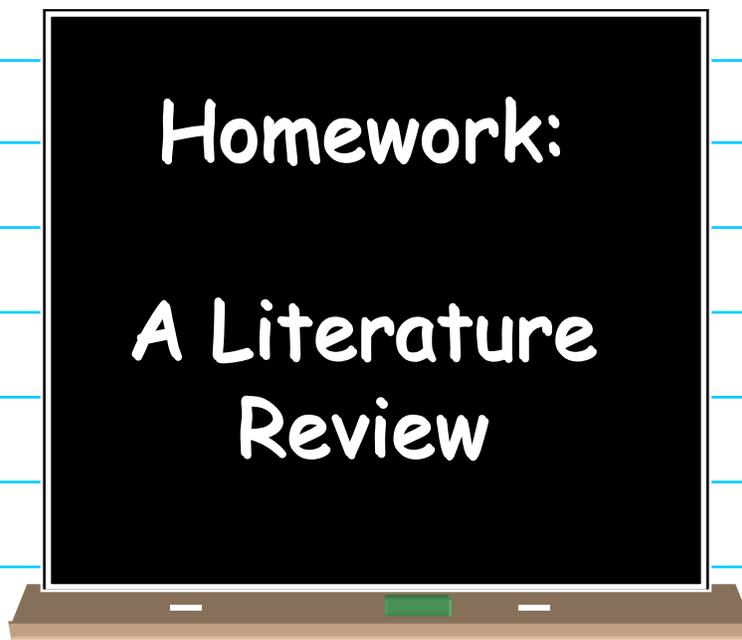


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**by Julie Hancock, Research Assistant
Center for Research and Evaluation**

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OCCASIONAL PAPER NO. 37

Homework: A Literature Review

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Introduction

The issue of homework has historically been of concern to educators, parents, and students alike. Most agree that the purpose of homework should be to further facilitate learning, promote the development of strong study and organizational skills, and encourage students to become self-disciplined, independent learners. However, with the increase in nonacademic commitments and pressures placed on students, researchers of the last century have begun to explore not only the advantages of homework, but also the associated disadvantages. As educators, it is our responsibility to be aware of the literature that is available and to integrate the findings into our own curriculum and our own homework policies.

Advantages and Disadvantages of Homework

Psychologist Harris Cooper of the University of Missouri is, by far, the most prolific researcher of homework and its effects on students' academic achievement and social/moral development. Cooper defines homework as "tasks that are assigned to students by school teachers that are intended to be carried out during non-school hours" (Cooper, 1989, p. 7). Through his research, he has concretely identified the many positive and negative effects homework has on both students and their families (see Table 1). According to Cooper (1994), the positive effects of homework can be organized by four categories: immediate academic effects, long-term academic effects, nonacademic effects, and effects on parental appreciation and involvement.

The negative effects of homework described by Cooper are often the result of misuse of homework as a teaching and learning strategy (i.e., assigning too much homework, assigning "busy work," putting too much pressure on students, and not allowing for individual differences). When students are repeatedly presented with "busy work" (i.e., homework designed to make sure the child

is doing something, but that does not require the student to push her/his academic development or utilize creativity), they may reach a point of satiation indicated by signs of fatigue and loss of interest in the material. Cooper notes that, “an activity can only be rewarding for so long. If students are required to spend too much time on academic material, they are bound to grow bored with it” (Cooper, 2001, p. 35). Assigning an overload of homework may also cause the student to miss out on valuable leisure time and other community activities which may be important for personal, spiritual, moral, and social development. Cooper argues that these forms of development may be as essential for personal growth as is academic development. Another issue explored by Cooper is cheating. Cooper supports that students are more likely to cheat when placed under a great deal of pressure to complete over-burdening homework assignments (Cooper, 1994).

Table 1. Positive and Negative Effects of Homework (Cooper, 1994)

<u>Positive Effects of Homework</u>	<u>Negative Effects of Homework</u>
<i>Immediate Achievement and Learning</i>	<i>Satiation</i>
—Better retention of factual knowledge	—Loss of interest in academic material
—Increased understanding	—Physical and emotional fatigue
—Better critical thinking, concept formation, and information processing	<i>Denial of access to leisure time and community activities</i>
—Curriculum enrichment	—Parental interference
<i>Long-term academic</i>	—Pressure to complete and perform well
—Encourage learning during leisure time	—Confusion of instructional technique
—Improved attitude toward school	<i>Cheating</i>
—Better study habits and skills	—Copying from other students
<i>Nonacademic</i>	—Help beyond tutoring
—Greater self-direction	<i>Increased differences between low and high achievers</i>
—Greater self-discipline	
—Better time organization	
—More inquisitiveness	
—More independent problem solving	
<i>Greater parental appreciation of and involvement in schooling</i>	

Finally, Cooper (1994) and other researchers have begun to explore the concept of a “level playing field.” This refers to the wide variety of home life situations in which children reside. Whereas one child may have a warm meal waiting for him/her and a well-lit, clean, and quiet area in which to complete homework assignments, another child hurries home to cook dinner and take care of his/her siblings and has little time to complete assignments. In some homes there is a lack of value placed on academics and the importance of homework is not reinforced. The home conditions of some children are not conducive for completing lengthy, thought-provoking homework assignments. The concept of a “level playing field” challenges the notion that just because students attend the same school, they are provided with the same access to and opportunities for education.

In their book, *The End of Homework*, Kralovec and Buell (2000), take the stance that while doing homework may instill a “sense of responsibility in students and help them to budget their time,” (p. 2) much larger negative implications exist for homework and its effect on students, families, and the community at large. The concern of the authors is that students are missing out on valuable family and personal time and are instead sent home with backpacks that wrench their backs and necks only to spend several hours agonizing over homework that they may not understand or have the resources at home to complete (Kralovec & Buell, 2000).

Kralovec and Buell (2000) emphasize that the several hours spent each night doing homework takes away from invaluable time that could be better spent with family and other social commitments. “[Schools] separate parents and children from vital interaction with each other and from true curiosity about each other’s lives. Schools stifle family originality by appropriating the critical time needed for any sound idea of family to develop—then they blame the family for its failure to be a family” (p. 10). Family dinners are often missed due to the many hours of homework that needs to

be planned around after-school sport and club schedules. Activities such as Girl or Boy Scouts are often nonexistent after eighth grade due to overloaded student schedules. The concern here is that at a time when top colleges and universities are increasingly seeking the “well-rounded” individual, students are being forced to limit their creative and community interests in order to concentrate on homework and grades.

Like Cooper, Kralovec and Buell are concerned about the notion of a level playing field. When a student takes an assignment home, several factors will affect how it is completed, including the student’s other time commitments, the home environment, and the involvement of others. “Homework may increase time-on-task for better students from better homes, but at the same time, for disadvantaged children, create frustrating situations that are detrimental to learning. In such cases, homework may contribute to a social ill, rather than help remedy it” (Cooper, as cited in Kralovec & Buell, 2000, p. 67). A significant concern of many researchers is that students coming from families of a lower socioeconomic status or those whose parents did not finish high school, may not have access to the same resources at home as a child whose family is well-educated and wealthy. Not all children have access to home computers and vast arrays of educational books and encyclopedias. Not all children are provided with a quiet, clean, and well-lit area to study. Many children come home to time consuming chores and other family duties, such as babysitting for younger siblings or cooking dinner while both parents are at work. Still, other children return home to families that are not stable—these children have all they can do to get through the night, let alone worry about completing their homework.

Another article presented by Kralovec and Buell (2001) addresses the importance of teacher involvement in school-related work. Here, homework is referred to as “a black hole in the learning

process, leaving teachers unaware of each student's true educational level or progress and unable to scaffold new knowledge for the students" (p. 40). They go on to state that with an increase of pressure placed on teachers to improve test scores for their students, too much of the teaching is being left to the parents. As opposed to creating more time for teachers to spend with their students, educational standards force parents to pick up the slack. "Understanding students' mistakes is a crucial part of the teaching process. When work gets done at home, teachers have little understanding of the mistakes that students have made on the material and little control over who does the work" (Kralovec & Buell, 2001, p. 41).

A Positive Outlook

The effects of vocabulary homework on third grade achievement were explored by Townsend (1995). A sample of 40 third graders was broken down into two equal groups of 20 each. One group was assigned vocabulary homework while the other was assigned no homework. Each child was then tested on his/her vocabulary knowledge. Test results showed that students who had been assigned homework had a better understanding of the vocabulary that was taught. Finally, teachers reported that they felt homework increased vocabulary understanding.

Brender (1996) examined the effects of homework completion on the test scores of 401 undergraduate university students attending first and second semester elementary Spanish courses. A significant positive correlation emerged between homework completion rates and test scores based on class level. In addition, students in their first semester of Spanish were much less likely to complete the required homework than students in their second semester course.

Some educators feel that a longer school day is a solution to the homework debate. Rayburn and Rayburn (1999) investigated the effects of time spent in the classroom and completed homework on students' performance in a management accounting course. The course exams included both

multiple choice questions and exam problems. Results showed that longer class periods increased the scores when total exam points earned and exam problems were analyzed. However, this finding was no longer significant when the points earned on multiple-choice questions were examined. Regardless of class length, students who consistently completed homework produced higher exam scores than those who did not.

A Negative Outlook

“Something that infuriates parents, sabotages family time and crowds out so much else in a child’s life might be tolerable if it also helped kids learn and if it imbued them with good study habits and a lifelong love of learning” (Begley, 1998, p. 50). However, many researchers support that homework does not encourage positive school-related behaviors for children. Some researchers boast that, especially during the early elementary school years, homework “breeds poor attitudes and resentment” towards homework and school in general (Cooper, as cited in Begley, 1998, p. 50).

Swank (1999) compared quiz scores of 21 fourth grade math students, half of whom were assigned and completed homework, and half of whom were not assigned homework. Swank hypothesized that students who completed homework would achieve higher quiz scores than students who were not required to complete homework. The results were surprising to Swank, thereby disproving her hypothesis. Indeed, no significant difference was found in academic success between the two groups.

Another study, conducted by Cooper, Lindsay, Nye, and Greathouse (1998), found there to be no relationship between time spent on homework and standardized test scores for students in grades 6 through 12. However, there was a significant positive relationship between time spent on homework and student grades.

So the question remains: Should homework completion be a component of student grades? Swank (1999) demonstrated that students who did not complete homework did just as well on a math quiz as students who did complete homework. Cooper et al. (1998) supported that completion of homework yields better grades, but not increased test scores. Results like these may lead one to question just what role homework is playing in schools and the level of impact successful completion of homework assignments should have on grades. If a child is scoring well on tests, then should that child be graded on homework that clearly was not needed to enhance understanding of the material? On the other hand, is it more important to reward strong study skills and effort, assuming that these contribute to lifelong learning skills?

Strong Grade-Level Effect

The most persuasive argument for assigning homework is the assumption that doing homework raises students' academic achievement. In a meta-analysis of 20 studies completed since 1962, Cooper (1994) discovered the presence of a strong grade-level effect when assessing homework's effect on academic achievement as defined by school grades. High school students, 14-16 years of age, who were assigned homework performed 69% better than students in a class without assigned homework. For students in junior high school, 11-13 years of age, the average homework effect was only half this size. Finally, in elementary school, homework appeared to have no effect on achievement.

An analysis of another group of studies compared homework with in-class supervised study (Cooper, 1994). Perhaps the most significant finding of these studies is the emergence, once again, of a strong grade-level effect. For elementary students, in-class supervised study proved superior to homework. In junior high, homework was superior to in-class supervised study, and in high school, homework's effect was the strongest.

Parental Involvement in Homework

Balli (1997) conducted a study of 67 math students in the sixth grade. Each student completed 20 homework assignments designed to involve parents. Results revealed that students performed better in school when their parents helped them with their homework. However, there were mixed perceptions when it came to how much the students enjoyed the experience. Some students felt their parents helped too much or further confused their understanding of the concepts. Others were grateful for the help and expressed an interest in continuing this type of assignment. Balli suggested that educators might develop a system to support parents' understanding of homework concepts, to teach parents ways to help their children without actually doing the work for them, and to educate parents about how to work at the child's developmental level.

Nadon and Normandeau (1997) investigated the effect of both quantity and quality of parental involvement with homework on their second grade children's school achievement. French was the native language of all participants and all children were from two parent families. Parents were asked to identify themselves as being either the primary or secondary parent involved with helping their child complete his/her daily homework assignments. Interestingly, results revealed that the longer primary parents were involved with their children's homework, the poorer their children's achievement in French and mathematics. The greater the quality of the relationship of the secondary parental involvement with homework the greater their children's achievement.

Going back to Cooper's (1989, 1994) studies and those of Kralovec and Buell (2000), it is important to keep in mind that while parental involvement may be helpful for some children, it may not be a possibility for others. Some children return home to parents that work the night shift or are too tired and stressed from their daily duties to help with homework. Whereas placing an emphasis

on parental involvement may increase the value and effectiveness of homework for some children, it may hinder or disable others. In a later study, Cooper (2001) warns that in some cases, “parental involvement can turn into parental interference” (p. 35).

Homework Intervention

In support of the importance of homework as the route to academic success, several schools throughout the United States now require students to use a designated notebook to record daily assignments. Anliker, Aydt, Kellams, and Rothlisberger (1997) aimed to increase homework completion rates of high school biology and algebra students by enhancing their organizational skills and reinforcing their responsibility for their own academic performance. Teachers issued standard homework assignment notebooks and encouraged students to not only write down their daily assignments, but to also keep a record of all grades received. To reinforce the notion of responsibility, detention slips were given to students who failed to turn in homework. Findings of the study revealed a positive change in student attitude toward the importance of academic success and a noticeable increase in use of school time to complete homework assignments.

Glazer and Williams (2001) presented information on four types of after school programs that are aimed at improving homework completion rates at the middle school level. Each program is based on four “key ingredients for achieving academic success” (p. 43). These “ingredients” are compilations of suggestions offered by post-graduate high school seniors. They include, “successful students come to school prepared for work,” “students must take personal responsibility for their own learning,” “school work takes effort,” and “successful students complete their homework every day” (p. 43). Below are brief explanations of the four types of after school programs presented by

Glazer and Williams (2001). Keep in mind that all four of these programs are currently being instituted collectively in one middle school.

1. *After-School Academic Sessions*

During four of the five days of the school week, teachers work with students for one hour after the end of classes. (No extra funding is necessary for this extra time, as teachers are contracted to work until 4 p.m. regardless.) Students may choose which teacher they wish to spend this hour with. During this time, no sports or other extra-curricular activities are allowed to take place. The school department has arranged with the transportation system to pick all students up from school one hour later than in previous years. Finally, for those students who wish to participate in school sports or other activities, they must have a pass from a teacher verifying that they attended the after-school session. For other students, the session is optional. (Glazer and Williams go on to state that this is a weakness of the program because often the students who do not participate in extra-curricular are the ones that most need the help.)

2. *The Homework Center*

During four of the five days of the school week, students have the option to study in the homework center for an additional 1 1/4 hours following the after-school academic sessions (see above). The center is located in classrooms adjacent to the exit closest to the bus pick-up area so that students may study while waiting for the bus if they wish. Two teachers receive extra pay to staff the center.

3. *The Homework Hotline*

This is a 24-hour homework assignment hotline designed to accommodate all students, from the one who forgot to bring home his/her assignment book to the one who was out sick for the day. Teachers leave a recording of all homework assigned that day, and in some cases, for days in advance. Teachers can also leave messages announcing upcoming tests, field trips, and other special events on the hotline.

4. *The University Tutorial Program*

University sophomores and juniors are paired with one or two students who have been identified as needing individual tutoring in certain subject areas. The tutorial sessions meet during the after-school academic session one or two afternoons a week and are coordinated by school teachers.

Suggestions for School Homework Policies

Cooper (1994) suggests that each elementary, middle, and high school should instill a homework policy that addresses the needs of its students and the community as a whole. He emphasizes the need for policies characterized by clarity that, at the same time, allow for communication and

flexibility. Cooper proposes strong guidelines for increasing the clarity of homework assignments and controlling homework load, especially for students with a different teacher for each subject.

Table 2. Cooper (1994)

A Recommended Homework Policy for Schools
<p>The frequency and duration of homework assignments should be further specified to reflect local school and community circumstances.</p>
<p>In schools where different subjects are taught by different teachers, teachers should know:</p> <ol style="list-style-type: none">1. What days of the week are available to them for assignments2. How much daily homework time should be spent on their subject
<p>Administrators should:</p> <ol style="list-style-type: none">1. Communicate the district and school homework policies to parents2. Monitor the implementation of the policy3. Coordinate the scheduling of homework among different subjects, if needed
<p>Teachers should clearly state:</p> <ol style="list-style-type: none">1. How the assignment is related to the topic under study2. The purpose of the assignment3. How the assignment might best be carried out4. What the student must do to demonstrate the assignment has been completed

Cooper (2001) continues to expand on his proposed guidelines for effective homework policies by further defining the amount of homework each student should be doing based on his and others theory of the presence of a strong grade-level effect. Cooper proposes “the amount and type of homework students do should depend on their developmental level and the quality of their support at home” (p. 37). In a guide for parents, the National Parent Teacher Association and the National Education Association (2000) state, “most educators agree that for children in grades K-2, homework is most effective when it does not exceed 10-20 minutes each day; older children, in grades 3-6, can handle 30-60 minutes a day” (as cited in Cooper, 2001, p. 37). Cooper goes on to support that

teachers should assign homework based on the 10-minute rule, or 10 minutes multiplied by the student's grade level per night.

Conclusions

- Evidence supports a strong grade-level effect for homework's effect on academic achievement. High school students experience the greatest advantage from homework completion. For students in junior high school, the effect is only half that of those in high school. Finally, homework appears to have no effect on academic achievement for students at the elementary school level (Cooper, 1994).
- Homework increases immediate achievement and learning, places an emphasis on long-term academics, encourages nonacademic self-discipline and inquisitiveness, and facilitates greater parental appreciation of and involvement in schooling (Cooper, 1994).
- Homework can result in satiation, denial of access to leisure time and community activities, cheating, and increased differences between low and high achievers (Cooper, 1994).
- Not all children are on a "level playing field." Children's home environments may vary drastically from one child to another. Therefore, completing homework assignments may increase academic understanding for some children and be entirely detrimental to others (Cooper, 1994; Karlovec & Buell, 2000).
- Junior high school students perform better in school when their parents help them with their homework, but respond with mixed perceptions when asked how much they enjoyed the experience (Balli, 1997).
- The effects of parental involvement may not only vary from child to child, but also from parent to parent. Parental involvement had different effects on student achievement depending on which parent was providing the support (Nadon & Normandeau, 1997).
- Enhancing students' organizational skills and reinforcing their responsibility for their own academic performance resulted in a positive change in attitude toward the importance of academic success and a noticeable increase in use of school time to complete homework assignments (Anliker et al., 1997).

The research presented here represents merely a sampling of the vast array of articles published over the last 20 years addressing how homework policies are designed and implemented in elementary and secondary schools. The general themes which continue to emerge are that homework needs to be assigned with a specific goal in mind (i.e., not only as work to keep the child busy)

and to encourage more than simple repetition of what was done in class. Rather, homework should be an extension of classroom experiences. It should require students to build on the knowledge acquired during the school day by applying the concepts to other areas of interest or by encouraging the child to take the next step on his or her own.

Homework assignments need to be designed and implemented with each student's best interest in mind. Individual differences not only in academic abilities, but also in home life situations, need to be considered at all times. Researchers have placed considerable emphasis on the necessity of assigning homework that is age/grade-level appropriate. As educators, we need to continuously adjust our teaching strategies, including the use of homework, to the individual needs, abilities, and life circumstances of our students.

References

- Anliker, R., Aydt, M., Kellams, M., & Rothlisberger, J. (1997). *Improving student achievement through encouragement of homework completion*. (ERIC Document Reproduction Service No. ED 415 022)
- Balli, S. (1997). *When mom and dad help: Student reflections on parent involvement with homework*. (ERIC Document Reproduction Service No. ED 409 103)
- Begley, S. (1998). Homework doesn't help. *Newsweek*, 131, 50-52.
- Brender, J. R. (1996). *Effects of homework completion on test scores in introductory Spanish courses*. (ERIC Document Reproduction Service No. ED 395 452)
- Cooper, H. (1989). Synthesis of research on homework. *Educational Leadership*, 47, 85-91.
- Cooper, H. (1994). *The battle over homework: An administrator's guide to setting sound and effective policies*. Thousand Oaks, CA: Corwin Press.
- Cooper, H. (2001). Homework for all – in moderation. *Educational Leadership*, 58, 34-38.
- Cooper, H., Lindsay, J. J., Nye, B., & Greathouse, S. (1998). Relationships among attitudes about homework, amount of homework assigned and completed, and student achievement. *Journal of Educational Psychology*, 90, 70-83.
- Glazer, N. T., Williams, S. (2001). Averting the homework crisis. *Educational Leadership*, 58, 43-45.
- Kralovec, E., & Buell, J. (2000). *The end of homework*. Boston, MA: Beacon Press.
- Kralovec, E., & Buell, J. (2001). End homework now. *Educational Leadership*, 58, 39-42.
- Nadon, I., & Normandeau, S. (1997). *Can parents' involvement with homework moderate the relation between children's cognitive abilities and school achievement?* (ERIC Document Reproduction Service No. ED 409 120)
- Rayburn, L. G., & Rayburn, J. M. (1999). Impact of course length and homework assignments on student performance. *Journal of Education for Business*, 74, 325-331.
- Swank, A. L. G. (1999). *The effect of weekly math homework on fourth grade student math performance*. (ERIC Document Reproduction Service No. ED 433 234)
- Townsend, S. (1995). *The effects of vocabulary homework on third grade achievement*. (ERIC Document Reproduction Service No. ED 379 643)