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The Conundrum of Homework Completion

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ABSTRACT

The present study examined the factors that might affect students' homework completion rate. 85 students taking a Chemistry class at Glendale High School were administered a brief survey. Their Chemistry homework assignments were daily monitored and evaluated over a period of 5 weeks. Homework average grade did not seem to be affected by gender, ethnicity, family unit, parental education or involvement, amount of time devoted to homework or context in which homework is done. Nonetheless, students' motivation and interest in attending college, as well as their achievement in other academic areas, such as Math, were correlated with their Chemistry homework performance. Results suggest that external factors may not be as important as students' internal characteristics in determining homework completion and overall academic performance.

The Conundrum of Homework Completion

I have been a science teacher for twenty years. I love my profession. I care a lot about my students and have high expectations of all of them, regardless of their gender, race, ethnic background, religious affiliation or socioeconomic status. Throughout my long experience, I have always been convinced of the importance of homework in improving students' academic results and enhancing their scholastic performance.

As a teacher, I try my best to teach my students necessary study skills. I encourage them with all means to complete their homework, which I give daily but in moderation. Some strategies I have employed for motivating my students (Harris, 1991) include the following: I thoroughly explain what is expected on assignments after doing many guided problems in class. I check my students' homework everyday at the beginning of the period while they are doing the "Do Now" activity. I assign them a grade from 1 to 5 while using behavior modification principles, especially positive reinforcement (i.e., positive feedback, praise). I start each lecture by giving examples and asking questions in order to keep my students alert and interested. I try to involve everyone in class by calling on different students to correct the homework on the board. I teach my students analysis and synthesis skills they can use to challenge themselves while doing their homework. I explain to them that what they are learning in class and practicing as homework ultimately meets their needs to graduate from high school and be accepted in college.

I constantly make sure to use different styles of teaching and give various types of homework to fit the different kinds of learners in my classroom. For instance, some students learn better when information is presented in a visual, rather than an auditory

manner. Therefore, I use numerous visual displays while teaching, such as running demonstrations and showing videos. The homework is posted daily on the white board in class as well as on my webpage which contains helpful resources and links where students can see animations related to the concept they are learning.

I expect all my students to pass my Chemistry class with a high grade if they read the assigned section and are willing to learn the new concepts. In class, I expect them to participate in the discussion questions and listen carefully to my short lecture that summarizes their readings and notes. Then, I let my students help each other to solve some problems similar to the ones I go over with them during the class period. Their take-home assignment consists of practicing additional problems in order to grasp the new concepts more efficiently. But the problem with most, if not all, of my failing students is that they either do not do their homework or they complete it in a sloppy manner. They think they can master chemistry by solely jotting down few notes on the assigned reading, copying the problem solution from the board, completing a small part of the assigned homework problems, or copying somebody else's homework.

Purpose Statement

My action research consists of exploring various factors that might affect students' homework completion rate by specifically answering the following research questions:

1) Are gender and ethnicity related to homework completion rate?

2) Is there a correlation between external circumstances (e.g., home environment, family unit, parents' education and involvement) and homework completion rate?

3) Is there a correlation between internal characteristics (e.g., students' achievement, motivation and attitude towards education) and homework completion?

Relevance of Present Study

By studying the internal and external factors that affect homework completion rate, we can be better armed to help those students learn more efficiently and achieve their highest potential. As part of my correlational study, I will ask my students to complete a survey that I created. Then, on the basis of my findings, I will develop beneficial recommendations that will be shared with teachers and parents. As a team, both teachers and parents will collaborate to improve homework completion on an individual basis, and ultimately the academic achievement of the class as a whole.

LITERATURE REVIEW

What is homework?

Homework involves "tasks assigned to students by school teachers that are meant to be carried out during non-school hours" (Cooper, 1998). Homework is also defined as out-of-class tasks assigned to students as an extension or elaboration of classroom work. There are three types of homework: practice, preparation, and extension. Practice assignments reinforce newly acquired skills. Preparation assignments help students get ready for activities that will occur in the classroom. Extension assignments are frequently long-term continuing projects that parallel class work (U.S. Department of Education).

What are the advantages and disadvantages of homework?

Based on the article "How Important is Homework?" by the U.S. Education Department, homework "serves as an intellectual discipline, establishes study habits, eases time constraints on the amount of curricular material that can be covered in class, and supplements and reinforces work done in school. In addition, it fosters student initiative, independence, and responsibility and brings home and school closer together".

A substantial amount of research has been conducted over the last decade to support arguments both for, and against homework. The public opinion has wavered between support and opposition throughout the 20th century. Cooper (2001b) elucidated the positive and negative effects of homework, which most researchers agree with. According to Cooper, homework leads to immediate achievement and learning, in terms of better retention, better critical thinking and increased understanding. Moreover, it leads to greater parental appreciation of and involvement in schooling. Homework also has long-term academic effects, such as improved attitude toward school as well as better

study habits and skills. Other non-academic effects include better time organization, greater self-direction and self-discipline. In contrast to the aforementioned advantages, homework may lead to satiation (i.e., physical and emotional fatigue with a loss of interest in academic material), denial of access to leisure time and community activities due to parental interference and pressure, cheating (i.e., copying others' homework just to get credit but without any learning), in addition to increased differences between high and low achievers.

Does homework affect academic achievement?

As mentioned in the Evaluation Brief (1999), previous research has demonstrated that the amount of time a student spends on homework is associated with better grades and higher achievement test scores at both the middle and high school levels (Keith, 1982; Keith & Benson, 1992; Keith & Cool, 1992; Natriello & McDill, 1986; Keith et al., 1993; Peng & Wright, 1994). Over 50 studies examined the relationship between the time students reported spending on homework and their achievement. A total of 43 correlations showed that students who did more homework had better achievement, whereas only seven correlations indicated the opposite. Yet, a strong grade-level effect was present. For elementary students and those in middle grades, the mean correlation between time spent on homework and achievement was 0 and .07 respectively, whereas, for high school students it was .25 (Cooper, 2001a). This finding indicates that the relationship between time spent on homework and achievement becomes stronger the higher the grade level.

Even though the relationship between homework and academic achievement is inconclusive and no studies have been able to control the numerous variables that affect

this relationship (La Conte, 1981; Knorr, 1981; McDermtt et al.,1984), reviews of students', teachers', and parents' perceptions reveal that all believe homework helps students achieve better grades (Eddy, 1984). In addition, some recent studies have uncovered a more positive relationship between homework and student performance. More specifically, increased homework time resulted in higher grades for high school seniors of all ability levels. Moreover, through increased study, lower-ability students achieved grades commensurate with those of brighter peers (Keith, 1982). Based on Ward et al.'s study (1983), one to two hours of homework a day were associated with the highest levels of reading performance for the 13-years-olds. For the 17-year-olds, reading performance improved as the amount of time spent on homework increased. Schools that assigned homework frequently showed higher student achievement levels than did schools that made little use of homework (Rutter et al., 1979).

To increase the positive effects of homework and improve students' achievement, homework has to be given in moderation, discussed and corrected. It will be beneficial as long as teachers use their knowledge of developmental levels to guide policies and expectations (Cooper, 2001a).

Does gender influence homework achievement?

In his study of 426 high-school students, Xu (2006) linked gender and grade level to relevant homework behaviors as well as affective reactions toward homework. The results revealed that compared with boys, girls more frequently reported that they spent more time doing homework, were less likely to come to class without homework, and considered homework less boring.

Does ethnicity or cultural background affect homework achievement?

A study conducted by the North Central Regional Educational Laboratory (NCREL, October 2000) found that Asian students study and do homework for about half an hour more per night than other ethnic groups. Small but significant differences in time spent studying were also found between White students compared to those of African American and Hispanic background. Furthermore, Black, Hispanic, and mixed-race students were found to take a longer time to complete the same amount of homework than Caucasian and Asian students.

What is the relationship between motivation and homework?

In general terms, the student's motivation refers to his or her "willingness, need, desire and compulsion to participate in, and be successful in, the learning process" (Bomia et al., 1997). Skinner and Belmont (1991) noted that students who are motivated to engage in school display positive emotions during ongoing action, such as enthusiasm, optimism, curiosity, and interest, while less motivated or disengaged students are passive, do not try hard, and tend to give up easily when faced with challenges. Intrinsically motivated students actively engage themselves in learning out of curiosity, interest, or enjoyment, or in order to achieve their own intellectual and personal goals (Dev, 1997). Intrinsically oriented students are more likely to persist with and complete assigned tasks and be excited by the challenging nature of an activity, whereas extrinsically oriented students gravitate toward tasks that are less difficult (Lumsden, 1994).

What is the relationship among attitudes toward homework, amount of homework assigned/completed, and student achievement?

Cooper et al. (2003) administered a survey that covered items related to the amount of homework assigned by the teachers, the portion of assignments completed by

the students, and attitudes toward homework. Student achievement measures were also collected. The amount of homework students completed was positively and significantly related to their achievement, especially at upper grades. Nevertheless, weak relations were found between the amount of homework assigned and student achievement.

How does parental involvement affect student achievement?

Henderson (2002) reviewed 66 studies that examined parent involvement and student achievement. Two major findings emerged from his review, 1) students whose parents are involved in their education at home do better in school, 2) when parents are involved at school, their children go farther in school and attend better schools. Fehrmann et al. (1987) found that parents can help their high-school children achieve higher grades if they monitor their daily activities, keep track of their scholastic performance, and work closely with them to plan for their post-high school pursuits.

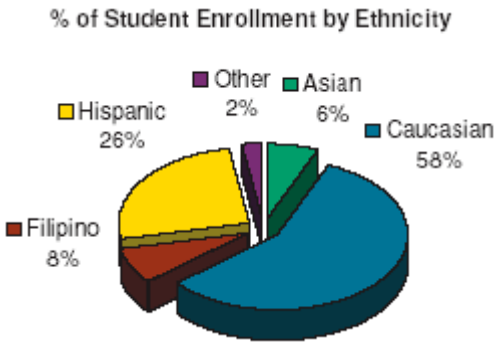
Is there a relationship between homework and student's attitudes?

In her review of studies on homework conducted between 1988 and 2001, Sharp (2001) indicated the need for more research on pupils' attitudes to homework. She ascertained that positive attitudes to homework are likely to be associated with positive attitudes to school, and that those attitudes appear to be related to demographic characteristics such as age and cultural background. Homework experiences may have a significant impact on students' long-term attitudes toward school. However, successfully engaging in homework depends a great deal on students' home environment (Corno, 1996; Paulu, 1998). According to Black (1996), teachers should strive to make both in-class work and homework engaging. Out-of-class assignments should have a clear purpose while being challenging, manageable, and relevant to students' lives.

METHOD

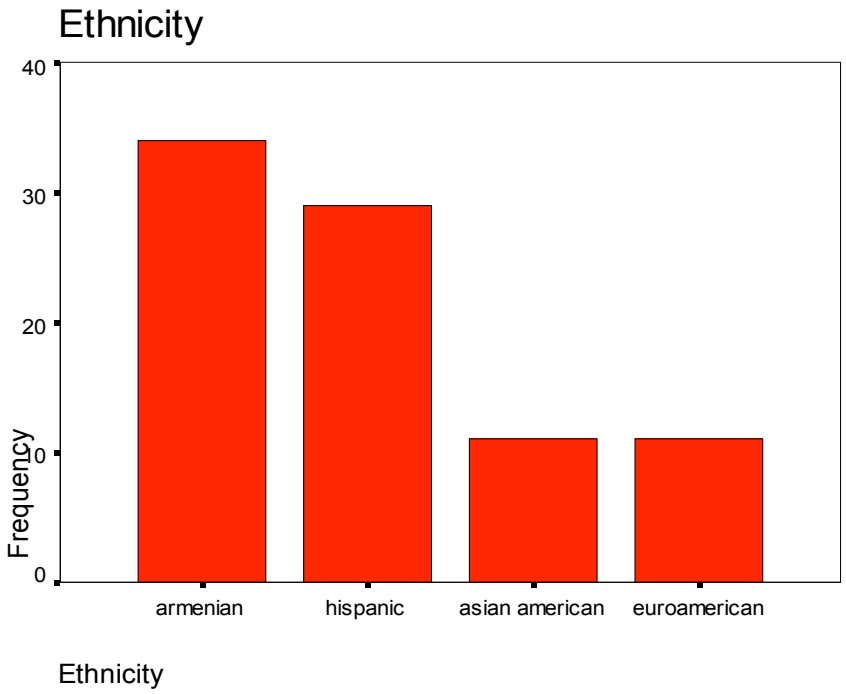
Participants

This is my third year teaching Chemistry at Glendale High School, the biggest school in Glendale Unified School District. Over 3500 students are enrolled for the year of 2005-2006. Below is a pie chart that shows the ethnic distribution of the students at this school. A large proportion of the Caucasian students are Armenian (either born in the U.S. or new immigrants) and most of the students belong to middle or high socioeconomic strata. See Appendix A for the Academic Performance Index (API) school results as shown on the Glendale Unified School District webpage.



Demographic Characteristics

The survey was administered to my first, second and third period classes. The final sample consisted of 85 students (39 males and 46 females) aged 15 to 17 years, in grades 10, 11 or 12. The ethnic distribution of the sample was as follows: 40% Armenian, 34.1% Hispanic, 12.9% Euro American, and 12.9% Asian American.



Procedure

For the purpose of this study, the homework grades of the second five weeks of the first semester were recorded in order to get a more reliable and stable estimate of students' performance. Most students need some time to get used to the classroom routine and figure out what is expected from them and how they are being evaluated. The homework was graded on a scale from 1 to 5 as follows:

- 5 for work turned in on time, totally complete and/or of excellent quality.
- 4 for work turned in on time, mostly complete and/or of good quality.
- 3 for work turned in on time, partially complete and/or of satisfactory quality.
- 2 for work turned in on time, incomplete and/or of poor quality OR work turned in late but mostly complete and/or of good quality.
- 1 for work turned in late, incomplete and/or of poor quality.

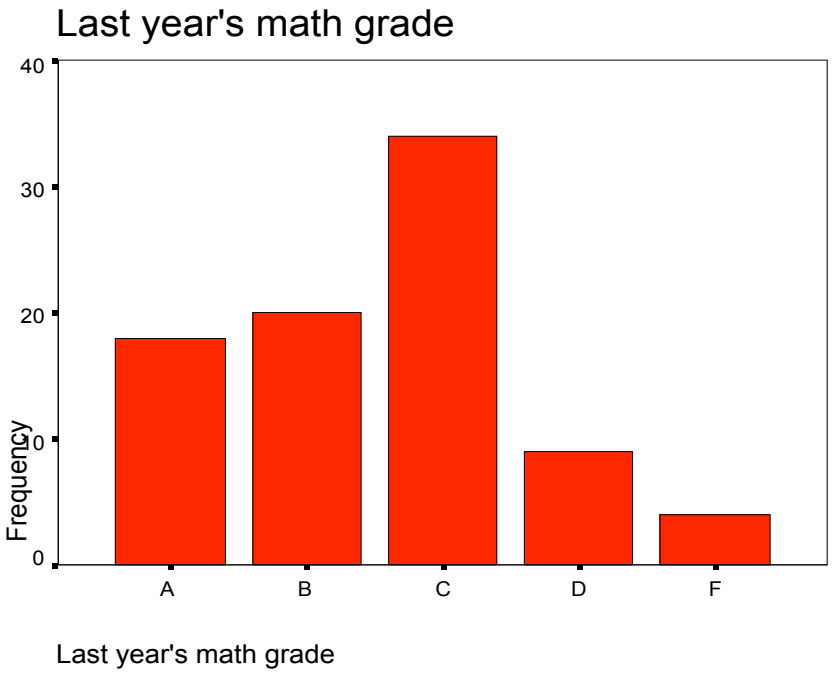
The average homework grade was compared to the average tests grade obtained during the same 5 weeks of the semester in order to examine if homework completion is related to students' academic achievement. A survey was also administered to all students to explore the various internal and external factors that might affect homework completion. The survey included questions related to home environment, family stability, parents' education, parental involvement and supervision of homework, students' attitude toward school and homework, students' grades and GPA, students' study skills and learning style, time spent on homework, activities and hobbies, afternoon job or chores, and future goals (See appendix B). Case studies were performed on a subset of students who had failing grades and were not doing their homework. More specifically, a one on one interview was conducted with those students to learn more about their life, family, attitudes and difficulties.

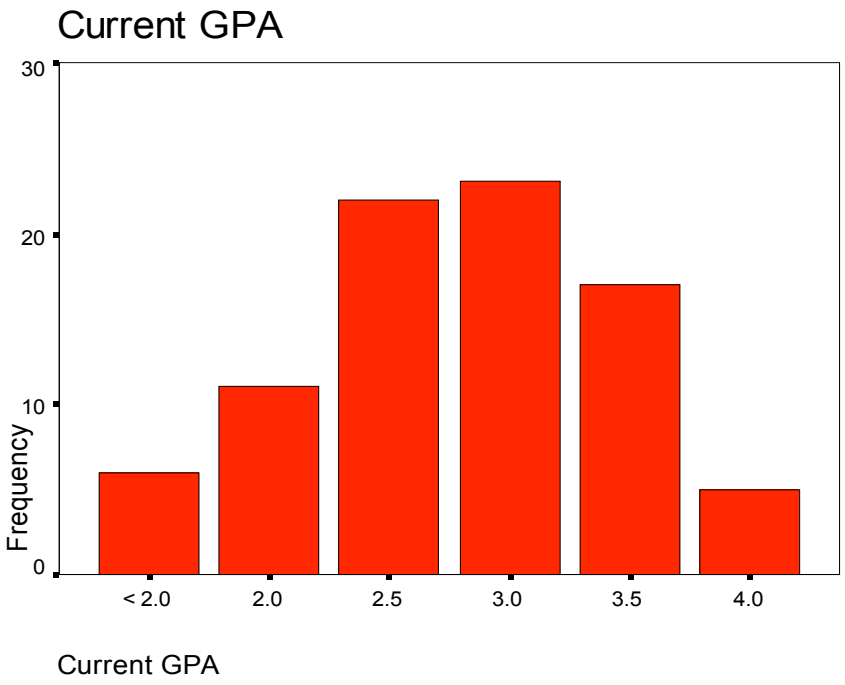
FINDINGS

The data were entered into SPSS and the accuracy of the data entry was verified, after which descriptive statistics were generated. Multiple ANOVAs and independent samples t-tests were performed using the average homework grade as the dependent variable and the questions covered in the survey as the independent variables.

According to students' report, 80% lived with both parents, 12.9% lived with their mother and 5.9% with their father. 36.6% of the mothers and 43.9% of the fathers had 12 years of education or less. 55% of the students reported that their parents monitor their homework. All students agreed that education and homework are important, but only 75.3% said that they like school. 95% reported that they plan on attending college. Since there is a transfer in learning between Math and Chemistry, students were asked to report their last year's Math grade. 21% had "A", 24% "B", 40% "C", 11% "D" and 4% "F" (Figure 2). As for their overall GPA, 7.1% had less than 2.0, 12.9% had 2.0, 25.9% had 2.5, 27.1% had 3.0, 20% had 3.5 and 5.9% had a 4.0 GPA (Figure 3).

3.7% reported spending less than an hour on their homework every night, while 27.1% reported spending one hour, 27.1% 2 hours, 20% 3 hours, 14.1% 4 hours, and 7.1% more than 4 hours. 32% and 62% indicated that while studying, they watch TV and listen to music respectively.





Do girls and boys have different homework grades?

There was no significant difference on homework performance between males (M = 69.47, SD = 17.24) and females (M = 70.33, SD = 18.77), t (83) = .22, p = .83.

Does ethnicity affect homework performance?

The Asian American group (M = 79.09) had the highest mean homework grade, followed by the Euro American (M = 70.54) and Armenian (M = 69.65), and finally the Hispanic group (M = 66.57) (Table 1). However, the difference between the ethnic groups was not statistically significant, F (3, 81) = 1.31, p = .28.

Table 1. Ethnicity and homework grade

Ethnicity	Mean	SD	N
Asian American	79.09	21.55	11
Euro American	70.54	18.38	11
Armenian	69.65	17.32	34
Hispanic	66.57	16.89	29
Total	69.93	17.98	85

Does family unit affect homework performance?

Students living with both parents tended to have a better average homework grade (M = 71.12) than those living with only their mother (M = 64.05) or their father (M = 66.50). However, the difference on average homework grade between those living with both parents and those raised in single-parent households was not significant, F (2, 82) = .83, p = .44 (Table 2)

Table 2. Family unit and homework grade

Living with…	Mean	SD	N
both parents	71.12	18.78	69
mother	64.04	15.59	11
father	66.50	7.42	5
Total	69.93	17.98	85

Does parents' education affect students' homework outcome?

Students whose mother had a college degree (AA, BA, or MA) had a higher average homework grade (M = 71.77, SD = 18.32) than those whose mother had only completed 12 years of education or less (M = 67.05, SD = 18.12), however the difference was not significant, F (1, 80) = 1.27, p = .26. Similarly, there was no significant

difference on average homework grade between those students whose father had more (M = 71.43, SD = 19.99) or less than 12 years of education (M = 68.26, SD = 15.97), F (1, 80) = .60, p = 0.44.

Does parental involvement affect students' homework outcome?

There was no significant difference on average homework grade between students who reported having their homework monitored by their parents (M = 68.87, SD = 18.36) and those who reported that their parents do not closely supervise their homework (M = 71.71, SD = 17.96), t (80) = .70, p = .48. Similarly, no significant difference was found between students who reported getting help from their parents (M = 70.09, SD = 18.12) and those who reported completing their homework on their own (M = 70.22, SD = 18.07), t (82) = .03, p = .97.

Does general attitude towards school affect homework performance?

Students who reported liking their school had a better mean homework grade (M = 71.41, SD = 16.99) than those who reported not liking it (M = 65.45, SD = 20.51). Nevertheless, the difference between those 2 groups was not significant, F (1, 83) = 1.75, p = .19.

Students' academic achievement and homework performance

As shown in Table 3, students who had passed all their classes during their high school years had a significantly higher mean homework grade (M = 83.96) compared to those who failed one class (M = 68.65) or 2 or more classes (M = 62.39), F (2, 81) = 14.65, p < .001.

Table 3. Academic achievement and homework performance

# of Ds or Fs	Mean	SD	N
none	83.96	10.69	24
1	68.65	14.40	17

2 or more	62.39	18.22	43
Total	69.82	18.06	84

Students with a 4.0 GPA showed the highest mean homework grade (M = 93.20) and the difference between the groups was statistically significant, $F(5, 78) = 7.63$, $p < .001$ (Table 4).

Table 4. GPA and homework performance

Current GPA	Mean	SD	N
< 2.0	60.58	17.46	6
2.0	55.27	21.74	11
2.5	69.20	12.24	22
3.0	67.39	12.50	23
3.5	82.53	16.18	17
4.0	93.20	7.28	5
Total	70.39	17.59	84

Does Math performance affect Chemistry homework?

Students were asked to report their last year's overall grade in Math. Those who received an "A" in their Math class also had the highest mean homework grade in Chemistry (M = 79.83), followed by those who had a "B" (M = 75.95) and so on. Interestingly, students who got an "F" in Math had the lowest mean homework grade in Chemistry (M = 51.75). Table 5 shows a significant worsening in Chemistry homework performance with each drop in Math grade, $F(4, 80) = 4.59$, $p < .05$.

Table 5. Math overall grade and Chemistry homework performance

Math grade	Mean	SD	N
A	79.83	19.40	18
B	75.95	15.74	20
C	65.35	13.52	34
D	62.17	24.70	9
F	51.75	5.14	4
Total	69.93	17.98	85

Does the amount of time spent on homework influence the homework grade?

Students who reported spending an hour on their Chemistry homework had the highest mean homework grade (M = 86.50) compared to those who indicated spending 15, 30 or 45 minutes (Table 6). Yet, this difference was not significant, F (3, 80) = 1.89, p = .14.

Table 6. Time spent on homework and homework grade

Homework time	Mean	SD	N
15 min	67.41	17.45	16
30 min	69.07	20.01	40
45 min	69.02	14.49	22
1hr	86.50	12.34	6
Total	69.99	18.08	84

Do certain activities influence homework performance?

There was no significant difference on average homework grade between students who reported doing their homework while watching TV (M = 70.80, SD = 16.06) or listening to music (M = 69.96, SD = 17.93) and those who denied watching TV (M= 69.60, SD = 19.09) or listening to music (M = 70.03, SD = 18.62) during homework time, t (82) = .28, p = .78, and t (82) = .02, p = .99 respectively.

Is students' motivation to get higher education reflected in their homework performance?

79 out of the 85 students indicated that they plan on attending college. Those students had a significantly higher average homework grade (M = 70.91, SD = 17.56) than the ones who reported no interest in attending college (M = 46.50, SD = 11.23), F (1, 83) = 7.70, $p < .05$.

Does homework performance affect academic achievement?

As expected, students' homework average grade was highly correlated with their final semester grade. There was a significant positive correlation between homework average grade and the mean grade on tests taken during the same 5 weeks ($r = .88$, $p < .001$)

Follow-up Interview Results

The data collected for the daily homework completion in my three chemistry classes identified the 23 students who were not doing their homework appropriately. Those students had a percentage homework grade of less than 60%. I randomly interviewed ten of them and asked them about their grades in other courses they were currently taking, their home environment, their parents' involvement in their education, the way they complete their homework and spend a typical afternoon, as well as their future goals.

Nine out of the ten students had a low academic achievement with more than two F's or D's during this semester. Six of them attributed their failing Chemistry to their poor performance in Math. For instance, James said: "Even though I understand in class, I get confused at home and even if I try the Chemistry web help, I don't get it. It's maybe because I'm so weak in Math". For three of them, missing classes and not making up the work were other reasons for failing. To illustrate, Sandy said: "I missed many classes and couldn't make it up, so I gave up trying. What's the point since I know I'm failing?" Eight out of the ten interviewed students live in broken homes where the parents are either divorced or separated. The two students who live with their father and step mother indicated that they have a good relationship with their biological mother. Ozzy said: "My

mom calls me regularly to check on me. She has a B.S. in Chemistry but she can't help me much through the phone". However, the six students who live with their mother only, reported not seeing or talking to their father regularly. When asked about the way they do their homework, six students mentioned starting homework late after spending hours watching TV and giving up after encountering the first difficulty. In terms of their future goals, five students are seeking an artistic or sports career and do not see the importance of learning Math and Chemistry. Johnny said: "I want to have a career in tattoo art since I'm a good artist and I'm involved in a drawing competition this semester. I want to transfer to a daily school to be able to graduate". Gaby reported: "I get so lazy to do my homework after coming late from the Fire Service Academy where I work three days after school. I want to be a fire-fighter and I don't have to pass my classes with more than a D". The five other students had no specific interests or future goals in mind.

DISCUSSION

Study Overview

The present study examined the factors that might affect students' homework completion rate, such as gender, ethnicity, motivation, achievement, attitude towards school, family unit, and parental education. 85 students from three chemistry classes at Glendale High School were administered a 15-minute survey. Their Chemistry homework assignments were daily monitored and graded over a period of 5 weeks. Multiple ANOVAs and independent samples t-tests were performed using the average homework grade as the dependent variable and the questions covered in the survey as the independent variables. A follow-up interview was conducted with the ten students who had the lowest homework grades.

Summary of Findings

In contrast to previous studies showing that girls tend to do their homework better than boys, there was no significant difference on homework performance between males and females. However, consistent with past research, the Asian American group had the highest mean homework grade and the Hispanic group the lowest, although this difference was not significant.

There was no significant difference on average homework grade between students living with both parents and those raised in single-parent households. Moreover, students whose mother or father had a college degree did not have significantly higher average homework grades than those whose mother or father had 12 years of education or less. In contrast to what other studies have shown, parents' supervision of and help with homework did not affect how well students did their homework.

Students who reported liking their school had a slightly better mean homework grade than those who reported not liking it. However, those who indicated that they plan on attending college had a significantly higher average homework grade than those who reported no interest in attending college.

Students who had passed all their classes during their high school years had a significantly higher mean homework grade compared to those who failed one or more classes. As expected, similar results were found when students were compared based on their overall Grade Point Average since there is a strong relationship between the number of failing classes and GPA. Students with a 4.0 GPA as well as those who received an "A" in their Math class had the highest mean homework grade in Chemistry.

There was no significant difference on average homework grade between students who reported doing their homework while watching TV or listening to music and those who denied performing such activities during homework time. Additionally, time spent on homework did not seem to greatly affect homework grade.

Based on the interview with a random sample of ten students who were not completing their homework appropriately, nine had low grades in other classes beside Chemistry. Some of them explained their failing Chemistry by their poor performance in Math or by missing classes and not making up the work. Eight of those students live in single-parent households. Six students mentioned watching TV after coming back from school and starting their homework late in the evening. Five students reported not being interested in learning Chemistry and Math especially because they are seeking a career in art or sports.

Conclusions

Homework completion rate does not seem to be related to gender or ethnicity. Moreover, it is not affected by external variables such as parental education or involvement, family stability, or context in which homework is done. Results suggest that homework completion rate is more dependent on students' motivation and goals rather than their home environment. The intrinsic motivation that comes from within is what drives students to complete their homework and do what is necessary to successfully pass their classes. Having the desire to seek a higher education or setting goals for attending college makes students want to learn more and challenge themselves while doing their homework. A student whose aim is to have a vocational or artistic career sees no relevance in studying scientific subjects such as chemistry or math, and may give up easily after encountering the first difficulty. Failing other classes or getting poor grades may discourage students from studying harder, which might get them into a downward spiral and worsen their academic performance.

Recommendations

My action research survey helped me know my students better. By having a one on one interview, I built a closer relationship with those students who were not performing well in my class. I learned about their family, interests, goals, and attitude towards education and I got them to value my opinion about homework. I helped students develop a positive attitude towards schoolwork regardless of the factors they have no control over, such as their home environment. I recommend that all teachers get to know their students early on in the academic year. They can start their first day of school by circulating among their students a survey asking about their interests, hobbies, future

goals, past academic performance, as well as subjects they have struggled with and those they are best at. Teachers should take the time to read their students' answers to the questionnaire and identify those potential students who might have difficulties later on. By doing that, teachers will be able to closely monitor students who are struggling in their class. They will be better armed to help them stay on track and reach their goals. Students suffering from the negative effects of repeated failures should be reinforced for every effort they make and each minor improvement in their grades. Those students should understand that they are capable of learning and doing as well as their classmates if they persist and keep on working hard. If teachers give individual attention to those students since the beginning of the semester, they will hopefully manage to booster their self-confidence and save them from sinking into a downward spiral.

Limitations

If there was not time constraint for the completion of this project, I would have created a longer survey and included more specific questions to assess students' goals, preferences, learning styles, and problems they are encountering in my class. An inherent problem with self-report measures is the risk of lying and social desirability bias which might produce inaccurate results. Thus, I should have interviewed the parents of those students who are doing poorly to confirm their answers to my survey. Moreover, the fact that my study is a correlational one does not allow me to draw causal inferences and determine the direction of the relationships between my variables. For instance, is it the students' motivation that influences homework completion, or is it the low homework grade that makes students less motivated to try harder on subsequent homework assignments? Hence, it is only safe to say that there is a two-way relationship between

motivation or interest in attending college and homework completion. Moreover, those correlations do not preclude the possibility that other factors that I did not address in my survey may also be related to homework completion and academic performance. One of those factors could be emotional or behavioral problems, such as Attention-Deficit Hyperactivity Disorder or learning disability. Students who are failing their classes may benefit from a comprehensive evaluation by a school psychologist who can rule out the presence of such disorders along with assessing each student's preferred learning style, cognitive strengths and weaknesses.

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APPENDIX A

API School Results

All Students	Base 2002	2003	2004		Growth 2003	2004	2005
Percent Tested	95	97	97	Percent Tested	99	99	
API Score	652	697	708	API Growth Score	695	701	
Growth Target	7	5	5	Actual Growth	43	4	
Statewide Rank	6	7	7	Eligible for Awards	*Not funded*		
Similar Schools Rank	8	9	9	Eligible for II/USP			
Subgroups							
Socioeconomically Disadvantaged							
Base API Score	604	653	671	API Growth Score	655	661	
Growth Target	6	4	4	Actual Growth	51	8	
Asian							
Base API Score	805	843	827	API Growth Score	827	823	
Growth Target	*	*	*	Actual Growth	22	-20	
Caucasian							
Base API Score	655	693	703	API Growth Score	690	696	
Growth Target	6	4	4	Actual Growth	35	3	
Filipino							
Base API Score	715	758	758	API Growth Score	756	751	
Growth Target	6	4	4	Actual Growth	41	-7	
Hispanic							
Base API Score	591	649	671	API Growth Score	655	664	
Growth Target	6	4	4	Actual Growth	64	15	

Schools and subgroups with scores 800 and above have met the statewide target and are expected to maintain that level of achievement.

Only numerically significant subgroups for each reporting period are required to be presented in this report card. Numerically significant subgroups are comprised of (1) at least 100 students with valid test scores or (2) at least 15% of the school population tested and contains at least 30 students with valid scores.

APPENDIX B

Homework Survey

Name: _____Age: _____ P.O.B: _____

Gender: _____ Ethnicity: _____ Class: _____

Home Environment

1. Living with: Both parents Mom Dad Guardian/Grandparents
2. Mom's Highest Education: MS BS 2 yr. College HS
3. Dad's Highest Education: MS BS 2 yr. College HS
4. Do Your Parents monitor your HW? Yes No
5. Can your parents offer help on HW? Yes No
6. Number of siblings: none 1 2 3 more
7. Are you home alone after school? Yes No
8. Do you have your own bedroom? Yes No

School, Homework and Grades

9. Do you like your school? Yes No
10. Do you think education is important? Yes No
11. Which subjects do you like to study most in school?
    Rank them from like a lot (5) to don't like (0)

a) Science	5	4	3	2	1	0
b) Social Science	5	4	3	2	1	0
c) Math	5	4	3	2	1	0
d) English Language	5	4	3	2	1	0

12. How much do you like these different types of science?
    Rank them from like a lot (5) to don't like at all (0)

a) Physics (pulleys, electricity)	5	4	3	2	1	0

b) Biology (animals, plants, cells)	5	4	3	2	1	0
c) Space (solar system, stars)	5	4	3	2	1	0
d) Chemistry (atoms, reactions)	5	4	3	2	1	0
e) Human Body (bones, muscles)	5	4	3	2	1	0
f) Earth Science (geology, volcanoes)	5	4	3	2	1	0

13. Is the Science at school related to your everyday life? Yes No

14. In the past 2 years, how many Ds or Fs have you had? 0 1 2 3 4 5

15. What is your last year's math grade? A B C D F

16. What is your current GPA? <2.0 2.0 2.5 3.0 3.5 4.0

17. Do you think homework is important to improve academic grades? Yes No

Study Skills

18. How many hours do you spend on homework per day?
<1hr 1hr 2hr 3hr 4hr >4hr

19. How much time do you spend on chemistry homework?
15 min 30 min 45 min 1 hr 2hr

20. Do you work on homework while watching TV? Yes No

21. Do you listen to music while doing homework? Yes No

22. At what time do you start doing homework after school?
4 pm 5 pm 6 pm 7 pm 8 pm

23. How many hours do you watch TV during school days?
0 hr 1 hr 2 hr 3 hr 4 hr

24. How many hours per day do you chat with your friends on line or browse the internet for fun? 0 hr 1 hr 2 hr 3 hr 4 hr

25. How long can you work on homework without taking a break?
15 min 30 min 45 min 1 hr 2 hr

26. Do you give up easily on difficult exercises? Yes No

27. Do you review the section assigned before solving the exercises? Yes No

Learning Style

28. Do you pay attention in class? Yes No

29. Do you participate or ask question in class? Yes No

30. How much do you like to do these types of science activities?
Rank them from like a lot (5) to don't like at all (0)

a) Listening to the teacher	5	4	3	2	1	0
b) Working with other students	5	4	3	2	1	0
c) Thinking about it on your own	5	4	3	2	1	0
d) Looking at pictures or videos	5	4	3	2	1	0
e) Reading books about science	5	4	3	2	1	0
f) Doing on-line research	5	4	3	2	1	0
g) Doing experiments	5	4	3	2	1	0

Activities and Future Goals

31. Do you have any school activities? Yes No

32. Are you a member of any sports or arts club? Yes No

33. Do you have an afternoon job? Yes No

34. Do you have any chores at home? Yes No

35. How many hours do you spend every afternoon on those activities?
0 hr 1 hr 2 hr 3 hr 4 hr

36. Do you plan on attending college? Yes No

Thank you very much for your sincere collaboration!