Homework for All—in Moderation

Research on the effects of homework suggests that it is beneficial as long as teachers use their knowledge of developmental levels to guide policies and expectations.

Almost like clockwork, the controversy regarding the value of homework has begun again. Homework controversies follow a 30-year cycle, with outcries for more homework or less homework occurring about 15 years apart.

At the start of the 20th century, scientists viewed the mind as a muscle that could be strengthened through mental exercise. People viewed homework favorably as an exercise that could be done at home. During the 1940s, the emphasis in education shifted from drill to problem solving. In the 1950 edition of the Encyclopedia of Educational Research, Professor H. J. Otto wrote, "Compulsory homework does not result in sufficiently improved academic accomplishments" (p. 380). The launch of Sputnik by the Russians in the mid-1950s, however, reversed this thinking. The public worried that education in the United States lacked rigor and that it left students unprepared for complex technologies. Homework might accelerate knowledge acquisition.

The 1960s witnessed yet another reversal, with homework perceived as a symptom of needless pressure on students. Educator P. R. Wildman (1968) wrote,

> Whenever homework crowds out social experience, outdoor recreation, and creative activities, and whenever it usurps time devoted to sleep, it is not meeting the basic needs of children and adolescents. (p. 205)

In the 1980s, homework again leapt back into favor. A primary stimulus was the report *A Nation at Risk* (National Commission on Excellence in Education, 1983), which cited homework as a defense against the rising tide of mediocrity in U.S. education. The push for more homework continued into the 1990s, fueled by educators who used it to meet increasingly rigorous state-mandated academic standards.

As the century turned, a predictable backlash set in, led by beleaguered parents concerned about their stressed-out children (Winerip, 1999). There is evidence, however, that the outcry results from not a widely held distress, but rather from a vocal minority. A recent national survey of 803 parents of public school students revealed that 64 percent of parents believed that their child was getting "about the right amount" of homework, 25 percent believed that their child was getting "too little" homework, and only 10 percent believed that their child was getting "too much homework" (Public Agenda, 2000, p. 6).

Research on the Effects of Homework

Policy makers have used research to muster a case for every possible position on homework. Advocates and opponents may refer to small portions of the literature or imprecisely weigh the accumulated evidence. When I received a grant from the National Science Foundation to examine the research on the effects of homework, I had no predisposition about whether homework was good or bad. I attempted to uncover the past evidence, both positive and negative (Cooper, 1989). After reviewing nearly 120 studies of homework's effects, I synthesized the information and discovered factors in the school and home environment that influence homework's impact (Cooper, 1998).

My task began with cataloging homework's positive and negative effects (see sidebar). Among the suggested positive effects of homework, the most obvious is that it will have an immediate impact on the retention and understanding of the material it covers. More indirectly, homework will improve students' study skills, improve their attitudes toward school, and teach them that learning can take place anywhere, not just in school buildings.

Homework has many potential nonacademic benefits as well, most of which relate to fostering independent and responsible character traits. Finally, homework can involve parents in the schooling process, enhancing their appreciation of education and allowing them to express positive attitudes toward their children's
achievements and accomplishments.

The suggested negative effects of homework make more interesting reading. Some educators and parents worry that homework could lead to students feeling satiated with academic information. They suggest that any activity can remain rewarding for only so long. If students are required to spend too much time on academic material, they are bound to grow bored with it. Others say that homework denies access to leisure time and community activities. Children learn important lessons, both academic and nonacademic, from soccer and scouts. Another problem is that parental involvement can often turn into parental interference. For example, parents can confuse students if the instructional techniques they use differ from those used by teachers. Homework can also lead to the acquisition of undesirable character traits by promoting cheating, through either the direct copying of assignments or help with homework that goes beyond tutoring.

Finally, homework could accentuate existing social inequities. Students from low-income homes will have more difficulty completing assignments than their middle-class counterparts. Low-income students are more likely to work after school or may not have quiet, well-lighted places in which to complete their assignments. Homework, opponents argue, is not the great equalizer.

**Does Homework Work?**

Three kinds of studies focused on whether homework improves students' achievement (Cooper, 1989).

In the first set of studies, researchers simply compared the achievement of students given homework assignments with students not given homework or any other activity to compensate for their lack of home study. Of these 20 studies, 14 produced effects favoring homework and 6 favored no homework.

The most interesting result from these studies was the dramatic association between grade level and homework's effectiveness. Let us assume that a fictional teacher has two classes of 25 students, and, through some remarkable accident of nature, each student in one class has an exact counterpart in the other. Assume further that the teacher uses the same instructional methods in both classes, except that one class gets homework and the other class does not.

The studies revealed that if the teacher were teaching high school students, the average student in the homework class (50th percentile) would outperform 69 percent of the students in the no-homework class. Put differently, the student who ranked 13th in achievement in the homework class would rank 8th if he or she were shifted into the no-homework class just.
before the final exam. If the teacher teaches in junior high school, the 15th-ranked homework-doer would rank 10th in the no-homework class. In elementary school, however, homework would not help the student surpass other schoolmates.

The second set of evidence compared homework to in-class supervised study. In these investigations, students not receiving homework were required to engage in some other kind of activity. Most often, students did homework-like assignments while in school.

These studies were not as favorable toward homework as the first set. Overall, the positive effect of homework was about half of what it was when compared to no assignment for home study. This should not surprise us. There is no reason to believe that homework would be more effective than in-class study for improving test scores. Most important in these studies was the emergence once again of a strong grade-level effect. When homework and in-class study were compared in elementary schools, in-class study proved superior. In junior high, homework was superior, and in high school the superiority of homework was most impressive.

The third set of studies correlated the amount of time students reported spending on homework with their achievement levels. Many of the correlations in these 50 studies came from statewide surveys or national assessments. Of course, correlation does not mean causation; it is just as likely that high achievement causes students to do more homework as vice versa.

grades 3–5, the correlation between the amount of homework and achievement was nearly zero; for students in grades 6–9, the correlation was somewhat higher (+0.07); and for high school students, the correlation was highest (+0.25). The new evidence that has accumulated since my original review of the research more than a decade ago lends even more support to these findings (Cooper, Lindsay, Nye, & Greathouse, 1996).

In sum, homework has substantial positive effects on the achievement of high school students, and junior high students benefit about half as much. For elementary school students, the effect of homework on achievement is trivial, if it exists at all.

Cognitive and developmental psychology sheds light on the grade-level effect (Muhtenbruck, Cooper, Nye, & Lindsay, 2000). Studies indicate that younger students have limited attention spans, or more specifically, limited abilities to tune out distractions. Thus, the distractions at home more easily entice them away from the books spread out on the kitchen table. Also, younger students haven’t yet learned proper study skills. They don’t know how to apportion their time between easy and hard tasks or how to engage in effective self-testing. Each of these cognitive limitations suggests that homework should not be expected to impressively improve test scores and that expectations for homework assigned in primary grades should be aligned with other goals.

### Flexible Homework Policies Help Individual Schools and Teachers Take into Account the Unique Circumstances of Their Students.

In all, 43 correlations indicated that students who did more homework had better achievement scores, whereas only 7 indicated that those who did more homework had lower achievement scores. Again, a strong grade-level qualifier appeared. For students in

### What Are the Effects of Homework?

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<td>■ loss of interest in academic material</td>
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<tr>
<td>■ increased understanding</td>
<td>■ physical and emotional fatigue</td>
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<tr>
<td>■ better critical thinking, concept formation, information processing</td>
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An Optimum Amount

Nine studies correlate time on homework with achievement, looking at how performance levels are a function of the amount of time spent on homework (Cooper, 1989). As we might expect, the line of progress is flat for younger students. For junior high school students, achievement continues to improve with more homework until assignments last between one and two hours a night, at which point achievement levels do not improve. For high school students, however, progress continues to go up to the largest number of hours spent on homework each night. Although common sense dictates that there is a point of diminishing returns, the more homework that high school students do, the higher their achievement levels.

Guidelines for Homework Policies

The following homework policy guidelines (Cooper, 2001) can make homework an effective teaching tool. The guidelines are general and should serve only as a starting point for discussions about homework.

Coordinate policies. Districts, schools, and classrooms should coordinate their policies. Some of the issues addressed at each level are unique, but others overlap.

State the rationale. Districts need to state clearly the broad rationale for homework, why it is often mandatory, and what the general time requirements ought to be. Schools need to further specify time requirements, coordinate assignments among classes (if desired), and set out the role of teachers and principals. Teachers need to adopt classroom policies that outline what is expected of students and why.

Assign homework. The amount and type of homework that students do should depend on their developmental level and the quality of their support at home. 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.

Educators often refer to this as the Ten Minute Rule, or 10 minutes multiplied by the student’s grade level per night. My combined analyses of dozens of studies support these recommendations. If educators and parents expect homework far out of line with these recommendations to result in big gains in test scores, they are likely to be disappointed.

If homework for younger students bears no relation to achievement, why assign it at all? As I noted earlier, homework can have beneficial effects other than knowledge acquisition. In the primary grades, homework can help younger students develop good study habits and grow as their cognitive capacities mature. Homework can help students recognize that they can learn at home as well as at school. It can foster independent learning and responsible character traits. Homework can give parents an opportunity to see what’s going on at school and express positive attitudes toward achievement. To obtain these outcomes, however, homework assignments in elementary grades should be short, employ mate-
rials commonly found in the home, and lead to successful experiences.

Use other approaches, too. Homework can be an effective instructional device, but it must serve different purposes at different grade levels. Our expectations for its effects, especially in the short term and in earlier grades, must be modest. Homework should be one of several approaches we use, along with soccer and scouts, to show our children that learning takes place everywhere.

The question for educators and parents is not whether homework has positive or negative effects. Either of these effects can occur. To avoid the negative effects, flexible homework policies should let individual schools and teachers take into account the unique needs and circumstances of their students. School districts, teachers, and parents should avoid the extremes.

References


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