



Research Report

**THE HOMEWORK DEBATE: A REVIEW
OF THE LITERATURE**

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THE HOMEWORK DEBATE: A REVIEW OF THE LITERATURE

“For homework to be effective, it should be carefully planned to support specific educational goals, take into account the specific abilities and needs of students, and strengthen the link between home and school” (ERS Focus on Homework: Research and Best Practice, 2004)

Background

In June 2007, the Toronto District School Board (TDSB) requested that staff consult with students, parents, teachers, principals, and superintendents to obtain feedback about the perceptions, experiences, issues, and concerns around homework. At the request of the Superintendent, School Services – Program, Research staff was asked to conduct a literature review of recent research around homework for inclusion in the final report to Board.

The following three questions guided the overall direction of the literature search: (1) Is there research that indicates homework directly impacts upon student achievement? For elementary students? For secondary students?; (2) Is there research on specific types of homework and their impact on improving student achievement? (3) Is there research that indicates homework directly impacts upon developing characteristics such as good work habits, self discipline, initiative and independence?

Methodology

Staff in the TDSB Professional Library assisted with the review of the literature by searching two education databases: ProQuest (which includes CBCA Education) and EBSCO (which includes ERIC) using the term “homework” either in the title or in the subject field. Although there were no specific limitations assigned to the search syntax, the selection of articles chosen were primarily from professional educational and peer reviewed journals and organizations, and dated from the late 1980's and onwards. Items that were available in full text from the databases were forwarded for review. An Internet search was also conducted, relying primarily on a search of web sites of recognized institutions or organizations known for conducting and/or sharing research findings on a variety of educational topics.

The article collection largely reflected American perspectives; however there were also some references from International and Canadian resources and authors. The Canadian context was

represented primarily through the following three recently released reports which focused on perception results from survey data:

- The TDSB 2006 Student Census, Grades 7-12: System Overview (Yau and O'Reilly, 2007). The TDSB Student Census collected survey data in the Fall of 2006 from all senior school (Grades 7-8) and secondary school (Grades 9-12) students, involving over 105,000 students. Findings from the Homework section are cited where relevant.
- The 2007 Survey of Canadian Attitudes toward Learning (SCAL). The third survey was designed by the Canadian Council on Learning (CCL, 2007) in consultation with Statistics Canada. This survey, highlighting parental perceptions about structured learning was administered in May and June 2007. Results are based on telephone interviews with 5,361 Canadians.
- Homework Realities: A Canadian Study of Parental Opinions and Attitudes (Cameron and Bartel, 2007). Cameron and Bartel's report was released in late February 2008 and presents results from a 40 item parent questionnaire about homework issues that was completed voluntarily by 1,094 respondents across Canada through a "seeding" and "snowball" technique. It should be noted that final responses were skewed in favour of respondents from Ontario and parents with higher educational and income levels. The final report is quite detailed and only a few highlights will be reported in appropriate sections below.

History

Debates about the merits and limitations of homework have been ongoing throughout the 20th Century. During this period, a revolving cycle of public opinion either for or against homework has shifted in response to changing social, health, economic and/or political attitudes of the times. Public attitudes and trends about homework have been embraced and then reversed several times.

Beginning in the 1980's, emerging concerns about declining educational performance and a back to the basics movement were prompted by the *Nation at Risk* report and public demand for homework again re-surfaced. Perceived competition by economic competitors around the world prompted this fresh interest in educational excellence as well (Gill and Schlossman). Now more recently, the renewed "rumblings of discontent about excessive homework" confirms the

success of that late century pro-homework movement and the emerging backlash against it. While polls indicate that parents continue to support homework – there is much anecdotal reporting of public perceptions about excessive homework.

Critics and Supporters

Researchers are far from unanimous in their assessments of the benefits and limitations of homework. Currently, while a number of studies point to research evidence of the usefulness of homework when it's employed effectively; at the same time, arguments against homework are becoming more vocal. Amid the ongoing homework controversy, there are champions and critics and as one author notes, "sides have been drawn". As a result, the array of potential positive and negative effects found in educational and popular literature and media reports is broad.

On the one hand, many studies report that homework, when used properly, is an effective method for reinforcing educational learning goals and have shown positive correlations between homework and higher levels of student academic achievement. Cooper's meta-analyses of homework studies in 1989 and 2006 for example conclude that "with rare exceptions"...the relationship between homework and achievement outcomes "was found to be positive and statistically significant."

At the same time there are growing questions and controversies about the amount of time students should be required to spend on this activity and the quality and usefulness of the assignments themselves. Early dissenters Kravolec and Buell (2000) asserted that homework was detrimental to personal and family well being and that the focus on homework was especially harmful to economically disadvantaged students. Bennet and Kalish (2006) also criticized both the quantity and quality of homework in terms of its harm to personal health and family time, and questioned the extent and effectiveness of teacher training in this area. Alfie Kohn (2006, 2007) disputes the research findings or the assumption that higher achievement is due to homework even when an association does appear. He says research fails to demonstrate the effectiveness of homework as an instructional tool, although "homework continues to be assigned – despite the absence of evidence that it's necessary or even helpful in most cases". In response, Robert Marzano counteracts that Kohn has misunderstood or misrepresented the research. While he agrees that *inappropriate* homework may produce little or no benefit, he contends that it is still a powerful tool.

In fact, many researchers on both sides of the argument offer suggestions to improve the impact of homework and encourage teachers to assign beneficial, appropriate, worthwhile homework. There is a growing consensus that homework policies at many levels (classroom, school, and district) need to be strengthened to ensure its proper use. Unfortunately a practice that could potentially “increase student learning, reinforce in-class experience, and strengthen home – school relations instead often becomes a complex and divisive issue for educators, parents and students” and that friction in itself may affect its positive impact.

Definition and Types of Homework

Harris Cooper’s definition of homework is frequently cited by other authors in the homework research and literature. His standard description is that homework is “typically defined as any teacher-assigned task intended for students to perform outside school hours”.

While that simple definition is commonly used, it should be noted that homework is in fact a fairly complex concept. Individual homework assignments can vary widely in terms of the amount, the skill and subject area, the intended purpose, the degree of choice and flexibility for students, the completion expectations, the degree of individualization and/or the social context.

The intended goals of homework may be instructional or they may be non-instructional to serve other non-academic purposes. Appropriate purposes of homework are often categorized into four groups - practice homework, preparation homework, extension homework and/or integration homework – and each of these serves unique functions which teachers should acknowledge and communicate when creating and assigning homework tasks. The research is quite clear that homework should not be used to introduce or teach complex skills and material (Cooper, 2001).

According to the OISE study, “drill and practice” is the dominant form of homework from JK – Grade 6, and then is replaced by “projects” and “studying” beyond that between Grade 7 and 12. “Studying for tests” is more periodic as homework up to Grade Six and becomes an even more regular part of homework in Grades 7 – 12 (Cameron and Bartel, 2007).

Kohn (2007) is unsure of the benefits of any additional hours on learning, and questions in particular the value of the drill and practice routine to reinforce skills. His opinion is that drill

practice is of no use “for those who don’t understand what they’re doing” and that simple “repetition does not lead to understandings”. At the same time, he observes that further practice is a waste of time for students who have already mastered the skill.

Academic/Achievement Effects of Homework

Immediate achievement effects and long-term academic benefits are traditionally regarded as the most common reasons for completing homework. The synthesis of studies and meta-analyses by Cooper (1989), Cooper, Robinson and Patall (2006) or Cooper and Valentine (2001) provide the most robust evidence of homework’s effects on achievement based on research of different designs in thousands of US schools. These studies and their findings are frequently referenced in much of the literature surrounding homework.

Examining “homework versus no homework” research designs, Cooper and Valentine revealed that “students who did homework generally outperformed students who did not.” For example, they reported that an average student in a class where appropriate homework was assigned “would score 23 percentile points higher on tests of knowledge addressed in that class”.

In examining causal inferences between homework and student achievement, they felt there was sufficient evidence to conclude that the relationship between the amount of homework and achievement outcomes was positive and statistically significant. Their evidence also suggested however that the relationship between homework and achievement was moderated by students’ age or grade level. Although there was no clear consensus on achievement benefits at the lower grades, there was some evidence of positive effect (in homework versus no homework studies) across all grades when student achievement was measured by unit tests covering the content actually taught.

The following Effect Sizes (ES) by grade levels were reported in Copper’s 1989 meta-analysis:

Grade 4-6	ES = 0.15 (Percentile gain = 6)
Grades 7-9	ES = 0.31 (Percentile gain = 12)
Grades 10-12	ES = 0.64 (Percentile gain = 24)

Plausible explanations for the weaker homework-achievement relationship in the elementary grades have been suggested by Cooper and others. Possible theories range from differences in

cognitive psychology to differences in the types and amounts of homework assigned at different age/ grade levels. For example:

- Young children are less able to ignore irrelevant information and distractions and therefore have less effective study habits.
- In the early years, teachers are more likely to use homework to promote basic study skills as opposed to improving immediate achievement outcomes. The development of time management and study skills would not be measurable on standard achievement tests.
- Young students struggling with homework simply take more time to complete it.

In response to these findings, researchers often suggest that the focus of homework is and should serve different purposes at different grade levels. In the earliest grades, homework can help to develop positive attitudes, habits, and traits, promote parent involvement, and reinforce simple skills. As students move into the upper elementary grades, homework plays a larger role in fostering improved school achievement. By the 6th grade and beyond into high school, homework would have a more direct role in improving standardized test scores and grades (Cooper).

The OISE study reports that some parents seem unsure about the positive effect of homework on achievement, particularly in the upper elementary grades. While 20% of parents surveyed believe homework has a very positive effect on achievement in Grade 5, 40% believe it has a neutral to negative effect in Grade 4 (Cameron and Bartel, 2007).

While most homework studies present data on homework time and frequency, very few address issues of effectiveness directly or draw conclusions about the “causes” of the differences. The design of quality impact studies is problematic because homework effectiveness is dependent on so many diverse factors and variables.

Time Spent on Homework

In addition to the homework versus no homework debate, the actual amount of time spent on homework has also become a contentious issue. Once again there are two opposing viewpoints – students either do too much or too little homework. While there is a growing perception that the amount of time spent on homework is increasing, Gill and Schlossman (2003) contend that

the claim is overstated and that there is no real empirical evidence to support the alleged increase. They analysed several national surveys over a 50 year perspective and found the majority of American children at all grade levels spend less than one hour per day on homework – and that amount has not changed substantially in over 20 years.

While increases in homework at the middle and secondary levels have not been substantial or sustained, the only noticeable increases were in the ages 6-8 group. Some authors feel these trends are problematic, with the conundrum being that teenagers do little homework and that the “academic excellence movement has succeeded in raising homework expectations only for the youngest children, for whom research suggests homework has the fewest benefits”. Other researchers suggest that the increase in the young age group only reflects the fact that more children are doing homework now, and does not mean that young children are actually doing more homework.

When examining the amount of time on homework, however, there was no consistent pattern of positive effects at the elementary grades. The results of a 1997 British study (Steve Farrow, 1999) based on a large national project of nearly 20,000 pupils is consistent with Cooper’s findings about the lesser effects of homework on attainment of primary and elementary pupils. Farrow’s findings indicated that the highest test scores were achieved by those pupils who reported doing homework “once a month” in each of the core subjects, while homework reported more frequently than once a month was generally associated with lower attainment.

Additional results from the British study found that there was enormous variation in the amounts of homework reported by students; there was some variation by subject – most commonly reading more than once a week; math once a week, and science none; the amount reported was largely unrelated to ability; girls were noticeably more likely to report doing reading homework and slightly more likely to report math homework than boys; and self concept was slightly related to homework (e.g., those with more positive attitudes reported doing more homework).

Farrow concluded that our assumptions about the value of homework (largely derived from secondary school practice and experience) should not be automatically 'grafted on' to primary practice and that more serious consideration should be given to the nature and frequency of homework setting in primary schools. (Farrow et al, 1999).

At other levels, Cooper's meta-analyses (1989, 2006) discovered that in junior high positive homework benefits were evident with even small amounts and increased as time on homework increased up to a certain point (i.e. up to 1-2- hours per night) but then decreased with amounts beyond that.

Positive effects for secondary students did not appear until at least 1 hour per week was reported but that linear relation continued to climb to the highest measured interval (more than 2 hours per night). Another study revealed that 7-12 hours per week produced the largest effect size for Grade 12 students, and then decreased beyond that.

Education experts tend to agree that the amount of homework should depend on both the age and the skill of students (Cooper and Gersten, 2002). It appears that, at least for older students, homework in controlled amounts is beneficial, but that too much may diminish its effectiveness or even become counterproductive. The commonly used "10 minute rule" as a guideline or benchmark for daily homework (i.e. 10 minutes per day multiplied by grade level) appears to be generally supported by the research findings.

The average homework times calculated in the Cameron OISE study seem to align quite closely with many school board's policy of 10 minutes of homework per grade level, although the standard deviations indicate great variation in the amount. By Grade 1 or 2 children are receiving an average of 20 minutes per day and this gradually increases with each grade, up to an average of over 60 minutes per day in Grades 11 and 12 in public school (Cameron and Bartel, 2007).

According to the 2006 TDSB Student Census report, on average Grade 7-8 students spent about 10 hours per week on homework versus 12 hours among their high school counterparts (Yau and O'Reilly, 2007).

Responding to the SCAL survey, an overwhelming majority of Canadians (>80%) support the value of homework, in that it enhances learning and develops good work habits. The largest proportions of all elementary and secondary parents responding felt that their children are assigned "enough" homework. Comparing responses in other categories, parents are more

likely to say that elementary children receive too much homework, while more parents say secondary students don't receive enough homework (CCL, 2007).

From another perspective, Kohn (2007) failed to find any positive relationships or trends as a result of his examination of TIMSS data from 50 countries, and overall correlations between national student achievement and national averages in homework assigned were negative.

Some discussions about homework time in the literature suggest that reported homework may not be a reliable predictor or measure of performed homework and may be influenced by variables such as the number of tasks, the ability level of students, whether homework was started in class or at home, whether parents or students were reporting, etc. Such factors may be even more variable in international studies. The implication of this is a need for clearer definitions of “homework time” in future research studies and the need to distinguish between the amount of homework assigned, or amount of time spent working on homework, or amount of homework actually completed.

Homework as an Instructional Strategy

Cooper cited a 1986 study by Walberg where he calculated the effects of several teaching skills and instructional methods (e.g., cooperative learning, ability grouping, use of praise, use of pre-tests, higher level cognitive questioning, direct instruction, etc). In comparison with all the other instructional strategies he studied, Walberg described homework's effect on achievement as above average, falling about in the middle of the 11 strategies reviewed. Again the effect was comparatively small at the elementary level, but large relative to the other strategies for high school students. When compared to the costs of implementing other treatments, however, homework was definitely considered to be a low-cost academic intervention or treatment. The most significant costs would be a slight loss in class time to assign and discuss homework, and the preparation time by teachers.

Non-academic Benefits and the Influence of Motivation

Many researchers who were studying achievement effects also included some discussion of the non-academic benefits of homework in their reports. Reference is often made to the development of adaptive motivational skills – such as responsibility, confidence, persistence, goal setting, planning, ability to delay gratification, etc. It is generally agreed that students need these skills increasingly as they progress to the higher grades and that homework can be an

important channel for students to learn self-discipline, time management and independence. Unfortunately the non-achievement outcomes of homework have not been subjected to rigorous empirical testing, so this is certainly an area for further study.

Trautwein et al. (2006) noticed that much of the previous homework research was too narrowly focused on the actual time spent on homework, with very few attempts to systematically examine differences in homework behaviour, motivation and effort or the multitude of factors or variables that might impact motivation and effort. They theorized that spending lots of time on homework may be a sign of problems in concentration or motivation, and developed a homework motivation framework and model that looked at Expectancies of Success (the belief about how well they will perform) and Task Value (reflecting the reasons for engaging in the task such as the intrinsic value, attainment value, utility, or costs). Their findings revealed marked age differences, with evidence of lower homework effort, expectancy and value in the higher grades. Their reasoning was that at higher grades there is an increase in conflicting motivations (e.g., out of school activities, gender role expectations...) which pose a pedagogical challenge for teachers.

Bempechat (2004) also feels that a singular focus on achievement measures (i.e. grades and test scores) as the primary test of homework's effectiveness is short-sighted. She believes that achievement "motivation" encompasses attitudes and emotions that are closely linked with students' perceptions of success and failure... and that perceptions of success or failure in school may result from effort (or lack of effort), ability (or lack of ability) or external factors such as luck or task difficulty. For example, if a student believes poor performance on a test is due to lack of effort – he/she would be more inclined to study harder next time. If poor performance is perceived to be because of a lack of ability, the student may not see any purpose in studying harder. Bempechat's point was that it is important to be able to intervene in these negative attitudes or maladaptive beliefs about ability in order to promote more positive strategies and greater effort.

The author argues that in regards to homework there are more complex nuanced factors at play beyond simply achievement, especially at the elementary level. Citing a 2000 survey of teachers, she discovered that elementary teachers believe more strongly in homework's value for training students on how to study and use their time well, implying that the content of

homework may be less important than the opportunity to foster long-term time management skills.

In their article, Corno and Xu (2004) similarly suggest that “homework is the job of childhood”. Through a series of studies at various grade levels, they examined how students experience homework and concluded that the practice of homework had different virtues at different grade levels.

Their research showed that in the early years, homework provided opportunities to learn and develop such attributes as good work habits and management strategies; the importance of completing tasks and pacing workload; creating a productive workspace; acquiring self-discipline to avoid distractions; adjusting attentiveness according to demands of assignment; positive self-talk to work through difficulties, etc.

By middle school and beyond, students become more aware of homework as their responsibility as students and of its embedded value – e.g., its role in developing good work habits, study skills, independence, personal responsibility, task planning and management. Benefits in terms of group learning and collaborations among peers were also noted.

In their view, homework has the potential to help students develop important work ethic and job management skills. Particularly in the early years, homework may be more valuable for motivational skills in the long term as opposed to an improvement of grades in the short term. At a young age as well, parents are in a greater position to influence children and may be better able to help lay the foundation for positive student attitudes later.

Critics of homework however continue to argue that there is no concrete evidence to prove that homework actually encourages other positive, non-academic behaviours. Kravolec and Buell (2001) expressed concerns about students being asked to complete tasks and employ certain skills and traits before they are developmentally ready. Kohn (2006) also questioned the necessity of teaching these skills to younger children through homework. He felt that these benefits/ skills can be achieved through many other non-homework activities and that older students will acquire time management skills and responsibility naturally as circumstances dictate it.

Other Important Contextual Factors and Influences

The literature clearly illustrates that homework is in fact a much more complex issue than simply *should it be assigned? or how much?*, and that any discussion of homework effectiveness needs to take into account all the other variables that can have an impact on the utility of homework. These include school factors, teacher effects, student characteristics, the home environment, and the influence/ involvement of parents.

School Factors

A significant school-level factor is the existence or non-existence of homework standards, guidelines or expectations and the extent to which clearly defined policies at either the district or school level are in place and communicated impacts the quality, quantity and consistency of homework assignments. In one study conducted in the Netherlands (de Jong, 2000), the researcher noted that homework rules were issued in a majority of secondary schools (59%) but only 10% were written down in a policy document, and such policies or rules were almost non-existent in the 27 schools they studied.

Teacher Factors

Teacher expertise and variation in practices regarding homework (e.g., how they structure and/or monitor their homework assignments, etc) also impact the utility of homework. Pre-service and in-service teacher training regarding best practices for homework, for example, appears to be very limited. And an expected consequence of inconsistent training would be a wide variation in teacher practices including homework frequency, purpose, communication, monitoring, etc.

Using the Netherlands math study mentioned above as one example, there were large differences among the math teachers in their treatment of homework. While the frequency of homework assigned by the teachers was high, the number of tasks given by teachers varied widely (i.e. averaging 500 tasks per year, but with a standard deviation of 200 tasks). In terms of achievement, the teachers giving less homework were less effective and many did not succeed in covering the intended course curriculum. The researchers noted that with varying frequency teachers checked to see if homework is done, but that homework quality was rarely checked individually. Larger effect size was reported when homework was checked and graded.

Cooper's original review of homework studies (1989) did not find any specific research comparing a homework feedback strategy against a no-feedback approach. He noted that several studies compared differing feedback strategies, but did not conclude that any one approach was superior.

A later study by Walberg (1999) was cited in another article and found that the effects of homework varied greatly, depending on the feedback a teacher provided. Homework assigned but not graded or commented on generated an effect size of only .28; however, the effect size increased to .78 when homework was graded, and to .83 (a percentile gain of 30 points), when the teacher provided written comments.

Student Factors

Individual student traits and characteristics and the range of ability levels perhaps have even more influence on homework and should be considered as part of the homework effectiveness equation, although there are very few studies in which individual student differences are studied.

In terms of ability, the de Jong study explained that more positive homework time and achievement correlations are apparent where the tendency to stream students into classes by ability was more prevalent (e.g., 77% of US schools) because the higher ability students as a group would generally receive more homework. In other countries (such as France, Japan), some negative correlations were recorded because the high and low ability students are in the same class and would receive the same amount of homework, but the higher ability students need less time to complete it.

Student ability levels are of equal concern to those researchers who feel that homework already creates a situation where students who are either academically or socio-economically disadvantaged are more likely to fail – e.g., because the independent tasks are more difficult for them, they have less motivation or incentive to do it, they have less support at home, etc. Kralovec and Buell (2000) are among those who argue that homework can actually increase the gap between at-risk and other students and “serves to make an already unequal educational playing field even more so” for low income families. (Kralovec & Buell 1991). Some others, however, feel that this critical view simply conveys low expectations and confidence for these students, and that their concern should instead be a catalyst to provide the necessary opportunities and challenges to enable these students to do their best.

On a different note, while Cooper found non-significant relationships between gender and magnitude of homework, others studies suggest girls hold more positive attitudes and expend greater effort on homework. Although theories and results don't directly suggest strong gender differences, they imply this may be an important issue for future consideration.

Home Environment Factors

Given that the home is the setting where most homework is completed, the home environment and the level of parent support, supervision, availability and involvement are critical factors in the homework experience. Certainly the literature devotes significant attention to the perceptions of parents about homework, and the potential for both positive and negative influences on students and their families. On the one hand, homework is intended to provide a positive connection between the home and the school and opportunities for parents to become meaningfully involved in aspects of their child's education. On the other hand, homework is often viewed by some parents as a source of unnecessary family friction and stress and an intrusion into time for other family, social or recreation activities.

Across Canada, parents believe that they spend either enough (or too much) time helping their children with homework (i.e. more than 60% for elementary students, and about 40% for secondary students). Almost an equal number of parents (~ 40%) indicate they do not spend enough time helping secondary students with homework (CCL, 2007).

At the same time, 72% of parents report that homework can often be a source of household stress. SCAL findings suggest that homework-related stress is a prevalent issue in Canada, affecting two-thirds of Canadian families. Homework-related stress appears to be a particularly significant issue among parents with limited education, families with high household incomes, parents whose children struggle in school, whose own experiences with school have been negative, and who are not generally in favour of homework (CCL, 2007).

The potential for home-school tensions and family conflict or stress regarding homework completion is a common theme in the literature. Coutts (2004) explains that one contributing factor to this conflict may be the varying meanings students, parents, and educators each ascribe to homework and its intended purpose, and how those perceptions impact homework behaviours. Her article argues that the long-term, positive outcomes of homework frequently

cited by parents (such as motivational, academic, and life skills benefits) are less recognized by children, especially at the elementary level. Students are less likely to recognize the intrinsic value or relevance of future benefits of homework and instead focus more on the immediate negative costs and consequences (e.g. time away from other activities, family conflict, a solitary or boring activity, etc). A reference to another study by Warton (1997) indicated that students begin to acknowledge some responsibility for homework by the end of elementary school, while a greater focus on academic success and notions about consolidation and content becomes more apparent by high school.

The TDSB Student Census report revealed that about 60% of the younger students in Grades 7 and 8 received homework support from their parents/caregivers, while the proportion of high school students who relied on their parents for homework support dropped to 36% (Yau and O'Reilly, 2007).

The OISE study reported that over 80% of Canadian parents say they help a Kindergarten to Grade 2 child "usually or always" and this continues at around 77% through Grade 4. There is a very strong positive relationship between parental attitude toward the child's homework and how frequently they help the child. There is also a strong relationship between parental feeling of competence to help with homework and how often they help their child, how positive they are about the effect of homework on family relationships and on the child's achievement (Cameron and Bartel, 2007).

In the TDSB, the biggest challenges to completing their homework for both intermediate and secondary students were spending time with friends (this was particularly true for secondary students), the difficulty of the homework, sports and recreation activities, and frequent distractions at home. The OISE research concurred that many children have activities that demand considerable time and compete with homework and family time, particularly sports and music activities (Cameron and Bartel, 2007).

Conflicting public opinion and media reports about the value of homework continue to fuel the homework debate. Researchers calling for the "end of homework" (e.g. Kravolec and Buell, Kohn) especially do not feel that the time spent on homework is warranted (particularly in the elementary grades) given that it can be such a source of tension because of home-school

conflicts, differing perspectives or goals, and the varying abilities or preparedness of parents to support or help with homework.

Most researchers with more moderate viewpoints also concur that there is a wide variation among parents in terms of their interest, knowledge, teaching skills and time available to help with homework. Parenting style differences and the types or nature of parent involvement in homework were also thought to be contributing factors.

Suggested Homework Guidelines

Rather than discount the value of homework altogether, many researchers have considered the programming implications of this debate, identified conditions that could enhance the homework experience, and recommended guidelines for parents and teachers to clarify not only the home-school connection discussed in the preceding section, but all homework expectations. As quoted in the Gill and Schlossman article, “The fact is that homework is assigned in most schools. The issue is not whether we should have homework but rather how to make homework a viable extension of class work and make it contribute to learning. Homework assignments should be given as carefully as any assignment in the classroom.”

There was considerable overlap in the recommendations suggested throughout the literature and the following list attempts to provide a synthesis of these under some broad categories:

Homework Policy

- Develop and communicate a homework policy at all levels – district, school, and classroom – to clearly articulate expectations re: purpose, amounts, length, frequency, consequences, coordination of assignments among classes, parental role, appropriate to ability and characteristics of group, not for complex skills
- Coordinate the homework policies at district, school, and classroom level for consistency
- Coordinate expectations among classes within schools for consistency
- Apportion days and amounts by subject and/or department to avoid conflicting departmental assignments
- Specify recommended time guidelines, with different times for different grades
- Find out how long it actually takes students to do the work

Home-school Connections and Parent Involvement

- Clearly communicate between the home and school about the meanings, purposes, and intended benefits of homework
- Involve parents in “appropriate ways”
- The formal role of parents should be minimal at any age – acknowledge that parents vary in their interests, knowledge, teaching skills, and time available to support this at home
- Parents should receive clear guidelines about their expected role (e.g., to help engage their child, rather than acting as an expert re: content and subject matter)
- Parents need specific guidance from schools about how to supervise homework effectively and establish good study habits
- Design tasks so that students can perform them independently at home
- Monitor homework amounts so they are appropriate for age levels, and do not significantly interfere with other home activities
- Assign only very small but regular amounts of homework in the early grades in order to establish routine
- Younger children also vary in readiness for work-like activity after school; design assignments that interest and engage them and that address their “activity” interests as well as their “content” interests
- Hands-on assignments for home should be designed using common household materials
- Be mindful of students (and parents) stress levels

Individualizing Homework Assignments

While Harris Cooper generally recommends that assignments be the same or similar for all students in class, many other researchers promote a certain degree of individualization for homework tasks.

- Take into account the diversity of student maturity levels, aptitudes, learning styles, and interests; provide some individualization to match student interests, needs and abilities
- Purposeful personal connection with variation for individual levels and styles
- Incorporate creative approaches, process thinking, critical thinking – allowing for some student control
- Support efforts to increase student motivation, participation and relevance

- Homework must be relevant and interesting
- Ask students about their experiences with homework and what they find helpful
- Invite student participation in the assigning of homework

Intended Outcomes

- Assign purposeful homework
- All homework must have a well-articulated purpose, and a clear understanding of its relevance to the identified learning objective(s)
- There is consistency between the planned purposes and the types of activities assigned
- Design assignments to match the purpose, rather than using generic exercise or commercial worksheets
- Different types of homework (e.g. preparation, practice, extension...) can be used to facilitate learning *when they are understood and properly used*
- Explain the purpose and goals of homework to students
- Homework should never be used as punishment
- Homework should serve different functions/purposes at different grade levels
- For younger students – use homework to foster positive attitude, habits and character traits; homework should not be expected to improve achievement
- For older students – use homework to facilitate knowledge acquisition; the academic function of homework begins to emerge in middle grades

Monitoring and Feedback

- Provide timely and relevant feedback to students about homework – and use different strategies to do this
- Check for quality, not just completion
- Individual feedback may be too time-consuming, so try peer sharing and feedback, homework portfolios, self-assessment in student journal, etc.
- Homework should be checked, commented on and returned to student to be effective
- Do not grade homework like a test; but share, discuss, explain, or explore it
- Give intermittent instructional feedback and identify potential problems
- Provide students with appropriate and positive reinforcement
- Resolve any homework difficulties experienced by students

- It is better to give small amounts that can be checked, rather than large unmonitored amounts

Limitations of Existing Research and Next Steps

“Methodological and theoretical aspects of research...have made it difficult to reach a definite conclusion about the value of homework” (Trautwein and Koller 2003). Even a multi-study synthesis of empirical research provides no clear answer because true experimental educational research in general is limited by sampling issues, the real-world context in which it is carried out and the multitude of other influences impacting student outcomes.

Some of the weaknesses in the homework research designs identified by reviewers include the lack of randomization, lack of repeated measurements, small sample sizes, variations in measurement instruments and units of analysis. Strong causal effects or inferences may be unclear or ambiguous when complex influences and variables such as individual student characteristics, motivation, ability, teacher practices, home environment, parental involvement and other background variables have not been accounted for.

The application of new techniques and multilevel modelling has been suggested in order to examine and determine whether relationships are due to teacher or class level effects or individual student level effects or both. Recent evidence indicates that focussing exclusively at either level will not give a full account of homework outcomes.

There is also some criticism of the variables used as indicators of achievement and homework. For example, causal effects found using measures of immediate outcomes such as unit tests are not generalizable for longer-term measures such as class grades or standardized tests. It was also suggested that class level effects should only be measured using standardized achievement measures because grades are usually distributed normally within a class and would only be meaningful at an individual level.

Definitions of homework time can also be problematic. The definition typically used is “tasks assigned to students by teachers that are meant to be carried out during non-school hours”. As mentioned earlier, inconsistent or unclear definitions may provide unreliable reports of homework time depending on the criteria used e.g. frequency, number of tasks, student or parent reports of time, amount assigned, amount done, amount completed, etc. There are also

other kinds of out-of-school learning activities such as private tutoring etc. In high performing countries studies like Japan (i.e. in the TIMSS study), where more than 50% of the students take additional math lessons outside of regular school, the homework-achievement relationships may not be directly comparable to lower performing counterparts elsewhere.

Areas for further investigation have been proposed in the literature to expand the knowledge base about homework effects. Suggested topics which have not been fully adequately addressed yet included: the impact of homework on different subject areas; different measures of achievement (grades, standardized tests); more studies measuring effectiveness in the early elementary grades; looking beyond “average” students to examine homework effects on a broader population, etc.

Cooper (2006) specifically identified areas of future research to try to pinpoint causal relationships and to study the gaps and variations in other factors. He suggested, for example, a closer look at: multiple grades, including early elementary; student characteristics such as varying ability levels, Socio-economic Status (SES), gender; subject matter; and measures of non-achievement related effects.

Trautwein (2003) however does not believe that a lack of reliable evidence for positive homework effects necessarily implies that homework does not work, and is optimistic that it is possible to uncover consistent, significant and meaningful effects with adequate measures of homework and achievement.

Generally, research has established that homework can be a viable educational tool and that it can have a positive effect on student achievement, but many issues are unresolved and many conflicting viewpoints remain. In the end, practitioners still need some specific advice about what are proven and effective homework practices. The solution is not to create another list of positive and negative effects, but to answer the question “under what conditions and for which students can these effects be expected to occur?” and then design policies and practices that are consistent with the best evidence available. (Cooper, Valentine 2001) The hope is that those answers would finally bring some stability to the ever-shifting cycle of public opinion about homework.

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