
Homework for Students with Learning Disabilities: The Implications of Research for Policy and Practice

Harris Cooper and Barbara Nye

The literature on homework for students with learning disabilities is reviewed. First, a summary of Cooper's (1989a) synthesis of research on homework for students without disabilities is presented, including (a) a definition of homework, (b) a model of the homework process, (c) the results of a meta-analysis of homework studies, and (d) generic policy guidelines. Next, special education research on homework conducted after 1985 is described. The literature is divided into studies that manipulated homework conditions and homework-related surveys of teachers and parents. The results of the literature review suggest that homework policies and practices for students with learning disabilities should emphasize (a) simple, short assignments; (b) careful monitoring by and prominent rewards from teachers; and (c) parental involvement, especially to provide structure, conducive environments, and immediate rewards.

The completion of a homework assignment involves the complex interaction of more influences than any other pedagogical task: Teachers begin and end homework assignments in the classroom; individual student differences play a major role, because, in comparison to classroom-bound activities, homework allows more discretion on the student's part about whether, when, and how to complete the assignment. Parents and siblings often participate in homework, sometimes voluntarily, sometimes by design. The home environment influences the process by providing family chores and activities that create an ambiance conducive to or inhibitive of study. And finally, the broader community plays a part by providing leisure activities that compete for the student's time.

Homework is a pervasive teaching device. The National Assessment of Educational Progress found that two thirds of students in the 4th, 8th, and

11th grades reported doing homework, and that the percentage of students doing homework was increasing over time (Anderson, 1986). The recent increased use of homework grows out of the educational reform movement and its emphasis on higher standards (National Commission on Excellence in Education, 1983). Among eighth graders, the average amount of time spent on homework is about 1 hour each day (Walberg, 1991). Thus, it is not unreasonable to conclude that homework accounts for about 20% of the total time typical students spend on academic tasks. In sum, homework is a significant aspect of American education. It is a part of most teachers' instructional repertoires and a part of the lives of most American families.

Homework has been an active area of study among educational researchers for the past 65 years (cf. Hagan, 1927). However, researchers have been far from unanimous in their assessments of the strengths and weaknesses

of homework as an instructional device. Table 1 contains a summary of nine reviews of the homework literature conducted between 1960 and 1987. The conclusions of the reviewers vary greatly, due partly to a lack of overlap in the literature they cover, different criteria for inclusion of studies, and different methods for the synthesis of study results.

In 1989, the first author of this article attempted an earlier integration of research on homework (Cooper, 1989a). That review included nearly 120 empirical studies of homework's effects and the ingredients of successful homework assignments. In addition, advances in research synthesis methodology, including meta-analytic techniques, were used in conducting the review (Cooper, 1989b; Cooper & Hedges, 1994).

Noticeably lacking from the past reviews—and the research underlying them—were descriptions of homework for students with learning disabilities. Although several reviewers acknowledged that student differences play a role in determining homework's effects, none was able to suggest what the role of learning disabilities might be. In recent years, increased attention to students with learning disabilities, especially in the context of the Regular Education Initiative (Reynolds, Wang, & Walberg, 1987), has heightened concerns about whether these students will be able to meet increased home-

TABLE 1
Conclusions on Previous Reviews

Author (year)	General conclusion	Factors influencing homework effect	Observations on research
Goldstein (1960)	Regular homework favors higher achievement	Grade level, subject matter, student differences	Low quality Lack of detail in reports Author conclusions differ from results No research on Grades 1-4
Friesen (1979)	No clear-cut endorsement of either homework or no homework	Teachers are best equipped to decide about homework	
Austin (1979)	Math homework is preferable to no homework for Grades 4-10 and may be cumulative; no effect on attitudes	Parent involvement, activity, skill area (e.g., improves computational skills)	Procedural problems Pre-1950 studies may be of questionable utility
Coulter (1979)	Homework can be effective under certain conditions; grading or comment studies found no effect	Student differences, tasks, sequences, structures, home environment	Too narrowly conceptualized and implemented
Harding (1979)	Homework has not yet been effectively evaluated; studies were evenly divided in direction of effect	Grade level, subject matter	Serious methodological flaws Looked only at homework vs. no homework
Knorr (1981)	Inconclusive	Complex set of factors	Questions asked are too broad Effects should be tested at local level
Marshall (1983)	Math homework effect depends on skill areas	Skill area (e.g., positive effect on problem solving, concept learning; negative effect on computation)	Generally poor protection against threats to validity
Paschal et al. (1984)	Homework is generally effective	Grade level, subject matter, grading or comments, frequency	Research design factors influence outcomes of studies
Keith (1986)	Homework is generally effective	Quality of assignments, appropriateness for the student	Most done at high school level

Note. From *Homework* by Harris Cooper, 1989, White Plains, NY: Longman. Copyright 1992 by Harris Cooper.

work demands, and how homework assignments might be altered to best serve these students' needs.

This article is organized into two major sections: First, we describe Cooper's (1989a) review of the homework literature. A temporal model of the homework process is presented, along with a description of the potential positive and negative effects of homework. Then, the research on whether homework actually influences the academic performance of students without learning disabilities is reviewed. Particular features of homework assignments, such as subject matter and duration, are examined for their influence on homework's effec-

tiveness. The first section concludes with a description of the homework policy guidelines that Cooper proposed for students without disabilities.

In the second major section of the article, we present a new review of literature that has appeared since the mid-1980s concerning homework for students with learning disabilities. This review includes (a) studies that evaluated the effects of different homework conditions for students with learning disabilities and (b) surveys of teachers and parents. Finally, we discuss how, in light of the newly reviewed literature, Cooper's (1989a) conclusions might be modified for students with learning disabilities.

Homework for Students Without Disabilities

Homework can be defined as "tasks assigned to students by school teachers that are meant to be carried out during nonschool hours" (Cooper, 1989a, p. 7). This definition excludes (a) in-school guided study, (b) home-study courses, and (c) extracurricular activities.

Homework Process Model

A process model of the factors affecting the utility of homework is presented in Table 2. The process begins by acknowledging that student charac-

teristics, the subject matter, and especially the grade level will influence the value of homework. The characteristics of the assignment also help determine its utility. Homework assignments can be short or long; can tap different skill areas; can have different purposes (e.g., the practice of old material, introduction of new material, integration of skills, or extension of the curriculum); can be tailored for individual students or entire classes; can be voluntary or mandatory; and can be completed by individuals or as group projects.

Teachers can also use varying amounts of time and effort in setting up an assignment. They can make extra efforts to ensure that students understand how an assignment relates to the curriculum, or give other rationales. They can suggest different ways of completing assignments. Finally, teachers can either provide the materials students need for an assignment or leave it to the students to obtain materials on their own.

When the assignment goes home, several factors will affect how it is carried out, including the student's other time commitments, his or her home environment, and the involvement of others. And, finally, how the teacher treats assignments when they are returned may affect homework's utility. Some teachers simply collect assignments, while others go over them

in class and provide written feedback, evaluative comments, or grades. Other teachers may allow students to correct homework as part of the learning process, and even provide extra credit toward grades. The content of homework may or may not be discussed in class and included on examinations.

Effects of Homework

The array of potential positive and negative effects of homework is broad and often surprising (see Table 3). Of the suggested positive effects of homework, the most obvious is that it has an immediate impact on the students' retention and understanding of the material it covers. More indirectly, homework may improve students' study skills and their attitudes toward school, and teach them that learning can take place anywhere, not just in school. There are many potential non-academic benefits as well, most of which relate to fostering independence and responsibility. Finally, homework can involve parents and members of the broader community in the school process, enhancing their appreciation of education and allowing them to express positive attitudes toward their students' achievement.

The suggested negative effects of homework are equally numerous. First, some educators point out that any

activity can remain rewarding for only so long. Thus, if students are required to spend too much time on academic material, they are bound to grow bored with it. Second, homework often precludes time spent in leisure and community activities, which can teach important lessons, both academic and nonacademic. Third, parental involvement, however well-intentioned, can often turn into parental interference; furthermore, parents can confuse students if the instructional techniques they use differ from those used by teachers. Fourth, homework can sometimes actually promote cheating, either through the direct copying of assignments or via help with homework that goes beyond tutoring. Finally, homework could accentuate existing social inequities: Students from poorer homes can have more difficulty completing assignments than their middle class counterparts. Poorer students are more likely to work after school, or may not have a quiet, well-lit place to do their assignments. It can be argued that, like school, homework is not the great equalizer.

Research on Students Without Disabilities

Does Homework Work? Three types of studies help answer the general question of whether homework

TABLE 2
A Model of Factors Influencing the Effect of Homework

Exogeneous factors	Assignment characteristics	Initial classroom factors	Home-community factors	Classroom follow-up
Student characteristics:	Amount	Provision of materials	Competitors for student time	Feedback:
Ability	Purpose	Facilitators:	Home environment:	Written comments
Motivation	Skill area utilized	Suggested approaches	Space	Grading
Student habits	Degree of individualization	Links to curriculum	Light	Incentives
Subject matter	Degree of student choice	Other rationales	Quiet	Testing of related content
Grade level	Completion deadlines		Materials	
	Social context		Others' involvement:	Use in class discussion
			Parents	
			Siblings	
			Other students	

Note. From *Homework* by Harris Cooper, 1989, White Plains, NY: Longman. Copyright 1992 by Harris Cooper.

improves the achievement of students who have no disabilities. The first type of study compares the achievement of students given homework assignments with that of students given no homework or any other form of home study. In 20 studies conducted since 1962, 14 produced effects favoring homework, whereas 6 favored no homework. Most interesting is the dramatic influence of grade level on homework's effectiveness. The meta-analysis revealed that the average high school student in a class doing homework would outperform 69% of the students in a no-homework class, as measured by standardized tests or grades. In junior high school, the average homework effect is of half this magnitude. In elementary school, homework had no effect on achievement gains.

The next set of evidence compared homework to in-class supervised study. Overall, the positive effect of homework was about half what it was when homework was compared to no treatment. 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 that superiority was the most pronounced.

Finally, an analysis of 50 studies showed that the amount of time students reported spending on homework was correlated with their achievement levels. Many of these correlations came from statewide surveys or national assessments. Forty-three correlations indicated that students who did more homework showed better achievement scores, whereas only seven indicated the opposite. Again, a strong grade-level interaction appeared. For students in Grades 3 through 5, the average correlation between amount of homework and achievement was nearly zero; for students in Grades 5 through 9, $r = +.07$, and for high school students, $r = +.25$.

Factors Affecting Utility of Homework. In addition to looking at home-

TABLE 3	
Suggested Effects of Homework	
Positive Effects	
Immediate achievement and learning	Better retention of factual knowledge
	Increased understanding
	Better critical thinking, concept formation, information processing
	Curriculum enrichment
Long-term academic effects	Willingness to learn during leisure time
	Improved attitude toward school
	Better study habits and skills
Nonacademic effects	Greater self-direction
	Greater self-discipline
	Better time organization
	More inquisitiveness
	More independent problem solving
Greater parental appreciation of and involvement in schooling	
Negative Effects	
Satiation	Loss of interest in academic material
	Physical and emotional fatigue
Denial of access to leisure-time and community activities	
Parental interference	Pressure to complete assignments and perform well
	Confusion of instructional techniques
Cheating	Copying from other students
	Help beyond tutoring
Increased differences between high and low achievers	

Note. From *Homework* by Harris Cooper, 1989, White Plains, NY: Longman. Copyright 1992 by Harris Cooper.

work's overall effectiveness, researchers have also examined how variations in assignments might influence their utility. One obvious question is whether homework is more effective for some academic subjects than for others. Based on the three sets of evidence just described, no clear pattern indicating an influence for subject matter was discerned. However, it is not unreasonable to suggest that homework probably works best when the material is not complex or terribly novel.

Another important question concerns the optimum amount of homework. Nine studies allowed for a charting of academic performance levels as a function of homework time. The line of progress was flat for young

students. For junior high school students, achievement continued to improve with more homework until assignments lasted between 1 and 2 hours a night; more homework than this resulted in no more improvement in achievement. For high school students, on the other hand, the line of progress continued to go up through the highest point on the measured scales (more than 2 hours per night).

Several other variations in homework assignments have been the focus of research. For instance, there was strong evidence in the literature surveyed that it is better to distribute material across several assignments than to concentrate homework only on material covered in class that day. Homework intended as practice for

material already taught and homework meant to prepare students for upcoming lessons both proved beneficial. The few studies examining parental involvement in homework suggested that giving parents a formal role in homework had neither a positive nor a negative effect on the homework's utility. The same was true for individualizing homework assignments: In general education classrooms, the individualization of homework assignments had minimal effect on achievement outcomes but did add significantly to the time teachers spent on homework-related activities. Finally, no study was found that compared a feedback strategy for homework (e.g., grading, instructional or evaluative comments) with a no-feedback strategy. Several studies did compare alternative feedback strategies; these revealed no clearly superior approach.

Summary: A Generic Homework Policy. Homework research involving students without disabilities revealed some clear and dramatic findings; however, the cumulative research was also somewhat disappointing. First, many of the existing studies used poor research designs. Second, given the richness of thinking and debate on homework's positive and negative effects, curiously, research has been narrowly focused on achievement as an outcome. Only a few studies have examined homework's effect on attitudes toward school. Research has almost completely neglected nonacademic outcomes like study habits, cheating, or participation in community activities. And finally, as mentioned above, the literature on the role of homework in the education of students with learning disabilities is sparse.

Based on the research findings and over 100 other articles examined in the course of the review, Cooper (1989a) proposed homework policies for a generic school district. These are reproduced in Table 4.

Homework for Students With LD

As noted above, when the first author reviewed the research on homework that had appeared prior to 1986, he found few studies that included students with learning disabilities, either as the population of interest or for purposes of comparison. Because of the lack of research, Cooper (1989a) drew no conclusions related to learning disabilities. This left open to question how homework practices and policies that proved effective for nondisabled students might differ for students with disabilities.

The situation today has improved only slightly. Considerable extrapolation still is required when the research literature on homework is evaluated for its relevance to special educators. We now turn to a review of recent homework research specifically addressing the needs of students with learning disabilities.

Definition of Learning Disabilities

When conducting a research review, the reviewer must judge the fit between the concepts of interest (e.g., homework) and how they have been operationalized in past research, or, in the case of studies of individual differences (e.g., learning disabilities), which inclusion criteria were employed when past researchers drew samples from the population of interest. Often, the fit is less than sublime, for three reasons: (a) The researchers use the same concept as the reviewer but employ different operational definitions; (b) the researchers use the same operations but label them as a different concept; and (c) the researchers' and reviewers' concepts partially overlap. A research reviewer also often finds studies that lack sample descriptions entirely.

The definition of a student with a learning disability that was used to screen studies for this review was that

the student had been so identified by the school system. This typically means the student (a) scored within the normal range of intelligence but (b) showed significant underachievement in one or more of the areas of mathematics, reading, and written or oral language that was not primarily due to emotional disturbance, economic disadvantage, or lack of educational opportunity (cf. Pollaway, Foley, & Epstein, 1992).

In operation, this definition led to the inclusion of research reports that described the included samples by using certain labels and the exclusion of samples labeled otherwise. The labels are described next.

Literature Search Procedures

The literature search began by using the ERIC databases to find articles containing the keyword "homework" in their titles or abstracts. The search was restricted to articles published after 1985. ERIC contained 658 "homework" documents, the abstracts of which were read; the full text was retrieved if the document made reference to homework for students identified by any of the following labels: "learning disabled" or "with a learning disability," "special education" (classes or students), "marginal learners," or "mildly handicapped." We did not use articles if the students of interest were characterized as "severely emotionally disturbed," "behavior disordered," "mentally retarded," or "attention deficit disordered."

The full texts of the retrieved articles were read and their references were scrutinized for further potentially relevant material. This process continued until no promising leads remained. The leads were also supplemented by articles obtained through personal contact with researchers in the field.

When complete, the literature search had turned up eight studies that manipulated the conditions of homework, one correlational study involving students, and six studies that surveyed

TABLE 4
A Recommended Homework Policy

For Districts

Homework is a cost-effective instructional technique. It can have positive effects on achievement and character development and can serve as a vital link between the school and family.

Homework should have different purposes at different grades. For younger students it should foster positive attitudes, habits, and character traits. For older students it should facilitate knowledge acquisition in specific topics.

Homework should be required at all grade levels, but a mixture of mandatory and voluntary homework is most beneficial.

The frequency and duration of mandatory assignments should be:

1. Grades 1 to 3: one to three assignments a week, each lasting no more than 15 minutes
2. Grades 4 to 6: two to four assignments a week, each lasting 15 to 45 minutes
3. Grades 7 to 9: three to five assignments a week, each lasting 45 to 75 minutes
4. Grades 10 to 12: four to five assignments a week, each lasting 75 to 120 minutes

For Schools

The frequency and duration of homework assignments should be further specified to reflect local school and community circumstances.

In schools where different subjects are taught by different teachers, teachers should know:

1. Which days of the week are available to them for assignments
2. How much daily homework time should be spent on their subject

Administrators should:

1. Communicate the district and school homework policies to parents
2. Monitor the implementation of the policy
3. Coordinate the scheduling of homework among different subjects, if needed

Teachers should state clearly:

1. How the assignment is related to the topic under study
2. The purpose of the assignment
3. How the assignment might best be carried out
4. What the student needs to do to demonstrate that the assignment has been completed

For Teachers

All students in a class will be responsible for the same assignments, with only rare exceptions.

Homework will include mandatory assignments. Failure to turn in mandatory assignments will necessitate remedial activities.

Homework will also include voluntary assignments meant to meet the needs of individual students or groups of students.

Not all homework assignments will be formally evaluated. Some will be used to locate problems in student progress and to individualize instruction.

Topics will appear in assignments before and after they are covered in class, not just on the day they are discussed.

Homework will not be used to teach complex skills. It will generally focus on simple skills and material or on the integration of skills that the student already possesses.

Parents will rarely be asked to play a formal instructional role in homework. Instead, they should be asked to create a home environment that facilitates student self-study.

teachers or parents. The set of studies examined substantively diverse aspects of homework. Therefore, the use of quantitative synthesis procedures seemed inappropriate and a narrative approach to synthesis was adopted.

Research That Manipulated Homework Conditions

We were able to locate seven studies published after 1985 that (a) tested the effectiveness of homework for students with learning disabilities, (b) evaluated training programs for parents, or (c) assessed strategies for monitoring homework assignments. An eighth study was difficult to classify.

Effectiveness of Homework. Rosenberg (1989) reported two studies meant to investigate the effect of supplemental homework on the acquisition and fluency of basic multiplication facts by students with learning disabilities. In the first study, six students ranging in age from 8 years 6 months to 10 years 1 month were participants. A within-subjects, alternating treatment design was used—that is, all students did homework but only for selected multiplication facts. The dependent variables were test performance, rate of homework completion, and percentage correct on homework assignments. Rosenberg concluded from Study 1 that the effect of homework was “equivocal” (p. 318). However, he observed that homework did seem to be effective if its completion rate and percentage correct both exceeded 70% and the student demonstrated at least moderate acquisition of the material. These three factors formed the basis of the second study.

In Study 2, four elementary school students served as participants, and the content area was changed from math to spelling. To maximize the probability that homework would be completed correctly, Rosenberg enlisted the cooperation of parents and instituted a classroom-based token program. He found that three of the

four students showed clear benefits from the homework, and, again, those students who completed the most homework, and who did so correctly, obtained the most benefit.

Cobb, Peach, Craig, and Wilson (1990) studied 23 secondary students enrolled in a summer math program, 5 of whom had learning disabilities and 18 of whom did not. Over the 4-week session, the researchers gave homework assignments during the first and third weeks but no homework during the second and fourth weeks. The investigators reported no difference in test scores for homework versus no homework and no difference between the two groups of students. However, they did caution against overinterpreting their results, pointing out the small sample size and nonrepresentative groups of students.

We mention one nonexperimental study here because it correlated homework activity with academic achievement. Truesdell and Abramson (1992) looked at teacher ratings of 33 mainstreamed students in one elementary and two junior high schools in New York City (the actual number of participating teachers was not given). They found that the correlation between homework and final grade in the mainstreamed classes was $+ .47$ for elementary level students and $+ .64$ for junior high students. These correlations are considerably larger than those found with students who have no disabilities. However, Truesdell and Abramson examined a small, select sample and did not indicate whether their measure of homework concerned the amount assigned, the amount completed, or accuracy upon completion. Therefore, we should be cautious in our interpretation of their results.

Taken together, these three studies provide little basis for judging the overall effectiveness of homework for students with learning disabilities. Still, their results indicate that there is no reason to believe that the generally positive effects enjoyed by students without disabilities who do homework would not also fall to students with

learning disabilities. Clearly, however, the parameters of successful homework should be different for students with and without learning disabilities. It is to these mediating variables we now turn.

Parent Training. One mediating variable would be parents' ability to assist their children with their homework. For instance, it might be more important for parents of students with learning disabilities than parents of nondisabled students to provide structured homework schedules for their children. A study by Sah and Borland (1989) gave homework completion timetables (e.g., homework is to be done from 4:45 p.m. to 5:50 p.m.) to nine parents of students who were both learning disabled and gifted. The researchers also provided parents with training in noncoercive behavioral discipline techniques to facilitate their children's adherence to the schedule. They found a decrease in the number of incomplete homework assignments during the study; however, the improved behavior was not maintained after the intervention was withdrawn.

Parents can also serve as instructors. Vinograd-Bausell, Bausell, Proctor, and Chandler (1986) examined the effects of using parents as tutors on word recognition skills. Forty-one parents of primary-grade students with learning disabilities were randomly assigned to either a home tutoring group or a delayed-treatment control group. The parents were provided with flash cards and instructions on using modeling, imitation, and word-meaning teaching strategies. Home tutoring occurred five times per week for 2 weeks. At the end of the 2-week period, students were given a word recognition test. The researchers found the home tutoring to be effective, especially for students with IQ scores above 80.

Taken together, these two studies suggest that homework interventions targeting parents may have a reasonable chance of success, especially if the intervention is sustained and not discrete. Furthermore, the Rosenberg

(1989) study mentioned above and the Vinograd-Bausell et al. (1986) study both noted that effective homework for students with learning disabilities might require a minimum level of student competence.

Monitoring of Assignments. Another set of parameters that might affect the value of homework involves teachers' monitoring of assignments. Strukoff, McLaughlin, and Bialozor (1987) employed a single-subject (fifth-grade female) ABAB reversal design to examine the effects of a daily report card system on the completion rate and accuracy of her math homework. The report card was a simple slip of paper from the resource room teacher to parents indicating whether the student had completed the previous day's assignment. Results revealed a dramatic increase in both the completion and the accuracy of homework during the report card phases of the study. The student also reported an increased feeling of self-worth. However, Strukoff et al. noted several problems with the interpretation of their study. First, nothing was known about the home contingencies associated with the report card. Second, other students in the class expressed a desire to have daily report cards as well. We cannot tell, therefore, if the changes were caused by the report card itself or the "specialness" associated with having it.

Birnbaum (1989) assessed the effects of a 12-week practicum on notebook organization and time management for four secondary school students. The plan also included the use of "free homework" coupons for students who completed 100% of a given week's assignments. Birnbaum reported dramatic positive effects on homework completion rates, teacher satisfaction with assignments, number of times student notebooks were in perfect order, and average notebook grades.

Patzelt (1991) used a behavior modification program with a 9-year-old boy to help with his rate of math homework completion. The child was put on a 3-week contract that included the use

of both edible and social reinforcers. A simple AB single-subject design was used with a fading period in which the student became responsible for self-monitoring. The data indicated that both the completion and the accuracy rates of the student's homework improved with the procedure.

All three studies testing special monitoring techniques indicated that they can be effective mechanisms for improving the completion rates and accuracy of homework assignments for students with learning disabilities. A promising sequel for research in this area would be to identify the type of student who benefits most from each monitoring strategy.

Miscellaneous Study. We also came across one study that was difficult to classify. In that study, conducted by McLaughlin, Swain, Brown, and Fielding (1986), the number of social studies homework questions was reduced if middle school students in special education classes reduced their rates of inappropriate social behavior. Results indicated that the "treatment" was effective; that is, inappropriate social behaviors diminished while the academic performance of the students remained unchanged.

Surveys of Teachers and Parents

The six surveys are best characterized by the sample characteristics of those surveyed. Thus, we will describe surveys that included both teachers and parents, teachers only, and parents only.

Both Groups. Polloway et al. (1992) sampled teachers and parents of students both with and without learning disabilities. A total of 45 completely yoked quadrifid samples were obtained. The researchers administered a homework problems checklist to each group.

No significant main effects were found when responses for students with and without disabilities were compared. Both teachers and parents

perceived students with learning disabilities as having significantly more problems than students without disabilities. However, teachers and parents sometimes differed in their perceptions of the general frequency of different problems, regardless of student type. Specifically, teachers saw more problems in starting, completing, and returning homework, whereas parents saw more problems in putting off and correcting homework.

Teachers. We were able to locate four studies that surveyed the practices, attitudes, and opinions of educators regarding homework for students achieving below expected levels. The largest survey was conducted by Heller, Spooner, Anderson, and Mims (1988), who sampled 1,270 special education teachers and administrators from four southeastern states. A factor analysis was used to reduce a 64-item questionnaire to four subscales: attitudes about the value of homework, obstacles to effective use of homework, frequency and types of assignments, and feedback.

The most interesting results related to grade level: Elementary and middle school teachers saw more value to homework than did high school teachers; high school teachers reported more obstacles. However, high school teachers also indicated that they assigned more homework than did elementary or middle school teachers. Another finding indicated that teachers with formal training (not defined in the article) in how to use homework reported fewer obstacles to its implementation, viewed it as more important, and advocated its more frequent use.

Salend and Schliff (1989) surveyed 88 elementary and secondary special educators (teaching students in self-contained or resource rooms) from four school districts in upstate New York. Eighty percent of the teachers reported assigning homework. By far the most frequent instructional goals for homework were to practice skills presented in class (89%) and to complete

unfinished assignments or make up work (72%). Three out of four special educators reported encouraging parents to assist with homework, but less than half (41%) solicited feedback from parents concerning their preferences regarding homework. Fully 85% of teachers reported experiencing problems getting students to complete assignments. Salend and Schliff suggested that part of the problem may have stemmed from the lack of homework feedback mechanisms in many special education classrooms. For example, nearly half of teachers often did not discuss or review homework, grade homework, or consider homework when giving report card grades. Because Salend and Schliff did not survey general classroom educators, it is not clear whether the practices of special educators would differ from those of a matched sample of general classroom teachers.

The Appalachia Educational Laboratory conducted two surveys of teachers (not necessarily special educators) and asked them to identify effective strategies for instructing marginal learners (that is, students who do not succeed academically in general classrooms). In the first survey (Appalachia Educational Laboratory, 1986), participants were recruited at the 1986 National Education Association Representative Assembly. A total of 97 educators participated. Three homework recommendations emerged: First, the teachers suggested that marginal students be allowed to begin homework assignments in class so that assignments could be monitored for problems. Second, the teachers endorsed homework that was intended to reinforce the classwork for that day. Finally, it was suggested that math and reading homework be given on alternate days.

The second survey (Appalachia Educational Laboratory, 1989) polled 22 teachers identified by Kentucky Education Association affiliate presidents and state committee members as effective in working with marginal learners. These teachers recommended that (a) homework assignments contain

problems in areas that were well-understood by the student and (b) repetition be kept to a minimum. Also, prompt review was seen as especially important for students who were marginal learners, to provide them the opportunity to correct, or at least understand, their mistakes.

In sum, the four surveys of teachers examined a wide variety of issues. However, one should be cautious in interpreting their results because the samples were small and select, the questions lacked precision, and/or the surveys lacked matched controls to assess whether differences existed between the practices and problems of special and general educators.

This being said, we might tentatively draw a few conclusions. First, training in how to effectively use homework helps special educators avoid some problems with parents and with inappropriate assignments. Also, incomplete assignments are a major obstacle to the effectiveness of homework for special educators' students. Effective teachers of students experiencing learning problems may place more emphasis on homework assignments meant to reinforce student skills than on those intended to introduce concepts or extend skills. Students with learning disabilities may also benefit more from shorter assignments. Monitoring of assignments also was salient in the surveys, as it was in the experimental research.

Parents. We were able to locate one survey that involved only the parents of students with learning disabilities (Pluck, Wilton, & Glynn, 1986). The classroom involvement of 40 parents of students with "psychosocial" or organic disabilities was compared to that of an equal number of parents of nondisabled students. The survey was conducted in Auckland, New Zealand. One notable finding indicated that the parents of nondisabled students reported more involvement in general school activities (e.g., helping in the lunchroom or library) than did parents of students in special education classes; however, the latter group of parents

reported more involvement within their child's classroom.

Conclusions

A few consistencies in the results of the experiments and surveys point to some unique features of homework policies covering students with learning disabilities. However, any research conclusions in this regard require qualification. The empirical database is limited; experimental studies are lacking. Intensive single- or limited-subject experiments are represented, but these are open to rival interpretations, revolving around select samples, the novelty of treatments, and attentional confounds.

As is true in many areas of educational research, a lack of adequate funding leads to a lack of adequate evidence. In the interest of advancing our understanding, the special education community would profit most from moderate- or large-scale, well-controlled studies that simultaneously compare multiple treatments and/or condition manipulations while examining the moderating influence of individual differences (e.g., type and severity of student's disabilities).

Still, a few recommendations shine through. First, all teachers benefited from training in the use of homework as a pedagogical strategy. Teachers who reported having had such training experienced fewer problems with homework. Training in the proper use of homework and the construction of good assignments would seem even more important for special educators than it is for regular educators, given the added complexity of instruction when students with disabilities are involved. Future research might examine not only what makes homework a positive experience for students with learning disabilities, but also how teacher training in homework affects homework's value.

Second, a consistent theme in the literature is that homework assignments for students with learning disabilities should be short and should

focus on reinforcement (as opposed to integration and extension) of skills and class lessons. Students who fall below a minimum competency in a skill area may not benefit from homework at all.

Third, appropriate monitoring of homework assignments by teachers is more critical for students with learning disabilities, though it is important for all students. Monitoring might include prompt in-class review, prominent rewards for completion and/or accuracy, and even the use of class time to begin assignments, so teachers can be sure that assignments are understood.

Fourth, parental involvement seems critical—and certainly more so for students with than without disabilities. The need for parental involvement rests on the likelihood that students with disabilities will have less developed self-management and study skills. Their ability to study depends heavily on access to a conducive environment, both physical and emotional. Students with learning disabilities may need periodic rewards during homework time or immediately following assignment completion. Students with learning disabilities may also need more active assistance in completing tasks. The experimental evidence suggests that this involvement should be sustained, not discrete or periodic.

The importance of parental involvement also suggests the need for parent training programs, although here again, the research literature is scarce. Researchers interested in special education populations might draw on the more general literature concerning parent training to find ideas that might be modified for use with families of students with learning disabilities (e.g., Epstein, 1991).

In sum, it seems that the area of homework for students with learning disabilities raises issues similar to those raised for all students. The benefits accrued by students with learning disabilities for whom homework functions properly can be many, in terms of the acquisition of both academic and life skills. Improper functioning of homework can engender frustration, stress, and negative attitudes toward

school among students who already experience more than their share of these feelings. The keys to success seem to lie in (a) improved teacher preparation and planning; (b) assignments that are appropriate for the skill, attention, and motivation levels of students; and (c) appropriate involvement and/or training of parents in the homework process. The additional care may be worth the effort, as homework, if structured and carried out properly, represents one of the most cost-effective strategies for schooling.

ABOUT THE AUTHORS

Harris Cooper is the Frederick A. Middlebush Professor of Psychology and a research associate of the Center for Research in Social Psychology at the University of Missouri-Columbia. **Barbara Nye** is a professor of education and executive director of the Center of Excellence: Basic Skills at Tennessee State University. Address: Harris Cooper, Department of Psychology, McAlester Hall, University of Missouri, Columbia, MO 65211.

AUTHORS' NOTE

The authors wish to thank Kristina DeNeve for her help in collecting the studies for this review. We also thank the Center for Research in Social Behavior at the University of Missouri and the Center of Excellence: Basic Skills at Tennessee State University for financial assistance.

REFERENCES

- Anderson, B. (1986). *Homework: What do national assessment results tell us?* Princeton, NJ: Educational Testing Service.
- Appalachia Educational Laboratory. (1986). *Tips for teaching marginal learners*. Charleston, WV: Appalachia Educational Laboratory. (ERIC Document Reproduction Service No. ED 319 192)
- Appalachia Educational Laboratory. (1989). *Drawing marginal learners into the big picture*. Charleston, WV: Appalachia Educational Laboratory. (ERIC Document Reproduction Service No. ED 319 193)
- Austin, J. D. (1979). Homework research in mathematics. *School Science and Mathematics*, 79, 115-121.
- Birnbaum, B. (1989). *Increasing organizational skills and homework productivity with ninth grade emotionally handicapped and regular students*. Unpublished doctoral dissertation, Nova University, Fort Lauderdale, FL.
- Cobb, S., Peach, W., Craig, K., & Wilson, V. (1990). The effects of homework on academic performance of learning disabled and nonhandicapped math students. *Journal of Instructional Psychology*, 16, 168-171.
- Cooper, H. (1989a). *Homework*. White Plains, NY: Longman.
- Cooper, H. (1989b). *Integrating research: A guide for literature reviews*. Newbury Park, CA: Sage.
- Cooper, H., & Hedges, L. V. (1994). *The handbook of research synthesis*. New York: Russell Sage.
- Coulter, F. (1979). Homework: A neglected research area. *British Educational Research Journal*, 5, 21-33.
- Epstein, J. L. (1991). Paths to partnership: What we can learn from federal, state, district and school initiatives. *Phi Delta Kappan*, 72, 345-349.
- Friesen, C. D. (1979). *The results of homework versus no homework research studies*. (ERIC Document Reproduction Service No. ED 159 174)
- Hagan, H. (1927). The value of homework as compared with supervised study. *Second Yearbook, Chicago Principal's Club*, 147-149.
- Harding, R. C. (1979). *The relationship of teacher attitudes toward homework and academic achievement of primary grade students*. Unpublished doctoral dissertation, Lehigh University, Bethlehem, PA.
- Heller, H. W., Spooner, F., Anderson, D., & Mims, A. (1988). Homework: A review of special education practices in the southwest. *Teacher Education and Special Education*, 11, 43-51.
- Keith, T. Z. (1986). *Homework*. West Lafayette, IN: Kappa Delta Pi.
- Knorr, C. L. (1981). *A synthesis of homework research and related literature*. (ERIC Document Reproduction Service No. ED 199 933)
- Marshall, P. M. (1983). *Homework and social facilitation theory in teaching elementary school mathematics*. Unpublished doctoral dissertation, Stanford University, Palo Alto, CA.
- McLaughlin, T. F., Swain, J. C., Brown, M., & Fielding, L. (1986). The effects of academic consequences on the inappropriate social behavior of special education middle school students. *Techniques: A Journal for Remedial Education and Counseling*, 2, 310-316.
- National Commission on Excellence in Education. (1983). *A nation at risk*. Washington, DC: U.S. Government Printing Office.
- Paschal, R. A., Weinstein, T., & Walberg, H. J. (1984). The effects of homework on learning: A quantitative synthesis. *Journal of Educational Research*, 78, 97-104.
- Patzelt, K. E. (1991). *Increasing homework completion through positive reinforcement*. (ERIC Document Reproduction Service No. ED 343 306)
- Pluck, D., Wilton, K., & Glynn, T. (1986). School involvement of parents of psychosocially and organically retarded children. *New Zealand Journal of Educational Studies*, 21(2), 177-188.
- Polloway, E. A., Foley, R. M., & Epstein, M. H. (1992). A comparison of the homework problems of students with learning disabilities and nonhandicapped students. *Learning Disabilities Research & Practice*, 7, 203-209.
- Reynolds, M. C., Wang, M. C., & Walberg, H. J. (1987). The necessary restructuring of regular and special education. *Exceptional Children*, 53, 391-398.
- Rosenberg, M. S. (1989). The effects of daily homework assignments on the acquisition of basic skills by students with learning disabilities. *Journal of Learning Disabilities*, 22, 314-323.
- Sah, A., & Borland, J. H. (1989). The effects of a structured home plan on the home and school behaviors of gifted learning-disabled students with deficits in organizational skills. *Roeper Review*, 12, 54-57.
- Salend, S. J., & Schliff, J. (1989). An examination of the homework practices of teachers of students with learning disabilities. *Journal of Learning Disabilities*, 22, 621-623.
- Strukoff, P. M., McLaughlin, T. F., & Bialozor, R. C. (1987). The effects of a daily report card system in increasing homework completion and accuracy in a special education setting. *Techniques: A Journal for Remedial Education and Counseling*, 3, 19-26.
- Truesdell, L. A., & Abramson, T. (1992). Academic behavior and grades of mainstreamed students with mild disabilities. *Exceptional Children*, 58, 392-398.
- Vinograd-Bausell, C. R., Bausell, R. B., Proctor, W., & Chandler, B. (1986). Impact of unsupervised parent tutors on word recognition skills. *The Journal of Special Education*, 20, 83-90.
- Walberg, H. J. (1991). Does homework help? *School Community Journal*, 1(1), 13-15.