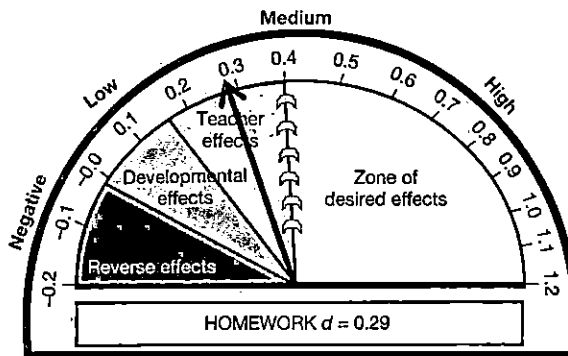


Homework

Homework involves “tasks assigned to students by school teachers that are meant to be carried out during non-school hours” (Cooper, 1989, p. 7). It is a hotly contested area, and my experience is that many parents judge the effectiveness of schools by the presence or amount of homework—although they expect to not be involved in this learning other than by providing a quiet and secluded space, as they believe that these are the right conditions for deep and meaningful learning. The overall effects are positive, but there are some important moderators.

Cooper (1989) has written many studies and conducted a series of meta-analyses on homework. He argued that the effects of homework are twice as large for high as for junior high, and twice as large again for junior high as for elementary students. The smallest effects were in mathematics, whereas the effects in science and social studies were the largest, with English in the middle. The positive effects of homework were negatively related to the duration of the homework treatment (see also Trautwein, Köller, Schmitz, & Baumert, 2002). Shorter is better, but, for elementary students, Cooper, Lindsay, Nye,



KEY	
Standard error	0.027 (Low)
Rank	88th
Number of meta-analyses	5
Number of studies	161
Number of effects	295
Number of people (4)	105,282

and Greathouse (1998) estimated a correlation of near zero ($d = -0.04$) between time spent on homework and achievement. Student attitude to homework was not related to completion or grade, and nor did parent facilitation relate to student attitude to homework: "Parent support for autonomous student behavior showed a positive relationship to achievement, whereas direct instructional involvement showed a negative relationship" (Cooper, Jackson, Nye, and Lindsay, 2001, p. 197). My reading of Cooper's results suggests that more task-oriented homework had higher effects than did deep learning and problem solving homework. It is likely that this interaction is because of the importance of the teaching cycle to ensure appropriate learning, feedback, and monitoring (especially for deeper learning), whereas rehearsal of basic skills (surface knowledge) can be undertaken with minimal teacher supervision.

The nature of the homework also makes a difference. The effects were highest in mathematics, and lowest in science and social studies. The effects were higher when the material was not complex or if it was novel. Homework involving higher level conceptual thinking, and project based was the least effective. Trautwein, Köller, Schmitz, and Baumert (2002) aimed to identify the key components of homework that made the difference, with a particular emphasis on untangling the interactions between homework and student characteristics. They found that a lot of homework and a lack of monitoring seem to indicate an ineffective teaching method. They warned against homework that undermined a student's motivation and that led to the student internalizing incorrect routines, and they favored short, frequent homework that was closely monitored by the teachers. It would probably be more effective to construct these opportunities under the gaze of a teacher, in the school. Teaching does matter when it comes to students' learning. The manner in which parents become involved may or may not make a difference.

The effects are greater for higher than for lower ability students and for older rather than younger students. For too many students, homework reinforces that they cannot learn by themselves, and that they cannot do the schoolwork. For these students, homework can undermine motivation, internalize incorrect routines and strategies, and reinforce less effective study habits, especially for elementary students. The novelist Richard Russo summed up the views of many students:

She tried shit like doing her homework for a while, but it was counterproductive since she always did it wrong. Doing homework wrong, to her, was worse than not doing it at all, because doing it required time and effort and yielded the same results as not doing it, which required neither. Besides, our teachers had it all figured out in advance, she said, like who was going to get good grades and who'd flunk.

(Russo, 2007, p. 157)

There are marked differences in effect sizes between elementary ($d = 0.15$) and high school students ($d = 0.64$), which probably reflects the more advanced skills of studying involved in high school. It is important to note, however, that prescribing homework does not help students develop time management skills—there is no evidence this occurs. High school teachers are more likely to assign homework related to learning subject matter, and the effects are highest, whatever the subject, when homework involves rote learning, practice, or rehearsal of the subject matter. Perhaps one set of reasons why the effects of homework are lower in elementary levels is that younger children are less able than older children to ignore irrelevant information or stimulation in their environment, have less