for its importance at both school and home. To make homework a beneficial part of a child's life, both parents and teachers need to take a proactive approach to addressing the issue of studious behaviors outside of the classroom. One way to do this is to help parents understand the benefits of homework, as well as what their children are doing at school. Balli (1997) encourages educators to look for ways to help support parents' understanding of concepts related to homework, as well as using developmentally

appropriate strategies to assist their children with their homework. Wlodkowski and Jaynes (1990) mention that when teachers and parents work together to enforce homework expectations, meeting together to further understand the purpose and reasoning behind homework assignments, then this joint effort can positively affect a students motivation to learn and achieve. Shepard (1999) gives support to this idea by citing Bryan and Sullivan-Burstein (1997) who suggested that "teachers, parents, and students develop efficient and effective communication regarding homework" (Shepard, p. 19).

Although parents have a general understanding that homework is beneficial, there is a concern that students are not organized well enough to communicate the true intentions of homework between school and home. It is evident that what some students are telling parents at home may be different from what is actually happening at school (Wiseman & Hunt, 2001). Communication via students is a typical avenue, but often unreliable. Better organizational tactics are essential for creating a better system of understanding and communication. Some of the problems related to homework in Shepard's (1999) findings included the fact that students didn't posses organizational skills and were leaving homework behind at school, not being able to locate homework in general, and leaving homework at home. Pierce (1997) suggested that teachers take opportunities to teach students how to use daily assignment notebooks for documenting assignments, as well as ways to remember to bring it back to school on time.

There are, however, additional elements that are sometimes out of the control of students, such as their homework/study environment. McDermott, Goldman, and Varenne (1984) believe that it seems fairly clear that homes and schools arrange for learning experiences in different ways. Often, students find themselves in environments after school

that are not conducive toward homework and studying. Many students go to after school daycares or school-related clubs that don't promote a productive homework environment. Look at what homework has to compete with once school is out: friends, sports, activities, clubs, games, and television. Wlodkowski and Jaynes (1990) take notice of a survey that indicated "children between the ages of six and eleven watch, on average, twenty-seven hours of television a week, the equivalent of two months a year" (p. 49). Even when there are no other choices besides homework, students will find something to do: Anything! Pierce (1997) shows this in her study when students were asked what they would prefer to do upon arriving home, many students suggested that they would rather clean, wash the dirty dishes, or read. A growing number of students have shown an avoidance syndrome toward homework, which is counterproductive to its purpose. One important element is the fact that students need to have additional support in their homework environment, especially that of an adult. Adult supervision is a crucial piece that is lacking from many students' lives as our culture changes and tends to make young children grow up faster. Yet children are inadequately prepared for the responsibilities bestowed upon them.

Two ways to help students become more responsible for their schoolwork obligations involve goal setting and homework monitoring, or charting. When used appropriately, these can become powerful tools to help students excel with their duties as a student. "A student may need a better way to manage her time or do more studying, more reading, or more practicing. Goal setting is an effective, individualized approach to increasing a person's expectations for successful accomplishment" (Wlodkowski & Jaynes, 1990, p.). Goal setting allows students to be aware of themselves as learners, knowing what they can accomplish, and then monitoring their progress. This is an opportunity to help students become motivated

and successful in the area of academics, especially homework. Goal setting also addresses the element of students not having ownership in their schooling. Goal setting allows students to be in charge of decision making as well as consequences. This opportunity allows students to make their own choices, giving them a sense of possession of education, control of their learning. As educators, we understand that some of us are visual learners and thinkers, and being able to chart and document progress helps us witness our accomplishments, as well as shortcomings. Wlodkowski and Jaynes (1990) show support of this idea, stating that graphing and charting progress helps students to visualize their accomplishments, making it more concrete. It is physical evidence that is recording a student's increased improvement.

As an educator, I have a strong belief that homework is beneficial to students when it supports the curriculum. Yet homework is a more complicated entity, more than some mere worksheet. It has multiple meanings for all parties involved, and it is important for these interpretations to coexist and have the same meaningful purpose. Through my research I hope to address the three major relationships involved in homework. First, the teacher-student relationship. This connection will involve looking at motivational concepts involving homework, assisting students with appropriate goal making, charting and monitoring homework progress, math homework packets for organization, and being able to decipher their documentation about daily homework habits. Secondly, the parent and teacher relationship piece will be addressed. As previously discussed, this communication is extremely important, but usually lacking due to the issue of time. Communication procedures will be put into place, especially via Internet access to daily math lessons and homework pages. Finally, looking at the student-parent relationship will be key. Remember, this is typically a piece of the child's education that is out of the control of the educator. Students

will monitor their homework settings as well as the amount of time spent on math homework. Through questionnaires, typical homework patterns will be documented for both students and parents, and contrasted between one another.

The overall purpose of this action research project is to make homework a beneficial aspect to everyone's lives, both at school and home. For too long, homework has been considered a burden, an unwanted truth. It is time to put forth a sound effort to help students, parents, and teachers understand more about this issue, and what can be done to make it more beneficial to all.

> Homework can have a well-situated place in the flow of everyday life in some homes; it is just one more literate thing families do daily. But homework can also be painfully different and difficult to sequence into the remainder of life. The point is that to understand where homework falls into the picture, surrounding scenes must be described, as well as various links between them. (McDermott, Goldman, & Varenne, 1984, p. 399).

PURPOSE STATEMENT & RESEARCH QUESTIONS

The purpose of this study is to gather student and parental beliefs and feelings toward homework and to look at the effects of students monitoring their own progress in homework completion. The data that has been collected has taken place during the spring semester of the 2005-2006 school year, within the researcher's own classroom. This study will attempt to answer the following research questions:

- What are the typical environmental conditions that students find themselves in when trying to complete their homework (Where, When, Supervision)?
- What motivational skills can be used (by the teacher or parents) to assist students with completion of work, which will develop intrinsic motivational skills for the student?
- What interferes with completion of homework by students? Or why do some students have consistent success with homework completion while other students are inconsistent?
- What types of homework are meaningful to students and their development of understanding mathematics? Should I be using different kinds of daily assessment, rather than the traditional worksheet page?

METHODS

This action research was performed during the spring of the school year. The class consisted of 19 students, 15 of whom participated in this research. The four students who did not participate were each ELL students, an important population that I had hoped to include in my data gathering. Of the 15 students in which data was collected, there were 10 boys and 5 girls.

Data collection, in regard to the four research questions, was altered due to timeline constraints and for the purpose of when the research was actually implemented. Some key data collection pieces that were not used, but intended, will be discussed briefly. I believe that these were very important missing pieces to my data collection. My intent is to utilize these in future observations and research.

What are the typical environmental conditions that students find themselves in when trying to complete their homework (Where, When, Supervision)? To answer this question, I developed a student and parent survey, which were both distributed at the beginning of my research (see appendix A). The first five questions were based upon determining attitudes toward math homework and its importance. Answers were based upon a scale of 1 to 10, where 1 was associated with the following terms: Not Important, never, and easy. The higher end of the spectrum, 10, was associated with the terms of Very important, always, very difficult, and extremely important. The next six questions asked for study environments, amount of time spent on homework away from school, available assistance away from school, and extracurricular activities/obligations that sometimes interfere with homework. The final four questions were short answer questions, allowing students and parents opportunities to

share more about their beliefs, strategies, and solutions toward homework in math. A second survey was administered only to students at the end of the project. The only alteration from the first survey was an additional question at the end, asking students if they learned a new strategy for helping with homework completion.

The final form of data collection involved chapter reflection sheets (Appendix C) that were included within each chapter's homework packet. Math packets included homework for the entire chapter with answers to approximately half of the homework problems on the back of each assignment, paper for note taking, a chart for monitoring progress, and the data collection sheets. Students were to monitor and record specific variables, such as the amount of time spent on math homework outside of school, as well as who was available to help.

What motivational skills can be used (by the teacher or parents) to assist students with completion of work, which will develop intrinsic motivational skills for the student? The main motivational tool that I focused on was the development of charting homework completion. Two charts were developed to help students monitor the completion of their own assignments (Appendix B). Another method implemented in aiding students with motivation was a constant restating of my beliefs toward homework completion, the belief that attempting homework and trying is just as important as worrying about a correct answer. Each lesson (except for days when substitute teachers were in my classroom) was recorded on video, allowing me opportunities to monitor the amount of positive feedback, as well as restating my belief statement, that I was giving my class during the action research.

The one data collection procedure that I did not get to implement was a parental support and assistance program, where parents were pre-taught units of the math curriculum.

As Wlodkowski and Jaynes (1990) suggested, teachers and parents need to keep the communication between school and home as open and frequent as possible.

What interferes with completion of homework by students? Or why do some students have consistent success with homework completion while other students are inconsistent? Both the student and parent surveys, as well as the chapter reflection log found within each chapter's homework packet, served as the main documentation pieces for collecting data. The intention of math reflection journaling was discarded, since the chapter reflection log served the same purpose.

What types of homework are meaningful to students and their development of understanding mathematics? Should I be using different kinds of daily assessment, rather than the traditional worksheet page? Once again, the student and parent surveys asked specific questions related to this inquiry. Videotaping of homework discussions was also used to see if homework completion affected classroom discussion. Finally, daily homework quizzes were administered at the end of each discussion of homework. Quiz questions consisted of two to six problems that were identical to problems previously performed on the homework sheets.

ANALYSIS

My biggest concern when taking on this research involved those students who don't complete homework and appear to have no concern for its incompletion. Some students have a chronic issue with homework completion; they may lie to both their parents and teacher about the reason for incomplete assignments, or even admit that they didn't have it done with no concern in their voice or on their face. For this reason, I established a classroom Web site that posted each day's assignment, as well as a link to the Houghton – Mifflin Web site where

the math curriculum homework sheets could be downloaded and copied. So despite my inability to meet with parents this semester, there was an attempt to communicate with parents via the website.

The following five questions were the first questions asked on each of the three surveys (there were 15 Student #1 surveys, 10 Parent surveys, and 14 Student #2 surveys returned to use for data):

Question 1: ***When you receive homework in math, how important is it to you that it gets done on time? (1-Not Important, 10-Very Important)***

Survey Type	Average Score	Range	Mode Score	Median
Student #1	9.13	4	10	10
Parent	9.4	5	10	10
Student #2	9.0	3	10	9.5

I believe that performing this research at this time of the school year produced data results that may not be reflective of an entire school year. At the beginning of this research, students had a belief that math homework was important to complete on time. This idea decreased slightly in average by the end of the research, but the range became more compact. I would have expected these scores to stay the same, or even increase, but I don't believe that this slight decrease implicates a negative affect from the research applications. As the school year progressed, homework became more challenging since the concepts became newer and more challenging. Parents tended to have a stronger belief about the importance of homework completion. I believe that as adults, hindsight is much easier than students trying to use foresight to determine the importance of homework. It is interesting to notice the wider range in the parent survey, indicating some lower scores. There are some parent beliefs that math homework isn't that important to complete. It is challenging for students to have an

importance placed on homework completion when parents and teachers have different attitudes toward it.

Question 2: ***When you receive homework in class, does it match-up with what you learned that day? (1-Never, 10-Always)***

Survey Type	Average Score	Range	Mode Score	Median
Student #1	8.8	5	10	10
Parent	8.4	5	10	9
Student #2	8.21	5	9 & 10	9

This question is somewhat misleading, due to the fact that homework assignments were also used to prepared students for upcoming assessment testing. Some homework would involve review items, as well as current problems from the daily lesson. Students scored this lower on the second survey, indicating that they were aware of the increased review problems that were on the homework.

Question 3: ***How challenging is the math homework that you receive? (1-Easy, 10-Very Difficult)***

Survey Type	Average Score	Range	Mode Score	Median
Student #1	4.6	6	6	5
Parent	5.3	6	7	6
Student #2	4.14	6	5	5

Overall, students felt that their daily homework was somewhere between easy and just right. As the second student survey shows, students had a feeling that homework was getting easier. Parents, however, had a slightly higher score in rating the homework more challenging. This indicates that parents may benefit from pre-teaching assistance programs, helping parents preview math agenda items for units in math. I believe that parents want to help their children with math homework, if they can, but some parents don't have the mathematical abilities to assistance their child.

Question 4: ***How important is the math that you are learning? (1-Not Important, 10-Extremely Important)***

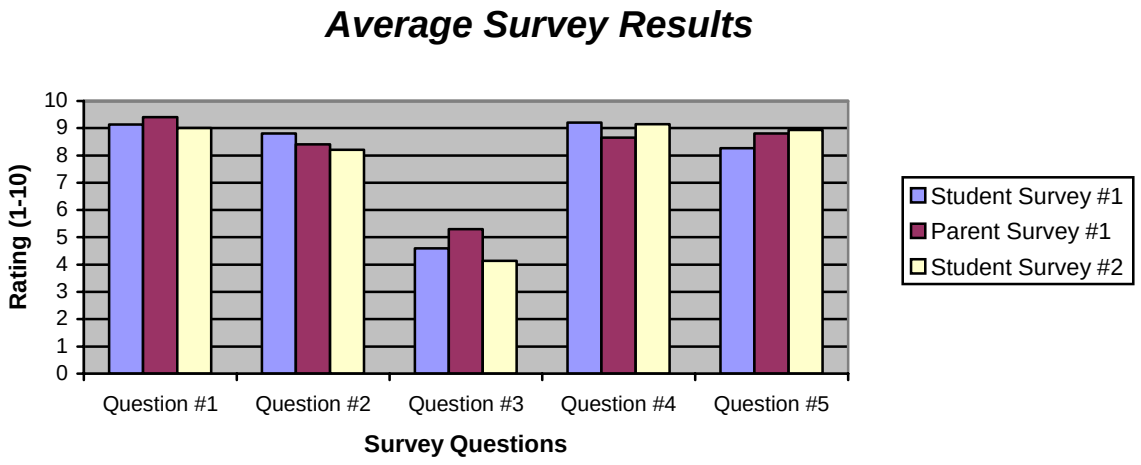
Survey Type	Average Score	Range	Mode Score	Median
Student #1	9.2	4	10	10
Parent	8.65	4.5	10	9
Student #2	9.14	3	10	9

While the student surveys showed little change over time, the parent survey indicates that parents have a lower belief then their children that the math being taught in school is not important. I believe that when students hear the importance of math concepts and the applications to the real world, it helps students to comprehend why we learn the math concepts that we do. Unfortunately, some parents believe that math is unrelated to the world outside of the classroom, making math trivial and unconnected. Fortunately, most students tend to see important connections between math concepts and applications in their lives.

Question 5: ***How often does your homework get done on time? (1-Never, 10-Always)***

Survey Type	Average Score	Range	Mode Score	Median
Student #1	8.26	5	9	9
Parent	8.8	5	10	9.5
Student #2	8.93	3	10	9

Student average survey scores increased over the course of the action research. However, some students who I consider “chronic” conditions, did perform better for a short while, but tended to fall back into their previous ways.



Additional data from surveys

Time spent outside of the classroom on completing math homework was typically between 1 to 20 minutes. During a typical math class, approximately 5 to 10 minutes would be given at the end of the class period to begin math homework, allowing students an opportunity to ask questions before they left.

Students and parents both indicated that home was where the majority of the math homework was worked on, with indications that some students completed homework during school. Some parents were unaware that their child even had math homework! Both students and parents said that the living room and bedroom were the typical areas where homework was done outside of school. The kitchen was also an environment where students and parents said homework was worked on, but not as frequently. There seem to be positives and downfalls for both environments. Typically, a bedroom might allow for quiet and less distraction, but perhaps no assistance from an older individual. On the other hand, the living room and kitchen give students access to help, but possibly more distractions.

The majority of parents and students agreed that homework was worked on immediately after school, between 3 and 5 p.m., as well as the early evening (6-8 p.m.).

There was only one indication of a student working on homework before school, during the morning hours.

Almost every student indicated that there was someone around to help them with their assignments, usually a parent or older relative (sibling, grandparent, aunt, uncle, cousin). Some students went to the community center where homework clubs were established to help students complete homework. Only one student said that he/she had no one to help him/her outside of school.

About half of the students surveyed listed sporting activities as an obligation that sometimes interfered with homework. Other main obligations included after school clubs and religious activities. There were other unique circumstances involving relative visitations, friendships, siblings, and just going places.

In the short answer section of the surveys, students and parents were asked if they could change one thing about math homework to make it better, what would it be? Here are some responses from parents: Make it more helpful for the students; make it a little harder; "I wish I understood it better to be able to help my child"; "I wish that he would have a little more questions which challenge him" (increase number of questions and difficulty); and "Easier to understand." Responses from students include: "More problems"; "Take half of it off"; "Not a lot of problems"; "I don't want the answers on the back because if I'm stuck on a problem, I'm tempted to cheat sometimes"; "More story problems because I'm not very good at them"; "More work problems, less story problems"; and "More challenging problems." There seem to be two classifications of answers. One is to challenge more, make homework harder. The second classification is to make homework easier, to lighten the load. It appears that everyone has their own agenda for making homework fit their needs. Homework

assignments are typically "cookie-cutter" worksheets that reflect a review of each day's lesson. I would regularly adapt the length of the assignments, depending on how much time I had allocated at the end of the day for them to begin working on the assignment. The goal was to have students work on homework, away from the classroom, for approximately 15-20 minutes a night. But when different students work at different rates, then the same assignment means different amounts of time spent on homework.

When students were asked on the final survey if they found any strategies helpful in completing their homework, they responded with different thoughts: "I stopped watching TV when doing homework"; "I do my homework in front of the TV so that I can take breaks"; "Do my homework right after school"; "(moved) from the noisy living room to the quiet kitchen"; and "I liked the sheet of paper (chart) of race cars." A few students said that they hadn't changed any strategies; not every student was in need of changing the way they study and complete homework. Students appeared to stick to what was working for them. Unfortunately, not every child made a positive change and they continued to struggle with homework completion. I believe that each student needs to find a homework situation that enables him or her to be as successful as possible. As a child, I would come home and do my homework in the quiet of my basement bedroom. I didn't like the feeling of procrastinating and I would rather get it over with and then have some free time later that evening. I realize that this was what worked for me. Maybe some students get more done working in front of a television or in a busy area. Maybe some students can handle waiting until the last minute to get their homework done. If it works for them, then it works. The important thing to recognize is when it isn't working. That's when changes need to be made. Students, parents, and teachers need to try different working situations when homework isn't being successful

for the student. We cannot expect students to have the know-how or the intrinsic desire or ability to do this on their own. They must be shown a variety of strategies and given the opportunities to implement them, choosing the ones that work successfully for them.

One family household turned in two different parent surveys, one from each parent, which I felt was very interesting. Not because they completed two, but how they answered. For example, one parent gave a score of 7 for question 3 (How challenging is the math homework that your child receives?) while the other parent scored it a 1! The parent who scored it a 7 suggested that homework needs to be a little bit harder, while the parent of the same child who said that the homework was easy, suggested that homework needs to be more helpful for the students. One of the parents said that their child did the majority of their math homework in the bedroom, while the other said that he did it in the living room. Even within the same household, with the same student, there appears to be miscommunication and a lack of knowing what a child is doing with their schoolwork.

Homework Quizzes

Data collected from the homework quizzes showed that the average student homework score was approximately 2.8. This score is based upon a 4-point rubric, where students receive a score of a 4 for having a perfect quiz and showing all relevant work; a 3 for missing only one problem or getting them all correct, but not showing sufficient work; a 2 for missing half of the problems or missing one (with no work shown); or a 1 for missing 3 or more problems on the quiz. Homework quizzes were actually developed before the beginning of this action research, so students were accustomed to this format. Quizzes ranged from two to four problems, directly taken from that day's homework. Each homework assignment had approximately half of the answers on the back, allowing students to check some of their work

ahead of time. I felt that this was especially beneficial for those students who didn't have anyone to assist them when they were away from school. I felt that this was also helpful in the sense of correcting students from repeating the same wrong procedure and finding out the following day. This adaptation of homework also allowed me to check homework faster, since students already were to check those problems that they had the answers to. Homework quizzes gave me an opportunity to really see who did their homework and understood it. Often, certain students would say their homework was finished, but when the homework quiz would be passed out, they would have immediate questions, such as "How do I do this?" or "Am I doing this right?" These questions were asked only minutes after checking and discussing the exact same homework assignment and questions!

Video

Reflecting upon video recordings of lessons showed that I, as a teacher, became frustrated with my students in regard to homework as the study advanced. Throughout the lessons, I continued to reiterate the sayings that reflect my general philosophy about homework, such as: "It's important to get homework done on time so that you can be an active participant in our class discussion"; "You can't learn math unless you try math"; and "I don't necessarily expect correct answers, but I do expect you to try." However, as time went on, I found myself saying things that showed my frustration with students who were not making the efforts that I had hoped for. Before correcting homework on one particular day, I told a student that their "excuses are starting to wear thin with me." During one lesson, we spent a great amount of time talking about homework and effort. During this time, I finally asked, "If you can't try for me or yourself, then what are you willing to try for then?" (referring to what will motivate them). The end of the school year is a trying period,

especially for students who are preparing to leave elementary school for middle school. I believe that other challenges arose from the change in the season (students getting "spring fever") as well as a new curriculum, which is more intense and math driven then the previous curriculum.

My frustration seemed to be stemming from other sources also and I felt that a daily reflection would have benefited me by writing down my thoughts and reflecting on the positives and negatives of homework for each day. Unfortunately, time was scarce, but eighteen lessons were recorded during this instructional time, giving me the opportunity to reflect and observe my classroom from a third person point-of-view. Fourteen lessons provided data for the chart below. I was interested in how I allocated homework time during my 80 minutes of class time:

	Average time	**Range**	**Mode(s)**
Time spent checking & discussing Homework *Beginning of class	18 minutes	32 minutes	14 minutes 17 minutes 24 minutes
Time spent on starting Homework assignment *End of class	3 minutes	12 minutes	0 minutes

I typically pride myself on allowing students the opportunity to begin their homework assignments before they leave my classroom. This gives them the chance to try some of the homework problems, giving them the opportunity to ask questions before they leave. On five occasions, students were not given any time to attempt their homework before leaving the classroom. Time was very valuable during this stretch of the school year, trying to squeeze in information during every moment of class time. I believe that students need to attempt some of their homework before leaving and being successful on their own. This is the only opportunity for some of them to ask for assistance or clarification.

In contrast, a great deal of time was spent at the beginning of each class period checking homework assignments, as well as discussing problems that students had. Some of the assignments were more challenging to correct as a group, involving geometric drawings and individualized interpretations of problems (i.e. draw a scalene triangle or write three equivalent ratios to 1:2). Also, some assignments were corrected after a substitute teacher had been in the classroom. This homework correction time allowed me an opportunity to put in my "two cents" and reiterate some of the important main concepts.

Charts

Some students found the charts (Appendix B) beneficial for helping them visualize their success during the chapter's assignments. About three-fourths of the research time was spent using the first charting system, which was adapted from a probability model that I was introduced to in one of my master's courses. The second charting system was more interactive and involved some extrinsic rewards (additional percentage on a test or excused from half of a homework assignment during the next chapter). Surprisingly, students enjoyed the challenge of the activity more than the possible reward at the end. I believe that this would have been just as successful if I would not have included the reward system. What I found out from the charting was that it helped certain students who needed visual reminders to finish their homework. Students enjoyed plotting points and moving figures around when they completed homework. However, this system did not help students who lack organizational skills. It also was problematic to some students who might not complete an assignment and then they realize that there is a blemish on the written record, not being able to get a 100% success level, so they give up.

Charting also relies on honesty. Instead of charting as a class where everyone can see everyone else's success, students had individual charts within their packets. After correcting homework together, students completed their charts. On one occasion before we had checked homework together, I asked who did not complete their homework, and no one indicated that they were not finished. After checking homework together, I went around the room and nine students were not done! Charting is only successful if it is utilized correctly.

As I developed these charting systems, I would share with the other five teachers on my team. On one occasion, a young boy, who I knew was notorious for not completing math homework, came up to me after school and said thanks for the math charts. He informed me that he was now completing all of his math homework on time! I verified this with his math teacher and sure enough, he had turned his homework ways around. This was a pleasant surprise and an acknowledgement that charting does benefit some students.

INTERPRETATION

So what does this all mean? Unfortunately, I don't have the ideal solution for teachers who have similar problems with homework. I have altered homework assignments, supported student work by giving partial solutions in the homework packet, allowed small group work, and helped students chart and document homework completion. No matter what I alter in an effort to improve my overall class's performance, it is always hit and miss. I believe that students need a variety of types of homework, but no matter what it is, I constantly reinforce the idea of effort and trying. The answer isn't always the most critical outcome, but the route or method to the solution is just as important to consider. The only problem that this conjures up is that when some students hear the words "the answer isn't always the most important thing" they tune out the rest and work becomes minimal with no answer at all.

I found it interesting that the majority of students rated the level of homework as easy to just right, yet homework quiz averages were below a 3, which is considered sufficient progress. Also, statements about making homework even easier or having fewer problems seemed counteractive to the demand that other students and parents requested. More so than any other year, I've worked feverishly to try to improve the overall performance of my students in regard to homework. Yet the more and more I do, the less I feel that I am receiving from the overall class. I believe that by fifth grade, the majority of students are set in their ways when it comes to homework attitude. Traditional homework patterns are developed at such an early age that by the end of elementary school, it is challenging to make changes when a child has established a mindset or attitude that views homework in a negative connotation. I believe that efforts need to be made at earlier grade levels to help students develop positive attitudes about homework, informing students of the benefits of learning and practicing away from school, experiencing good homework habits for themselves. I believe that we also need to educate our teachers on how to use homework in a positive manner, not threatening students with "extra homework" if they misbehave or are acting in a way that associates negative feelings with homework. I believe that an open communication link needs to be established early in the school year between teachers and parents. Expectations need to be set immediately, as well as informational sessions and previewing units to inform parents about what to expect their child to be learning, and why it is a relevant part of the curriculum.

Overall, I feel that students want to be good students and want to complete their homework. However, I believe that beneficial study environments are lacking. It is a challenge for me to maintain control of my own classroom with so many students who desire individualized attention from both peers and me. What does this look like when I'm not

around? Is math success and completion of homework the focus, or are students too easily distracted by other interferences? I find it frustrating to witness capable students not completing homework. Almost every time I've made a phone call home, informing parents about incomplete assignments, the first response from them is "They told me they didn't have any homework" or "They told me it was finished." Well what does this tell us? Some parents have informed me that they never really liked math either, so they weren't surprised that their child didn't like doing math homework; they even give a slight chuckle as if to indicate a pride, like "That's my boy!" or "She's just like me."

I believe that homework issues are very inherent and need to be addressed with the three main players involved: students, parents, and teachers. Homework has mutated into two forms: The "traditional" homework, where students complete it away from school, and then there's the "stay after school" homework, where students who can't complete school work stay after school and are monitored by the teacher. This can cause resentment from the teacher if the teacher appears more concerned with homework than either the student or the parent. This may also resemble a punishment for the student, with negative attitudes developed, only creating future problems.

As a result of my findings, I have taken an opportunity to move to a third grade classroom during the next school year. With my findings, I intend to begin helping younger students understand the importance of homework, giving them some helpful strategies throughout the school year, as well as building a strong foundation for a positive future with homework.

References

Balli, S. (1997). *When mom and dad help: Student reflections on parent involvement with homework*. Research - report, presented at the annual meeting of the American Education Research Association, Chicago, IL.

Corno, L. (1996). Homework is a complicated thing. *Educational Researcher, 25 (8),* 27-29.

Juarez, A. (2001). *Enhancing student performance through classroom motivation*. Report – research, Chicago public schools.

McDermott, R., Goldman, S., & Varenne, H. (1984). When school goes home: Some problems in the organization of homework. *Teachers College Record*, 85 (3), 391-409.

Pierce, Michelle. (1997), *Improving elementary students' motivation*. Unpublished master's thesis, Saint Xavier University & IRI / Skylight, Chicago, IL.

Shepard, J. (1999). *Developing responsibility for completing and handing in daily homework assignments for students in grades three, four, and five*. Practicum / dissertation / theses, Nova Southeastern University.

Wiseman, D. & Hunt, G. (2001). *Best practices in motivation and management in the classroom*. Springfield, IL.: Charles C. Thomas Publisher LTD.

Wlodkowski, R. & Jaynes, J. (1990). *Eager to learn, helping children become motivated and love learning*. San Francisco: Oxford.

APPENDIX A

Student Survey #1

*Parent survey was similar to this survey, but altered to ask the questions to the parents rather then the students.

*Student survey #2 is identical to survey #1, with one additional problem: Did you find any of the strategies (Internet site, self-monitoring sheets/charts, changes in your homework environment) helpful in completing your homework, or make the homework more meaningful?

Student Name: _____ Date:_____

Student Survey #1

You are about to begin participation in a research project in regards to homework. Please take 15 – 20 minutes to complete the survey. This will help us collect some important data from you, so please be as honest and accurate as you can. Please answer each question as honestly as possible. Thank you!

Questions #1 – 5: Circle the appropriate number on each scale to help you answer any of the Questions.

Question #1 – When you receive homework in math, how important is it to you that it gets done on time?

< -1---------2---------3---------4---------5---------6---------7---------8---------9---------10- >
Not Important *Very Important*

Question #2 – When you receive homework in class, does it match-up with what you learned that day?

< -1---------2---------3---------4---------5---------6---------7---------8---------9---------10- >
Never *Always*

Question #3 – How challenging is the math homework that you receive?

< -1---------2---------3---------4---------5---------6---------7---------8---------9---------10- >
Easy *Very Difficult*

Question #4 - How important is the math that you are learning?

< -1---------2---------3---------4---------5---------6---------7---------8---------9---------10- >
Not Important *Extremely Important*

Question #5 – How often does your homework get done on time?

< -1---------2---------3---------4---------5---------6---------7---------8---------9---------10- >
Never **Always**

Questions #6 – 11: **Read each question and place an "X" by the choice that is most appropriate. If there are more than one choices that are appropriate, place a "1" next to the one that occurs the most, a "2" near the one that would be next, and so on.**

Question #6 – How much time per day (Monday through Friday) do you spend on your homework away from school (home, daycare)?

____ ***None***
____ ***1 - 10 minutes***
____ ***11 – 20 minutes***
____ ***21 – 30 minutes***
____ ***More than 30 minutes***

Question #7 – Where do you do the majority of your math homework when you are away from school?

____ ***Home***
____ ***Home Daycare Facility***
____ ***Recreation Center***
____ ***Community Center***
____ ***Relatives / Friends House***
____ ****I get all of my homework done at school***

Question #8 – How would you describe your work area when trying to get your math homework done away from school?

____ Bedroom
____ Kitchen
____ Living Room
____ Open Area (with many things happening)
____ Office / Den
____ Library
____ Vehicle
____ *I get all of my homework done at school

Question #9 – At what time of the day do you work on your math homework?

____ As soon as I leave school (Between 3-5 pm)
____ After Supper (Between 6 – 8 pm)
____ Later in the evening (Between 8 – 10 pm)
____ After 10 pm
____ In the morning, Before School (5 – 8 am)
____ *I don't work on my math homework

Question #10 – Who is usually available to help you with your homework when you are not at school?

____ Mom and/or Dad
____ Daycare Provider
____ Older Brother or Sister
____ Older Relative (Aunt, Uncle, Cousin, Grandparent)
____ Rec / Community Center Supervisor
____ No one
____ Other:

Question #11 – What other obligations do you have that sometimes interfere with your homework?

____ Sports (games & practice)
____ Church / CCD / Religious Practices
____ Dance / Ballet / Gymnastics
____ Boy or Girl Scouts
____ After school Clubs
____ Music / Swing Choir / Chorus
____ Other: _____
____ Other: _____

Questions #12 - 15: Please use complete sentences as you answer these questions.

Question #12 – Describe what homework means to you in your own words (Its importance; the main reasons you do homework; why do teachers assign homework):

_____

_____

_____

_____

_____

Question #13 – If you could change one thing about math homework to make it better, what would it be?

Question #14 – How do your parents feel about your math homework? Do they know how you are doing in math class?

Question #15 – What are some strategies that you are doing, right now, that are helping you to complete your math homework in a timely manner?

Question #16 – Do you have access to the Internet outside of school?

___Yes ____No

***If you answered "Yes", please indicate how many hours per week you are on the Internet:**

_____Hours

Thank you for answering each and every question thoughtfully and honestly! You are now finished with this survey! Please be sure to hand this in to your math teacher. Thanks!

APPENDIX B

2 Homework Completion Charts
Chapter Reflection Sheet for students

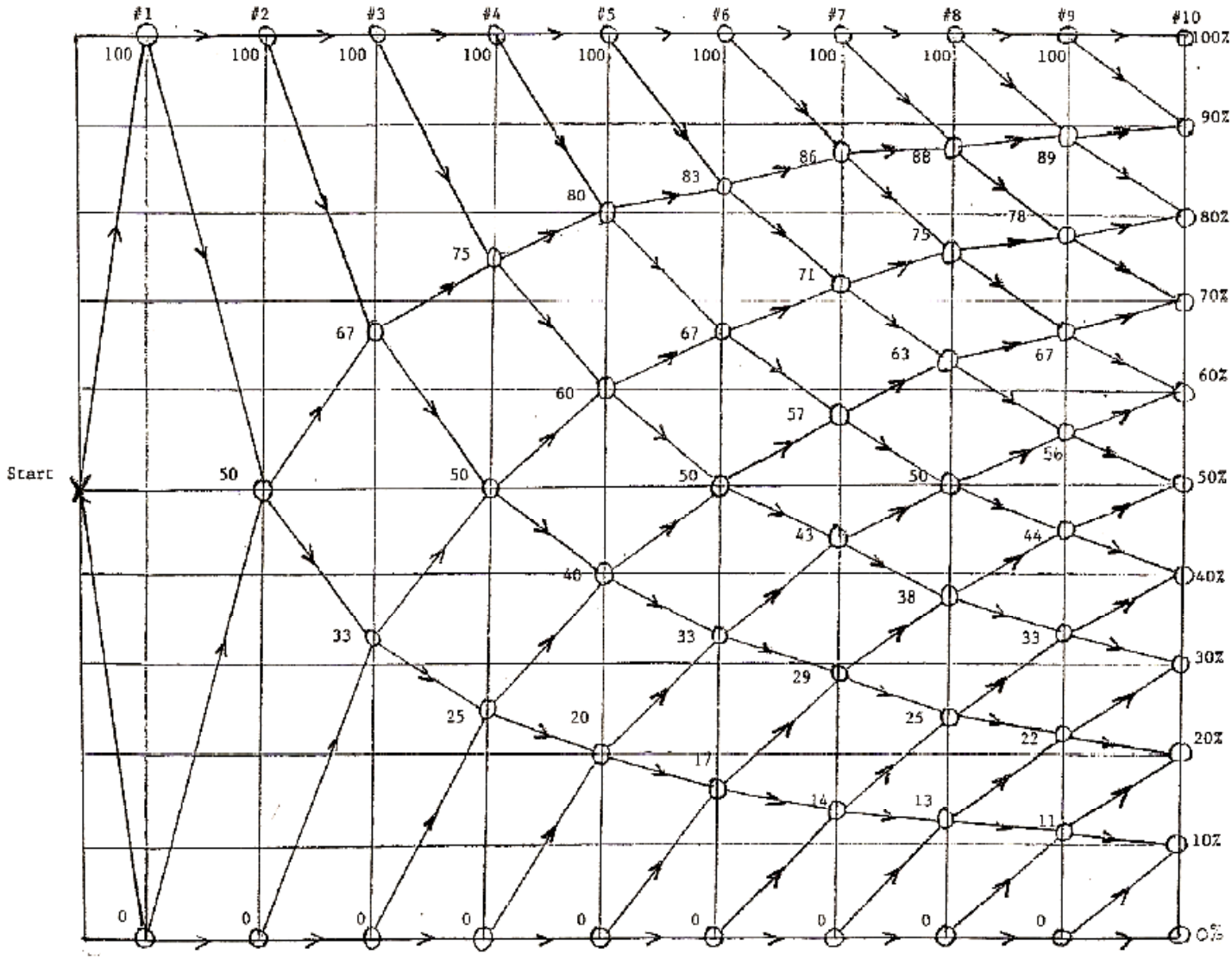
Math Homework Completion Chart

This chart is to be used to indicate completion of math homework assignments for the current chapter. Begin at the "start" mark on the left-hand side of the chart. For each assignment completed on time, you will follow the arrow that goes up, or directly to the right if currently at 100%. If a homework assignment is not completed on time, then you will follow the arrow that goes down, or directly to the right if at 0%. Shade in the dot where the arrow leads to and then continue your charting after each homework assignment, beginning where you left off. The numbers next to each dot indicate your current percentage of homework completion.

My Math Homework Goal for this quarter is to.....

_____

Assignment:



START YOUR ENGINES!

Charting Homework

Begin by placing an "X" or other symbol on any two (or one) lane(s) (#1-6). These represent your 2 cars. Each day you complete your assignment, in its entirety, you can move your cars forward so that they are placed under the current assignment column. If an assignment is not complete, you lose a car. After assignments are corrected, your teacher will roll a six-sided number cube. The side it lands on indicates a major wreck in that lane and any cars occupying that space are "in the garage". This continues each day during the course of the chapter.

The Goal: *Get at least one of your original cars across the finish line!*

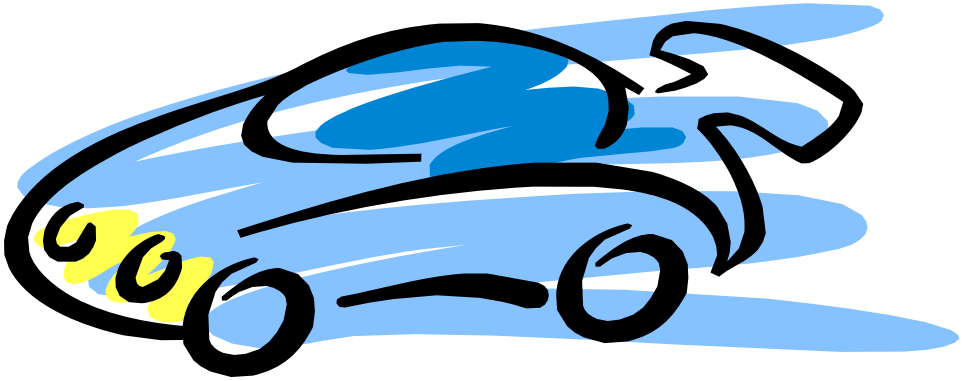
or

The Prize: Receive half of an assignment off during the next chapter!

Lane Number	**Assign. 1:_____**	**Assign. 2:_____**	**Assign. 3:_____**	**Assign. 4:_____**	**Assign. 5:_____**	**Assign. 6:_____**	**Assign. 7:_____**
1							
2							
3							
4							
5							
6							

Earn an additional 10% on your current chapter math test!

Driver's Name:_____



Student: _____ **Chapter ___ Reflection Sheet**

Homework Assignment:_____ Date:_____

I. Where (outside of school) did you work on your math homework:
___Home ___Rec. Center ___Com. Center
___Daycare ___Friend's house ___Library
___Other:_____

II. Between which hours of the day did you work on your math homework:
___ 3:00 – 5:00 pm ___ 7:00 – 9:00 pm ___ 11:00 pm – 5 am ___ 7:00 – 8:00 am
___ 5:00 – 7:00 pm ___ 9:00 – 11:00 pm ___ 5:00 – 7:00 am

III. How much time did you spend on your homework, outside of school (be as exact as possible):

_____ minutes

IV. Was anyone available to help you with your homework today? Who?

_____

Did you ask for any help with your homework today? ___Yes ___No
If yes, did you get the help you needed? ___Yes ___No

V. Lesson Summary: In a sentence or two, tell me what you liked or didn't like about your homework, what you learned that was interesting, a new connection that you just discovered, or anything you want to share!

_____

_____

_____