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ABSTRACT

This action research project examined the impact of organizational and motivational strategies to increase homework completion among high school students. Participating were high school algebra and biology students in a midwestern, suburban city. The problem of homework completion was evidenced by existing grade and homework reports and teacher and student surveys. The strategy used to encourage students to complete homework through enhancing their organizational skills was a teacher-issued standard homework assignment notebook that served as a visual reminder of the homework assignments and their value. An individual student-generated grade record was also incorporated into the intervention, thereby increasing students' responsibility for grade performance and knowledge. Procedures for failure to turn in homework, pink slips, were established with the students, reinforcing again their responsibility for their academic achievement. Data on the impact of the intervention were collected through weekly teacher journals, comparison of the homework completion rate of comparable classes the previous year, pre-intervention surveys for parents and teachers, and pre- and post-intervention surveys for students. Post-intervention data indicated an increase in the homework completion rate. A positive change in student attitude toward the importance of homework for academic success was evident in the post-intervention student surveys. There was also an increase in use of school time to complete homework assignments. (Ten appendices include data collection instruments and sample materials. Contains 26 references.) (Author/KB)

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IMPROVING STUDENT ACHIEVEMENT THROUGH ENCOURAGEMENT OF HOMEWORK COMPLETION

Renee Anliker Mary Aydt Marty Kellams Jeanne Rothlisberger

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IMPROVING STUDENT ACHIEVEMENT THROUGH ENCOURAGEMENT OF HOMEWORK COMPLETION

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ABSTRACT

This research project supports the belief that there is a significant relationship between homework productivity and academic achievement. The targeted population consists of high school algebra and biology students in a midwestern, suburban city approximately 45 miles from a major metropolitan area. This problem of completion of homework is evidenced by existing grade and homework reports and teacher and student surveys.

Analysis of probable cause of lack of homework completion revealed that students experienced a lack of organizational skills, parental support, and responsibility and ownership for their academic achievement. Evidence exists in data obtained from student, parent, and teacher surveys, as well as past student achievement records from the targeted high school

A teacher-issued standard homework assignment notebook was selected as a strategy for presenting the students with a visual reminder of the homework assignments and their value. An individual student-generated grade record was also incorporated into the intervention, thereby increasing responsibility on the part of the students for grade performance and knowledge. Procedures for failure to turn in homework, pink slips, were established with the students, reinforcing again their responsibility for their academic achievement.

Post intervention data indicated an increase in the homework completion rate of the targeted population. A positive change in student attitude towards the importance of homework was evident in the post intervention student surveys. Also noted, the interventions affected academic achievement in a positive manner.

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

Students in targeted high school math and science classes exhibit lack of completion of homework that interferes with academic understanding and growth in algebra or biology. Evidence for existence of the problem includes records indicating incomplete or missing homework assignments, poor achievement on chapter tests and quizzes, and survey results.

The Local Setting

Students in the targeted classes attend a high school with an enrollment of 2,949 students in grades 9 through 12. Of these students, 53.7% are White, 9.2% are Black, 30.5% are Hispanic, and 6.5% are Asian/Pacific Islander. Of these same students, 29.7% come from low-income families. The school has an attendance rate of 93.6%, with a dropout rate of 9.6% and a chronic truancy rate of 3.0%. The student mobility rate is 26.1%. The high school graduation rate is 82.6% (School Report Card, 1996).

The professional staff of this public high school numbers approximately 172. Classroom teachers account for 151 of these positions. There are 9 guidance counselors, 7 administrators (principals, assistant principals, and deans), and 5 divisional chairpersons. The average number of years of experience of the

professional staff within the district is 16.2. Of the 1,529 staff members, 44.1% hold a bachelor's degree and 55.5% hold a master's degree or above (School Report Card, 1996)

This high school was founded in 1869. The current building was completed in 1972. It is a two-story brick building designed for a maximum of 2,500 students. The current enrollment necessitates the use of four mobile classrooms in addition to the facility. The building was designed without walls that would shield classrooms from corridors. The distractions resulting from this experiment led to the installation of metal walls, which have interfered with the heating and ventilation system (School Improvement Plan (SIP), 1995).

Graduation requirements for the students in this building include: six semesters of English, four semesters of math, four semesters of science, two semesters of U.S. history, seven semesters of P.E., and one semester each of health civics, and economics. Electives totaling 14 semesters complete the requirements. Each semester passed is a credit, with a minimum of 40 credits required for graduation (Student Handbook, 1995).

A student begins the math sequence in pre-algebra or algebra and continues through geometry, second year algebra, and pre-calculus and trigonometry. In the honors sequence, a student begins with honors geometry and continues in the same order through calculus. Computer science and consumer math are available.

An entering freshman will begin the science sequence at the basic level with geology or with biology. The sequence continues through introduction to chemistry and physical science, chemistry, physics, or environmental science. Second year classes in chemistry, biology, and physics are available. Honors courses are offered in all of the above areas.

Special programs that are housed in this facility include, the Bilingual program, a pre-school program, and a School-Within-A-School program. Many of the bilingual students are mainstreamed in the targeted classes addressed in the problem statement.

Community Setting

The student body of this high school resides in nine surrounding towns. The two largest of these have been selected for closer analysis because the greatest number of students attending this high school are from these two communities. These two cities will be referred to as Community A and Community B

Community A

The high school is situated in Community A, a midwestern, suburban city located approximately 45 miles from a major metropolitan area. The 1990 U.S. Census reports a total population of 77,010 persons. This represents a 20.7% population increase over a ten year period. A population composition by racial and ethnic groups is as follows: 70.9% of the population are White Non-Hispanic, 7.1% are Black Non-Hispanic, 3.4% are Asian Non-Hispanic, 0.1% are American Native Non-Hispanic, 18.4% are Hispanic, and 0.1% are Other Race Non-Hispanic (Community A Profile, 1996)

The median age of the population was 32.2 years for Whites, 23.3 years for Blacks, 25.6 years for Asians, and 22.1 years for Hispanics. This represents a median age of 30.0 years for all persons, 29.2 years for all males, and 30.9 years for females. The 1990 median household income was \$35,554. The number of employed residents was 39,227, with an unemployment rate of 5.4%. Of the housing units, 62% are owner occupied and 38% are renter occupied (Community A Profile, 1996).

The educational completion level for the 46,672 persons 25 years of age and over was as follows: 26.0% have less than a high school degree, 27.6% have a high school degree, 28.6% have less than a bachelor's degree, and 18.3% have a bachelor's degree or more. The median family size was 3.4 persons and the median household size was 2.8 persons. Both of these are increases and represent the residential growth of the community (three- and four- bedroom single-family homes) and the growth of the minority population which tends to have a greater number of persons per household. (Community A Profile, 1996).

Community B

A 1995 special census reported a population of 31,628 persons residing in Community B, located approximately 31 miles from a major metropolitan area. This population count represents a 103% increase over a ten year period. Of the total population, 89.6% are White. 1 8% are Black, 4.5% are Asian, 3.7% are Hispanic, and 0.4% are Other. The median age in Community B is 31.6 years, the median family size is 3.3 persons, and the median household size is 3.0 persons (Community B Profile, 1995).

In 1989, the median household income was \$51,524. Of the total housing units, 92.6% were owner occupied and 7.4% were renter occupied. The average value of a single family home, as reported in 1993, was \$162,659, whereas the average rent was \$635 per month (Community B Profile, 1995).

Community A. Community B. as well as four other communities and portions of five additional communities are served by this large unit school district. This district is comprised of grades pre-kindergarten through 12. The student population of 30,722 is housed in a total of 44 buildings. These include 3 high schools. 7 middle schools, and 34 elementary schools (School Report Card, 1996).

An issue specific to the math and science programs is the elimination of tracking in both curriculums. Test scores in computation, problem solving skills, and applications to real life situations are low. (Illinois Goal Assessment Program [IGAP], 1995)

Boundaries for school attendance is an issue of concern in the school district as the 11 communities comprising the school district want to maintain their own identity and neighborhood schools. Another issue of concern is the negative attitude of the school district community toward the teachers based on the history of teacher strikes. A third concern is the limited support which referends have received within the school district.

National Context of the Problem

Nationally, as well as internationally, students are doing very little homework. On the average, secondary-school students in developed countries spend approximately seven hours a week on homework. In America, the figure is about five hours per week. ("To your books", 1995). Japanese students do about as much homework in one day as their American counterparts do in an entire week. American high school students spend as much time watching television each day as they spend on homework during an entire week. ("Homework, sweet homework", 1995). A Pittsburgh teacher notes that 17 years ago about 80% to 90% of her students turned in their homework. Today, she reports, the rate is 50% or less (Stern, 1993).

Why this drastic change in the rate of completion of homework? Some educators will blame the parents and America's changing households. When 1.200 students aged 14 to 17 years were polled by Nickelodeon, 83% said it is important to their parents that they complete their homework. This figure is down from 96% in 1987. Some parents place more emphasis on extracurricular activities than they do on

their children's regular schoolwork. Other parents are so exhausted by the time they get home from work that they neither encourage nor help their children with their homework. There are some parents who cannot help with the homework because they are unskilled and others that do not understand the value of homework because they did not do their homework either (Stern, 1993).

Are the benefits of homework important enough that educators continue to assign it and require its completion? Studies conducted at the University of Illinois in Chicago found that a student whose academic performance would be in the middle range for that age group if no homework was done will rise almost into the top third of the class if an average amount of homework is completed. These same authors report that other studies have found that the power of homework to influence success ranks second only to student ability and ahead of race and family background ("To your books", 1995). "Homework is as close as anything could be to a one-word solution to America's educational problems ("Homework, sweet homework", 1995, p. 16)."

CHAPTER 2 PROBLEM DOCUMENTATION

Problem Evidence

In order to document the extent of the problem of lack of completion of homework, homework records of students from the previous year were examined. Although the students are not the same ones involved in the study this year, it is believed that the homework records are similar. Homework records were tallied to determine the number of students who completed at least 75% of their homework for first and second quarters. Of the 198 students, it was found that 68% fit this category. It was also interesting to notice the change during second quarter when the percentage of students who completed at least 75% of their homework fell to 60%. Since there appears to be a correlation between the amount of homework a student completes and the overall achievement, grade records were further used to determine the number of students whose homework and quarter grade differed by at most five percentage points. The results for first quarter were 37% while the second quarter results were 26%. Believing that other teachers were experiencing the same problem, all math and science teachers at the site were asked to complete a short survey (Appendix E). Of the 41 teachers, 35 completed and returned the survey.

The following bar graph displays the percentage of students who complete their homework regularly as reported by the teacher.

Students Who Complete Homework 12 10 8 6 4 2 0 <25 % <50 % <75 % <90 % 90 - 100 % % of Students

Figure 1. What percentage of your students complete their homework regularly?

Students at this site were asked in September if they turn in their homework or at least have it in class on the day it is due. There were 145 students who completed the survey. The pie chart below shows the responses received.

Homework in Hand

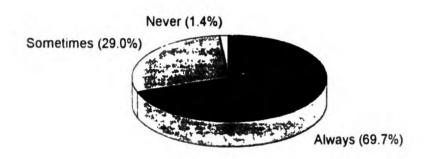


Figure 2. Do you turn in your homework or at least have it in class on the day it is due?

Although many students reported that they usually do their homework, it is important to realize that a new school year just began and many students are trying to start off doing their best. It is expected that a post survey would show different results.

Probable Causes

Site-based

There are many reasons students give for not completing their homework. The majority of these reasons are due to lack of time. There are some students who work or are involved in extracurricular activities. There are others who choose to use their time for socializing with friends. Whatever the case, it is clear that homework is not the top priority for every student.

The graph below shows the responses of the student survey concerning after school activities and work. The total number of students who mentioned each item is shown in the dark column. The light column shows the number of parents who replied that these activities may interfere with their child completing his homework.

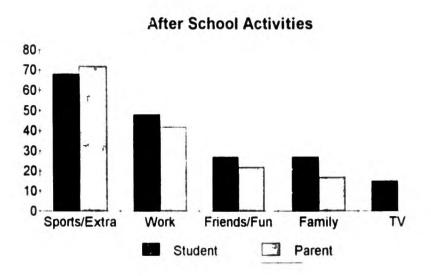


Figure 3. After school activities

Poor organizational study skills account for a lot of missed homework. Students do not remember the assignment or have poor study habits that prevent them from completing their homework in a timely manner. Of the 148 parents surveyed, 104, about 70%, reported that their children have a certain time to do homework and 100, about 68%, have a specific place to do homework. However, the students reported that about half of them have a specific place in which to complete their homework. Of the students surveyed, 44% report that they do their homework between 4:00 and 6:00 PM. Only 7% report that they do not do their homework until after 10:00 PM. Some students have homework in several of their classes on a given night and need to determine how

to budget their time wisely. The responses in the graph below show the frequency of homework students have in other classes per week.

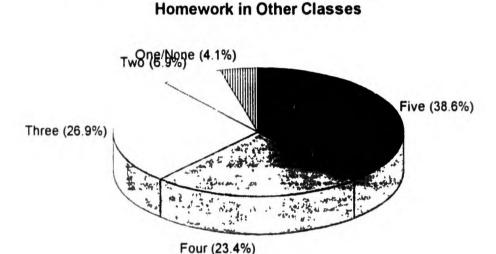


Figure 4. How often per week do you have homework in other academic classes?

The students' attitudes toward homework and school often indicate a problem resulting in lack of completion of homework. In the student survey (Appendix B), students were asked whether they thought that homework was important to success in these classes. On a scale from one to five, with five being very important and one being not important, the category receiving the most responses was three. The students were also asked what motivates them to do their homework. The most popular responses were grades and parents. Also receiving a high number of votes were self expectations and knowledge gained. Finally, the students were asked to write any other comments pertaining to homework that they wished to make. The most frequent comments were either that the homework they were getting was okay, or that homework was given too often and should be given three times per week. It would

seem from this that the students see some importance to homework and its part in their academic success, but they do not want homework assigned too frequently.

The surveys of math and science teachers given in September at the site of the targeted classes (Appendix E), asked them to comment on the percentage of students who complete their homework regularly. Thirteen of the 34 responses fell into the category of 75% or less. This would indicate that the attitudes of most of the students towards homework is mediocre. Homework is not a top priority with them, but they do recognize its importance in these classes.

There are times when a student leaves a classroom without the assignment or with little understanding of the content to be covered in the homework. These students either seek help or fail to complete the assignment. Students were asked in the survey (Appendix B), to list things that might prevent them from doing their homework. At least 10 students responded that not understanding the work would prevent them from completing it. Of the 145 students who responded to the question on the survey about seeking help on their homework, 111 indicated they get help at least sometimes with their homework. Obviously, many students experience a lack of understanding of the homework material at least occasionally. The survey indicates that they most frequently seek help from their parents, friends, and classmates.

Parents who do not support their student's efforts in school can be a contributing factor in student academic failure. Parents can be supportive in a variety of ways, such as providing a specific area to do homework, requiring a specific time to do the homework, and not allowing other activities to restrict or interfere with homework time. In the student survey (Appendix B), students were asked if they had a specific area at home in which to do their work. Seventy-one responded that they did have a specific area and 76 did not. Those students who did not have a specific place indicated that

they did their homework in many locations, the most popular being their bedrooms. Responses to what time of day students usually did their homework revealed that while most worked on homework right after school or between 8:00 PM and 10:00 PM, many others worked at other times, including after 10:00 PM and at school. The responses did not seem to be parent-mandated, put rather convenient times for the students.

Students were also asked to list things that might prevent them from doing their homework. The list was long, but the most frequent responses were: sports/extra-curricular activities, work, friends/fun, and family activities. Clearly students' time is filled with many things. Parents who support their student's academic efforts need to help their student prioritize activities.

The parents of students in the targeted classes at this site were surveyed in September about homework (Appendices C and D). Of the 148 responses, all expected their students to have homework at least sometimes in these classes. Sixtynine responded that three times a week was as often as their student should have homework, and sixty-two felt that one-half hour or less of homework was reasonable. Seventy-five felt that homework was very important for learning the material in these classes. Only 23 indicated that nothing should interfere with their student's completion of homework assignments.

It appears that at this site, most of the parents recognize that homework is a part of the mastery of material in the targeted classes. They feel that it should not be too frequent nor too long. Their students are involved in a great number of activities with consent of the parents, so their time is limited, and homework is not necessarily a top priority.

Literature-based

A review of the literature indicates many probable causes for lack of completion of homework. One cause is after school jobs or activities that students have scheduled. Stern (1993) stated that some parents place so much emphasis on their students' after-school activities such as music or dance lessons, sports practices, and so on, that the student is too tired to work on homework when he/she finally gets home. According to "Homework, sweet homework" (1995), American high school students spend as much time each day watching television as they spend on homework for the entire week. This problem of time spent on homework has been a factor in academic achievement for years. Drazen (1992) reported that a study using the high school classes of 1972, and also 1988, found that in both groups an important factor in mathematics achievement was time spent on homework. However, not all after-school activities or working at a job is harmful to academic achievement. Klesse (1994) reported that students who spent about seven and one-half hours per week in activities such as sports, performing, leadership, or clubs spent more time on homework and fared well academically. In an article by Mortimer, Finch, Ryu, Shanahan, and Call (1993), when time spent doing homework was used as one indicator of school achievement, students who were seniors and who worked fewer than 20 hours per week had higher grade point averages than students who did not work. Some hours of work or activity may actually help students organize their free time carefully in order to complete homework responsibilities.

Literature suggested other possible causes for lack of effort on homework completion. According to Meeks (1991), students have poor organizational study skills which affect their note-taking skills. These students have classroom notes that are frequently incomplete or inaccurate. Literature by Beaman (1994) upheld the idea that

students do not have good organizational skills and simply forget the assignment given for homework.

Cuellar (1992) supported the idea that the low achieving high school students tend to dislike homework, thereby disregarding it and not keeping a record of the homework assignments. Berthiaume's research (1995) reflected that students have had minimal experience in developing good study skills and are, therefore, unable to apply learning strategies. The author also stated that homework assignments were not written in assignment notebooks

Another cause for lack of homework completion is the attitude students have toward homework and school. Beaman (1994) suggested that some students tend to put more emphasis on jobs outside of school or time spent watching television rather than on doing homework. Also, the students see no correlation between doing homework and succeeding in class.

Cuellar (1992) stated that low achievers tend to dislike school and homework.

High achievers display a more positive attitude toward school and the homework required of them. A study by Kazmierzak (1994) showed that most students had a neutral attitude toward homework, and were not very interested in the effect homework can have on quarter and semester grades.

Another cause of failure to put effort into homework assignments suggested by Beaman (1994) is that students simply forget what they are supposed to do for homework, or forget the content that was taught therefore being unable to understand the assignment. Marquis (1989) supported this belief as well.

Additional causes suggested by the literature for the lack of completion of homework related to the lack of parental support, student drug and alcohol use, and the mobility rate of today's students. In polling 1200 teenagers in 1987 and again in 1993,

Nickelodeon identified a 13% decrease in parental concern for the completion of homework (Stern, 1993). Reasons for the apparent decrease in parental support are varied. While some students come from households that lack parental encouragement of and attention to any childhood endeavor, other students might have parents who push extra-curricular activities over academic achievement. The changing American household also is more likely to include "work-weary parents who lack the energy to nag their children as well as fractured families in which no one watches the young ones" (Stern. 1993, p. B1). These shifting conditions in the home tend to effect a rather negative environment for schoolwork, lacking in quiet places conducive to study (Beaman, 1994).

A factor most prevalent among the parents of secondary students is the inability to understand the subject matter covered in their children's classes. Many parents lack the academic background to help with the subjects taught in today's high schools. Some parents find that their children's abilities in particular subjects have surpassed their own knowledge, leaving them hard-pressed to provide tutelage. These parents actually have the time and desire to help with homework but feel ineffective in their attempts to do so (Schrick, 1992). It was clear in responses to parent surveys conducted by Schrick that some parents resent the invitation for involvement, particularly at the secondary school level. These parents felt that high school is a time when students should be learning independence, and should not require monitoring by parents who have "put in their time" over the previous years of education.

Another contributing factor to some students' inability or reluctance to complete homework is involvement with drugs and alcohol. In student surveys conducted by Beaman (1994), some students indicated that their use of drugs and alcohol rendered them unable to concentrate sufficiently to study and complete homework assignments.

The after-effects of exposure to these substances also affects in-class performance hindering organization and understanding, thus perpetuating failure once the student leaves the classroom.

The final element selected from the literature as a contributing factor to homework incompletion is student mobility. The movement of students into and out of a school varies by district. The targeted school, like the institutions studied by Berthiaume (1995), exhibits a continual influx of students throughout the school year. The addition of students from other districts, other states, and even other countries contributes to an ever-changing population of students with diverse academic foundations and abilities. Many of these students are deficient in basic knowledge and skills, resulting in their inability to keep up with classmates, complete homework, and succeed in their new school.

A summary of probable causes for the lack of completion of homework includes

- 1. after school activities/jobs,
- 2. lack of organizational study skills,
- 3. attitude toward homework/school.
- 4. misunderstanding of assignment or content.
- 5. lack of parental support for student achievement,
- 6. drug/alcohol use, and
- 7. mobility.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

A search of the ERIC system using the descriptors homework, junior high school, senior high school, and math and science yielded numerous articles relating to the problem. Though the focus was on math and science classes, any articles on homework completion were reviewed, regardless of subject matter. Three strategies were chosen as interventions in the targeted algebra and biology classes. These include assignment notebooks, grade record sheets, and homework pink slips.

Assignment Notebooks

An idea common to much of the literature was the use of some form of an assignment notebook in which to write down the homework assignment on a daily basis. Students who have a hard time completing and turning in homework often have poor organizational skills. Beaman (1994) reported. They forget that they have an assignment or are supposed to do homework. Cuellar (1992) found that low achievers shared a disregard for homework and assignments and did not keep a record of their assignments. Berthiaume (1995) identified the lack of recorded homework assignments in an assignment notebook as one of several factors causing students to experience failure in the classroom. An assignment completion strate; taught

students to monitor their homework by entering it into an assignment notebook. Using this strategy, students related that it helped them stay on task (Berthiaume,1995). During the summer of 1996, the Chicago Board of Education approved daily homework for all ages of students. This policy required teachers to check homework assignment books daily and parents to sign off on the notebooks each day, as well. "Anything we do to make children more responsible for their own education and parents more involved is a step in the right direction," said Beverly Tunney, president of the Chicago Principals and Administrators Association (Chicago Sun-Times, 1996). Called by several names, an assignment notebook, assignment calendar, or assignment record seemed to be a popular, productive choice to aiding the homework completion rate of many students.

Grade Record Sheets

Making students aware of their current grade in a class, and teaching them the process used to determine that grade, allowed the students to see what effect lack of completion of homework had on their grade. It also allowed the students to see how they could control much of their achievement (Beaman,1994). A device known as a Grade Control Chart was used by each student to determine the individual's grade. Such a chart did not overcome past failures or the hopelessness caused by such. In fact, it brought that hopelessness all too clearly to mind for some students. What this chart did for every student was take away the excuse of not knowing how he/she was doing in class. It was useful in the overall approach to getting students to complete their homework. Stanulonis (1992) likewise found that students get anxious about their grades, and the use of a student-generated scorecard relieved the anxiety and aided student progress. This scorecard helped the students become aware of the cause-effect relationship between performance and achievement. Because the students

calculated using the same procedures as the teacher, it took the mystery out of how the grade was determined and placed the responsibility of raising or maintaining the grade with the student.

Homework Pink Slips

When a student has not turned in a homework assignment, often no attention, or very little, is called to that fact at the time. The student has not practiced the concept(s) being studied and takes little part in classroom discussion of the assignment. Frequently, no effort is made on the part of the student to make up the work missed. Rutherford (1989) stated that students should document the fact that they did not have an assignment and give the reason or reasons they did not have the work. This called much more attention to the fact that the assignment was not done and made the student accountable. Dannewitz (personal communication,1996) explained a procedure used to document incomplete or missing homework with a form known as a "pink slip". This pink slip was to be filled out in class while the rest of the class reviewed the assignment. It listed the assignment, the reason it was not completed, and what the student's intentions were regarding the assignment. It could be sent home for a parent signature and returned the following day. An approach such as this helped the students to see that each assignment is the responsibility of the student, and it was important to the teacher that the student do the work.

Other Strategies

The literature discussed several strategies that the teacher could use to increase the rate of homework completion in the classroom. These strategies were grouped into the following categories: assigning homework, grading or checking homework, and developing study skills.

Assigning Homework

Many suggestions were given on the topic of assigning homework. Homework should not overwhelm but rather challenge the student (Kazmierzak, 1994). It should be carefully chosen with a purpose in mind instead of being a vague assignment such as, "do p. 25 1 - 31 odds". If students believed each homework problem was particularly essential and meaningful, they would be more likely to do the assignment, stated Marquis (1989). Kazmierzak (1994) proposed that the assignment should engage students in higher-order thinking skills. The homework should have some review problems, and should require no more than thirty to forty-five minutes to complete (Marquis, 1989). Students' major complaints about homework included: the teacher assigned too much, it was not explained before it was assigned, and the teacher never collected it anyway (Beaman, 1994).

Grading or Checking Homework

The literature included many methods for grading or checking homework assignments. Some teachers went up and down the rows and gave two points to each student who completed the homework, one point to those who were partially finished, and those who had no homework were given a zero. In some classes, students exchanged papers and graded each other's assignments (Kazmierzak, 1994).

Schloemer (1994) reported that some students were assigned a particular problem about which they were to be expert. The students were required to work out the problem in front of the class while they explained it to other students. Other methods for checking homework included having students work in small groups, collecting the homework from only one part of the class, giving an open-notebook quiz on the homework, and collecting and grading only a few pre-determined problems (Marquis, 1989). It was apparent that the most helpful checking method was when the

teacher collected, graded, and made comments on every problem of every homework assignment. However, this was not feasible for a high school teacher who sees about 160 students every day. Therefore, it was important to have an efficient and effective way to check that students were completing the homework and were understanding the concepts involved. Knowing that homework will be graded in some manner was a powerful incentive for students to complete their homework, according to Turvey (1986). There was evidence to suggest that a student's achievement improved when homework was graded in some manner and promptly returned (Palardy, 1988). Study Skills

There was also some mention of study skills in the literature. Teachers were encouraged to teach students how to take good, meaningful notes (Meeks, 1991). Berthiaume (1995) found that teachers were also encouraged to understand the different learning styles students utilize, and enable the student to use that learning style in an effective manner. Homework should be tailored, whenever possible, to appeal to each of the learning styles.

A review of the literature also suggested that parents played a large role in a student's success in school. Students' reasons for not doing their homework included parents not placing a high priority on homework, the home environment was not conducive to learning, and family activities, as well as other commitments, did not allow enough time for homework completion (Beaman, 1994).

Encyclopedia Brittanica published a pamphlet, "How to Make Your Child a Winner", in 1982 which offered tips for parents concerning homework. The following were ways listed in which parents could best help their child:

- Provide a comfortable, quiet place to study that is free from distractions.
- 2. Provide all necessary accessories and a desk, if possible.
- 3. Be sure the child is healthy and in a relaxed state of mind.
- Provide resource and reference books.
- 5 Help the child budget time
- 6. Set up a regular study period every day

The Chicago Sun - Times ("City Schools", 1996) recommended that parents help with homework, but the amount of help given, as well as the kind of help given, vary widely. Some schools required that parents sign-off in an assignment notebook to show that they were aware of the assignment. Other sources, "How to Make Your Child a Winner" (1982), suggested that by high school, students should accept the responsibility of homework and parents should play a limited role. Schrick (1992) found that no matter what part the parent played, it was important that the parent conveyed to the student the importance of homework, and that the parent, teacher, and student work together, so that the child could be successful.

In summary, the literature revealed several student tools and teacher strategies to aid in the completion of homework. These tools included an assignment notebook, a grade record, and a form for student responsibility for missed homework. Teacher strategies suggested were the assigning of pertinent homework, effective checking and grading of homework, and developing student study skills.

Project Objective

As a result of a focus on organizational study skills applied in the targeted classrooms during the period from September 1996 through mid-January 1997, the algebra and biology students in those classes will achieve, and then maintain, a high rate of homework completion. This will be evidenced by improved individual student responsibility as well as continued classroom academic performance as measured by homework records, grade reports, and teacher journal entries.

Process Statements

In order to accomplish an increase in the homework completion rate, the following processes are necessary:

- A teacher-issued standard homework assignment notebook will be utilized.
- The teacher will show students how to make and use individual grade records.
- The teacher will create a procedure that students without homework assignments will follow to provide an explanation for the lack of homework and a remedy.

Project Action Plan

In order to meet the objective of increasing the homework completion rate by facilitating organizational skills, the teacher will implement several strategies during the first semester of the 1996 - 1997 school year. On the fourth day of the fall term, after classroom populations have stabilized, each student will be given an informational parent letter introducing the project, the emphasis on the successful completion of homework, and the intended interventions (Appendix A). This initial parent contact will outline each tool and procedure to be used during the intervention time, including the

homework assignment notebooks, student-generated grade records, and pink slips for missing homework assignments (Appendices F, G, and H). Also to be issued the fourth day of the fall term are homework assignment notebooks for accurate recording of each assignment. Throughout the month of September, the recording of homework assignments will be monitored daily. From October through January, 1997, the homework assignment notebooks will be checked weekly by the teacher. Parents will be asked to initial individual assignment entries on an as-needed basis. These notebooks will afford efficient communication between school and home (Appendix F).

Individual student-generated grade records are to be implemented from September, 1996 through January, 1997. Within the first two weeks of September, students will be instructed on the construction and maintenance of individual grade records. Teacher designed and student executed, the grade records will uniformly chronicle each assignment title and point value, as well as the points the student earned for that assignment, a cumulative point total, and the conversion to a percentage to indicate a letter grade (Appendix G). Students will be provided plastic sleeves in which they will keep these records to become a permanent part of their three-ring binders or class folders. The teacher will randomly check these records for accuracy and timeliness. Parents will be informed of these grade records so that they may check regularly on the students' performance.

The third intervention, pink slips for missing homework assignments, will be introduced the first day of the fall term as the teacher presents the classroom expectations. Laminated posters outlining the procedures for procuring and completing a pink slip will be mounted on the classroom wall, along with a supply of pink paper. The teacher will explain the pink slip procedures, notify students of the poster/slip locations, and answer student questions. The poster will contain a specimen pink slip

illustrating the format to be followed. Each pink slip must include the student's name and school I. D. number, the title of the assignment, the date, why the assignment was not completed, and what the student's intentions are in regard to completion of this assignment (Appendix H). Students will be reminded of this intervention and its procedures through the first and second weeks of school, and occasionally, throughout the first semester.

Students who enter the class after the first several days of school will be issued an informative parent letter, a homework assignment notebook, a plastic sleeve, and directions for construction of a grade record. They will be individually tutored regarding the emphasis on homework completion and resulting intervention tools and procedures.

Methods of Assessment

To measure the desired outcomes, the teacher will look for a relationship between completing daily homework assignments and good classroom academic performance. A comparison will be made of the present students' homework completion rate to the homework completion rate of comparable classes of the previous year. The teacher will also compare the academic performance of the present targeted algebra and biology classes to the previous year's classes.

Through the use of weekly journals, kept by the teachers involved in this project, an evaluation will be made based on the reflections, comments, concerns, and suggestions presented there. Pre-intervention surveys will be conducted to assess opinions and attitudes of students, parents, and teachers toward many aspects of homework (Appendices B, C, D, and E). A post-intervention survey will be given to the students to detect any changes in attitudes toward homework (Appendix B).

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to increase the rate of homework completion in the targeted algebra and biology classes by focusing on organizational study skills. Improved individual student responsibility as well as continued classroom academic performance was effected through implementation of assignment notebooks, weekly grade records, and pink slips.

During the first week of school, all students in the targeted classes were issued an assignment notebook (Appendix F). Each researcher checked the assignment notebooks on a daily basis for the first month. The researchers continued to check them weekly throughout the intervention period.

Also during this first week, students generated grade record sheets based on a standard format (Appendix G). Students recorded grades as they received them and calculated their current percentages during weekly allotted class time. The student-generated grade record sheets proved to be too difficult for the lower level students in these heterogeneously grouped classes. A teacher-created form was implemented at that time. Grade record sheets were maintained throughout the intervention period.

At the start of the second week of school, students in the targeted classes were required to complete a pink slip each day they did not have the assigned homework (Appendix H). After three pink slips had been accumulated by a student, his/her parents were notified via the telephone. This was continued again throughout the intervention period.

Presentation and Analysis of Results

In order to assess the effects of assignment notebooks, grade records, and pink slips on students' academic performance, homework grades were calculated and compared to the previous year's classes. We found the percentage of students who complete at least 75 percent of their homework as well as the percentage of students whose homework grade and second quarter grade differed by at most five percentage points.

The double bar graphs below compare last year and this year in these areas.

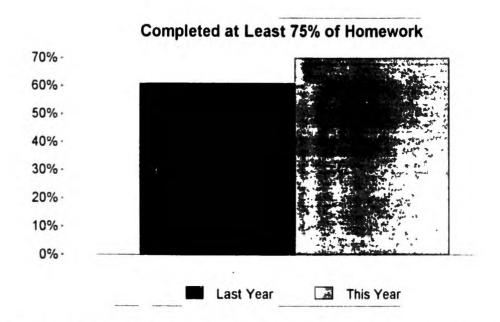
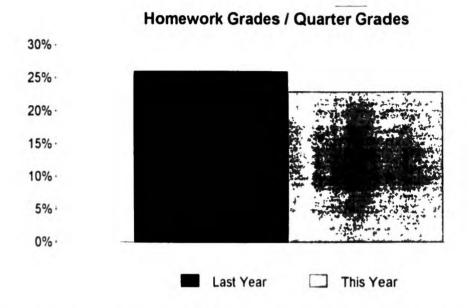


Figure 5. Comparison of last year's and this year's homework completion rates.

Notice that the percentage of students who completed at least 75 percent of their homework increased significantly.



<u>Figure 6</u>. Students whose homework grades and quarter grades differed by at most 5%.

There was little change in the percentage of students whose homework grade and quarter grade differed by at most five points. Reasons for this will be discussed later in this chapter.

The 145 student surveys were examined for changes in attitude. The following double bar graph compares the pre- and post- survey responses to the question, "Do you think homework is important to your success in this class?".

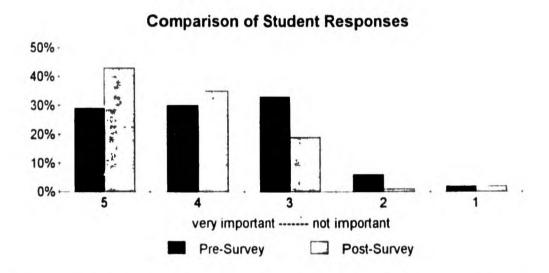
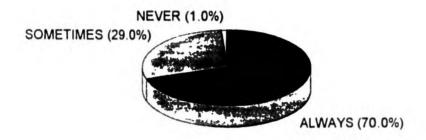


Figure 7. Do you think homework is important to your success in this class?

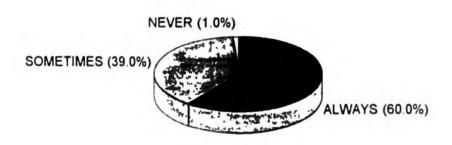
The intervention appears to have had a positive effect on the attitudes of the targeted students. Of particular note is the shift in attitudes towards very important.

Students were also asked, "Do you turn your homework in or at least have it in class on the day that it is due?". The results are shown below.

Pre-Intervention Survey Responses



Post-Intervention Survey Responses



<u>Figure 8</u>. Comparison of responses to the question, "Do you turn your homework in or at least have it in class on the day it is due?".

The percent changes in the "ALWAYS" and "SOMETIMES" categories show significant change in attitudes. The possible reasons for this change will be explored later.

The question, "What time of day do you usually do your homework?" was addressed. The results are illustrated in the graph below.

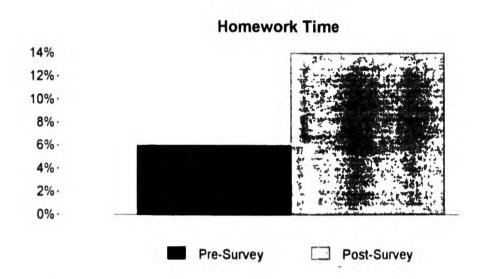


Figure 9. Comparison of students who completed their homework during school hours.

Responses indicated an increased use of school time to complete the homework assignments.

The data also indicated relatively no change in factors which influenced the students' completion of homework, whether or not they had a job, were involved in extra-curricular activities, or spent time watching television. The significance of this lack of change will be addressed later.

Conclusions and Recommendations

Although the impact of the student assignment notebooks on the homework completion rate might not have been readily apparent or easily measured, the implementation of these notebooks did have an obvious affect on the homework awareness level of most students. This increase in cognition could have resulted from the repetition of copying down the teachers' instructions or even the peer pressure

involved in the uniformity of the issuance and maintenance of these notebooks. The assignment notebooks also seemed able to create guilt in students as they reluctantly admitted that these books, and the encouragement of their use, greatly weakened the "I didn't know we had homework" excuse. Some students seemed to be enthused about using these notebooks because they were free, new, and the empty pages beckoned entries. A few students were enticed to continue regular entries with the placement of rewards like stickers, stamps, or teacher "good news" notes onto the pages of their assignment notebooks. Many of the students took the initiative to use these notebooks in their other classes as well. For all those students who were dependable recorders, there were as many who had to be poked and prodded into the regular maintenance of their assignment notebooks. The attitudes, and grades, of most of this second group were less likely to change throughout the intervention period.

The main drawback seemed to be the commitment of classtime to checking the use of notebooks daily and then weekly throughout the intervention period. To be effective, the notebooks had to be used, and it was necessary to get the students into the routine of using them. Another problem involved dealing with students who didn't use the notebooks or who forgot to bring them to class.

The implementation of grade record sheets produced varied results. Students who were highly motivated by grades did a good job of recording grades on daily homework, quizzes, tests, and so forth. Students who were not motivated by grades would not remember or would just not record their grades until the weekly time set aside in class to figure their grade percentages. This resulted in extra time being used on those days catching those students up on past grades. It was these same students who also had a hard time figuring their percentages, even though the routine of the algorithm to do this never varied. Generally, in all of the targeted classes, those

students who were receiving the higher grades were the most interested in keeping track of their own grades and figuring their own grade point averages. These were the students who were interested in seeing that not doing an assignment and receiving a zero for it did result in a marked difference in their average for the class. Their grades were no longer something solely within the teacher's realm of control, but were now a value directly connected to and affected by the student. However, many of the other students were content to take the teacher's word and figures as correct when the computerized grades were posted.

From the teachers' points of view, the idea of having the students understand just how their grade point average is achieved is a wonderful idea. It helps the students understand how daily homework affects both their learning and achieving. However, the process involved in figuring the grade point average, though not complicated, took a lot of class time. Eventually, the researchers went to teachergenerated forms so they would be standard as some students could not copy the poster describing the form. Some of the researchers also went to preparing an overhead transparency of the weekly grade record and filled it in with the items each student should have recorded in order to hasten the weekly process. Once again, the students who were motivated by grades succeeded in this process and those who were not motivated did not succeed in accurately keeping track of their grades.

The pink slips were implemented to do several things: help the teacher in recording daily homework, help the student be responsible for turning in assignments, help the student develop a plan for completing missed work, and keep parents informed of their student's effort on homework. In theory, this was a wonderful idea. In practice, it was less than perfect. Students dutifully filled out the pink slips and submitted them. Those students who were motivated to earn grades usually turned in their missing

assignments. Students who were not motivated generally ignored their "plan" to turn in the homework. When parents were contacted about missing assignments, most were grateful to hear about it and encouraged their students to get the work made up. Many of the students, when they realized that their parents actually would be contacted, began not turning in pink slips once they had accumulated two, so their parents would not be notified.

The researchers did not feel that, in use, the pink slips led to the desired result of making the students responsible for their work, any more so than previous efforts. They worked better for more highly motivated students than for those who were not so motivated. The teachers had to record pink slips turned in, the number per student, calls home, and follow up. The time commitment involved here was a big drawback. However, they were a good reminder to call parents. Another benefit was that the pink slips provided the teacher with better understanding of what goes on in the lives of these students.

In summary, these interventions worked well for students who were generally motivated to succeed. The interventions did not have much effect on students who did not care. They are all still good ideas which the researchers will continue to implement in specific classes. The assignment notebook will be a requirement in their classes. There is interest among the researchers' faculty members to require assignment notebooks for every student in the high school. The issuance of student assignment notebooks was made financially possible by a grant written specifically for this research project. This strategy is definitely one with merit, but requiring their purchase could be a problem. The pink slips and grade record sheets will be implemented in some classes, at the discretion of the teacher.

In reflecting upon this action research project, the researchers have re-evaluated some of their original hypotheses. They expected that students' quarter grades would correspond to their homework grades, given plus or minus five percent. The researchers found instead that the effort put into homework did not guarantee the same level of achievement. The homework grades are based on effort rather than mastery. Therefore, it is possible for students to do 90 - 100% of their homework and still not master the concepts needed to achieve 90 - 100% on the tests. This increased emphasis on homework encouraged students to put enough effort into their homework to raise their grade from failing to passing. The results were not as dramatic as anticipated for all students, but boosted 19% of the grades from failing to passing which made the interventions worthwhile.

The researchers also anticipated that the percentage of students who always do their homework would increase. However, the percentage of students answering that they always did their homework decreased from 70% to 60%, while those answering sometimes increased from 29% to 39%. This may be a result of reality replacing unrealistic expectations.

Another point of interest to the researchers was the lack of change in what motivated the students to do their homework, whether or not they had a job, were involved in extra-curricular activities, or spent time watching television. About 75 percent of students responding to both the pre- and post- surveys indicated that grades, parents, and self-expectations motivated them to do homework. There was no change in the numbers of students who held jobs. About 55 percent of students were involved in extra-curricular activities, and approximately 55 percent watched less than two hours of television, according to pre- and post- surveys. It was felt that the

resulting improvements must have been directly related to the interventions rather than outside influences.

Possible suggestions for improving the interventions include sending the assignment notebooks as well as the grade records home weekly for a parental signature and/or comment. Pink slip excuses could be relayed to the parents either by phone or mail using photocopies. Pink slips could be printed three to a page and returned to the student as needed. This would help the student stay aware of the number of pink slips acquired.

Although the interventions did not provide the significant result anticipated, it was felt that the increased emphasis on homework effort did benefit the majority of students. This was reflected in improved attitudes and/or increased achievement.

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APPENDICES

Appendix A Informational Letter

Homework is as close as anything could be to a one word solution to America's educational problems.

THE ECONOMIST, May 6, 1995

Fall, 1996

Dear Parents/Guardians.

In an effort to promote higher student academic achievement this year, we are emphasizing homework effort and completion. Review of current literature, as well as scrutiny of our previous year's grade sheets, indicates a connection between homework assignments and student grades.

Homework helps encourage self-discipline, responsibility, and independence, as well as extending the student's learning time. To help our students with their homework organization, we will be giving them a student assignment notebook in which they will record daily homework assignments, grades, and other data. We will be asking you to regularly initial spaces indicating your awareness of your student's assigned work and/or grades.

To make it easier for our students to visualize the impact of homework on their overall grade average, we will require them to record each grade received and to keep a running total of all points earned. This grade record will allow them, as well as you, to know their class average at any given time.

Should your student fail to do a homework assignment, he/she will fill out a pink slip indicating the reason why the work was not done, as well as how he/she intends to remedy the deficiency. Accumulation of three (3) pink slips will result in a call home.

We hope that this emphasis on homework will insure a successful, educationally rewarding school year for your student. If you have any questions regarding our strategies, please feel free to call. Thank you for your efforts and support.

Sincerely,

Renee Anliker, Math)
Mary Aydt, Math)888-5137
Jeanne Rothlisberger, Math)
Marty Kellams, Science -----888-5139

Appendix B STUDENT HOMEWORK SURVEY

As part of our Masters Program research, we are gathering information concerning attitudes and expectations about homework. Answering this survey will be anonymous and voluntary. Thank You!! We appreciate your cooperation!

PLEASE CIRCLE THE ANSWERS THAT BEST APPLY

1	Do you think that homework is important to
	your success in THIS class?

very important -----not important 5 4 3 2 1

2 Does anyone help you with your homework?

YES SOMETIMES NO

If "YES" or "SOMETIMES", who helps you?

(Circle all that apply)

teacher classmate sibling parent neighbor friend tutor other family member

3 Do you have a specific area at home to do your homework?

YES NO

If "NO", where do you do your homework most of the time?

- 4 What time of the day do you usually do your homework?
- 5 Do you turn your homework in or at least have it in class on the day it is due?

ALWAYS SOMETIMES NEVER

6 How often do you have homework in other classes?

EVERY NIGHT THREE TIMES A WEEK ONCE A WEEK FOUR TIMES A WEEK SELDOM TWICE A WEEK NEVER

- List things that might prevent you from doing your homework
- 8 How often do you do your homework in THIS class?

NEVER ONCE IN A WHILE ALWAYS HALF OF THE TIME MOST OF THE TIME 9 How much time do you spend watching TV each night?

> 3 hours < 1 hour 2 - 3 hours | I don't v

2 - 3 hours I don't watch TV

1 - 2 hours

10 What motivates you to do your homework? (Circle all that apply and star(*) the most important one.)

grades knowledge gained self expectations parents rewards (candy, coupons etc.)

11 Do you have a job?

YES NO

12 If you answered "YES" to #11, which days do you work each week and how many hours?

day number of hours

13 Are you involved in extracurricular activities? (Volunteer work, dance, band, athletics, etc.)

YES NO

14 If you answered "YES" to #13, list the activity, days, and number of hours

activity (ies) days hours

15 Please write any other comments you have pertaining to homework on the back of this sheet

Appendix C PARENT HOMEWORK SURVEY

Circle the answer that best applies.

1)	Do you expect you	r student to	have ALGEBRA homework?	
	YES	NO	SOMETIMES	
2)	Does your student	have a cer	tain time to do homework?	
	YES	NO		
3)	Does your student	have a spe	ecific place to do homework?	
	YES	NO		
4)	How often do you	think your c	child should have ALGEBRA h	nomework?
	EACH WEEK	NIGHT	THREE TIMES A WEEK	NEVER
	TWICE A	WEEK	ONCE A WEEK	
5)	Do you expect to h	nelp your st	udent with his/her ALGEBRA	homework?
	YES	NO	SOMETIMES	
6)	What would be a r ALGEBRA homev		amount of time for your stude ight?	nt to spend on
7)	How important do	you think h	omework is for learning ALGE	BRA?
8)	Examples might in	nclude such	rith your student completing h n things as intramural/extracun nizational involvement, job and	ricular school

Please list, you may use the back of this sheet to complete your listing.

Appendix D PARENT HOMEWORK SURVEY

Cir	cle the answer that b	est applie	es.				
1)	Do you expect your :	student to	have BIOLOGY homework?				
	YES	NO	SOMETIMES				
2)	Does your student h	ave a cer	rtain time to do homework?				
	YES	NO					
3)	Does your student h	ave a spe	ecific place to do homework?				
	YES	NO					
4)	How often do you th	ink your o	child should have BIOLOGY h	omework?			
	EACH WEEK NI	GHT	THREE TIMES A WEEK	NEVER			
	TWICE A W	EEK	ONCE A WEEK				
5)	5) Do you expect to help your student with his/her BIOLOGY homework?						
	YES	NO	SOMETIMES				
6)	What would be a rea		amount of time for your stude ight?	nt to spend on			
7)	How important do yo	ou think h	nomework is for learning BIOLO	OGY?			
8)	Examples might inc activities, church, cl	lude such ub, orgar	vith your student completing hin things as intramural/extracurnizational involvement, job and back of this sheet to complete	ricular school d volunteer work, etc.			

Appendix E Survey of Math/Science Teachers

As part of our Master's Program research, we are gathering information concerning attitudes and expectations about homework. Please complete this survey and return it to us tomorrow. Thank you! We appreciate your cooperation.

Renee Anliker, Mary Aydt, Jeanne Rothlisberger, and Marty Kellams

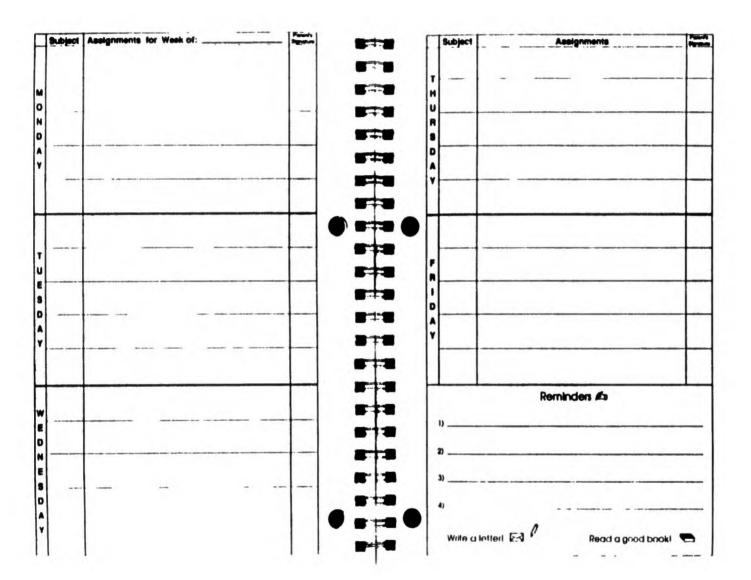
Please circle the answers that best apply. 1) How often do you assign homework? ONCE A WEEK DAILY MONDAY-THURSDAY TWICE A WEEK THREE TIMES A WEEK I DON'T GIVE HOMEWORK 2) Approximately what percentage of your students complete their homework regularly? <50% <25% <75% <90% 90-100% 3) Do you think that homework completion is important to your students' success in your class? VERY IMPORTANT ------- NOT IMPORTANT 3 5 4 1 4) Do you collect homework papers? YES NO SOMETIMES 5) Do you take grades on homework?

NO

YES

SOMETIMES

Appendix F
Assignment Notebook



Appendix G Grade Record

Date	Item	Poi	nts Possi	ble Poi	nts Earr	ned Tota	als Pe	ercentage	Initial
7 - 12	Homework		15	+	13	+-	-+		
7 - 13_	Quiz		20		20	+	+	-+-	4
7 - 15	Vocabulary		15		10	_ 43 /	50 _	86%	-
7 - 19	Homework		12		12	+		-+-	
7 - 21	Quiz		25		17	72 /	87	83%	

Appendix H PINK SLIP PROCEDURES

If you do not have your homework with you in class today:

4 5	1: -l	- D	INIII	CI	In	£	41-	6-1-1
	ick up	aP	IIVK	21	11	Trom.	ine	tolaer

2. C	ODV	And	Comp	lete	as	follows
------	-----	-----	------	------	----	---------

Name	•	ID#	
Date			
	I do not have page	#s	

I plan to

3. Turn in your pink slip when the homework is collected.

Appendix I Consent Letter

Saint Xavier University
Consent to Participate in a Research Study
"Improving Student Achievement Through
Encouragement of Homework Completion"

Dear Parents.

Thank you.

We are involved in a research project for our Master's Program. The problem we are exploring involves student completion of homework.

In the next few weeks, we will be asking your student to complete a brief survey in class. The purpose of this survey is to determine his/her attitude toward homework. The information provided will be used to help improve student achievement through completion of homework. There are no right or wrong answers and responses will have no impact on your student's grade in this course. The survey is anonymous and the student need not put his/her name on it. Please call us at the numbers below if you have any questions.

If you agree to let your student participate, please sign below:

I understand why this research is being done. I understand how it may help my student or other students. I understand that my student may choose not to answer a question and may stop the survey at any time for any reason. Questions I had about this survey have been answered.

signature of parent/guardian	date
student's name	

Sincerely,

Renee Anliker Math 888-5137

Mary Aydt

Jeanne Rothlisberger

Marty Kellams Science 888-5139

Appendix J Parent Letter

Dear Parents.

As part of our Master's Program research, we are gathering information concerning attitudes and expectations about homework. Please complete this survey and return it to us with your student by Friday. Thank you! We appreciate your cooperation.

Renee Anliker, Mary Aydt,

Jeanne Rothlisberger, and Marty Kellams

I have read and completed the attached survey.	
Parent/Guardian signature	
Student's name	

END

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Printed Name: Renee Anliker	Organization: School of Education	
Address: Saint Xavier University 3700 West 103rd Street	Telephone Number: (773) 298-3159	
Chicago, IL. 60655	Date: 4-14-97	



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Printed Name: MARTHA KELLAMS	Organization: School of Education
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