What We Do

At Challenge Success, we believe that our society has become too focused on grades, test scores and performance, leaving little time and energy for our kids to become resilient, successful, meaningful contributors for the 21st century. So every day, we provide families and schools with the practical research-based tools they need to raise healthy, motivated kids. Success, after all, is measured not at the end of the semester, but over the course of a lifetime.

The next generation will face global, economic, and social challenges that we cannot even imagine. What are the skills our children will need in this uncertain future? Above all else, they will need to be creative, collaborative, adaptable critical thinkers. Our current hyper-focus on grades, individual achievement and rote answers gets in the way of healthy emotional development and a real love of learning, and it also prevents students from acquiring the exact skills that the new global economy demands.

Founded at Stanford University, Challenge Success offers researchbased courses, conferences, and presentations for educators to develop school and classroom policies that encourage students to reach their individual potential, develop their talents and interests, and remain enthusiastic learners. We provide tools for parents to help children regain their balance, strengthen their sense of self, improve their physical health, and learn how to deal effectively with the inevitable challenges of life. For more information, see http://www.challengesuccess.org.

Challenge Success

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Changing the Conversation About Homework from Quantity and Achievement To Quality and Engagement

Do students today have too much homework or not enough? Much of the current rhetoric surrounding homework focuses on the time students spend on it. And, unfortunately, much of the research on homework is flawed or ambiguous. Challenge Success believes we should shift the focus away from a discussion of quantity of homework, and toward a focus on the quality of the assignments, the connections homework has to the broader curriculum, and the extent to which the homework assignments engage students in learning. In order to set a course for this discussion and the research that supports it, the following paper briefly describes recent arguments about homework, reviews the research behind these arguments, and offers practical suggestions for teachers and families.

In preparation for this paper, we have reviewed over twenty landmark studies and homework meta-analyses from a variety of journals and books. We focused primarily on studies written in the past decade as well as those that we felt made significant contributions to the discourse on homework.

The current discussion surrounding homework is primarily focused on four arguments:

Argument 1: Students should do homework because it's good for them.

Though the pros and cons of homework have been debated for more than 100 years, homework continues to be given to students, often because of a longstanding assumption that it is beneficial to them. (For more on the history of homework, see: Gill & Schlossman, 2003/2004; Kralovec & Buell, 2000; Vatterott, 2009). Most of the arguments based on the faith that homework is good for kids go something like this: homework teaches kids to be responsible and develop a strong work ethic, and when students have a lot of homework, it is a sign of a rigorous curriculum and a good teacher (Vatterott, 2007).

A similar argument is that doing homework keeps kids out of trouble. Some recent studies have suggested that time spent on homework may be related to a decrease in the amount of time kids spend on other activities such as reading for pleasure, participating in extracurricular activities, and spending time with family (Juster, Ono, & Stafford, 2004; Yankelovich, 2006), but, in our review, no research showed that homework kept kids from getting into trouble.

Even though these arguments have been around since the late 1800s, the assumption that homework is beneficial continues to garner attention in the media (Chua, 2011). In our review of the research on homework, we find no concrete evidence, beyond anecdotes, to support the views that homework is essential for a rigorous curriculum, a sign of a strong teacher, or an effective way to develop a good work ethic or responsibility in our youth.

Argument 2: Kids spend less time on homework than they used to, and kids in the United States spend less time on homework than kids in other countries.

Some argue that kids in other countries do more homework than in the United States, and that this may be the reason those kids are doing better overall on standardized tests. However, the research isn't clear about whether students in America are spending more or less time on homework than in the past.

Findings from one study demonstrate the increased time that American youth spend in school and on school-related work (Juster et al., 2004). The Child Development Supplement is a nationally representative longitudinal study of children and their families that compares the time children spend on activities today to how they spent their time in the past. Over the last 20 years, American children between the ages of 6 and 17 have increased their time spent in school and doing schoolwork. In 2002/2003, data show that American children spent 6-7 hours a day in school, depending on their age/level of schooling. Twenty years prior, data show that time

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spent in school ranged from 5-6 hours a day (Juster et al., 2004).

While it seems clear that students spend more time in school these days, it is less clear whether they spend more time doing homework. Two studies analyzing large datasets drew different conclusions about the time students spend on homework. Hofferth and Sandberg's Michigan study (2000) found that the time spent studying after school has increased slightly for elementary school students since the 1980s and decreased for older students; however, the 2003 Brown Center Report (Loveless, 2003) found that the time spent on homework has been declining for most elementary school students and remained stable for middle and high school students. The differences between the two studies may be explained by differences in the methodology used to collect the data, among other things. The Brown Center Report used data from the National Assessment of Educational Progress (NAEP), which surveys students about the amount of homework they had the previous day, whereas the Michigan study used time diaries in which interviewers asked students several questions about their activities over a 24-hour period on a designated day.

In 1996, the National Parent Teacher Association and the National Education Association (Henderson, 1996) published a parent guide about homework recommending that, in grades K-2, homework should not be more than 10-20 minutes per day, in grades 3-6 homework should be between 30-60 minutes per day, and in middle and high schools, the amount may vary by subject. This "10-minute rule" (homework should last about as long as 10 minutes multiplied by the students' grade level) has been adopted by many schools (Kohn, 2006; Cooper & Valentine, 2001); however, this formula, though somewhat consistent with Cooper's research cited below on correlation between homework and achievement, is not widely practiced.

It may be, as Cooper (2007) suggests, that the time spent on homework has increased primarily for young students in the middle and upper middle classes because educators of these children feel pressure to assign more homework in order to maintain test scores (see below for

more on whether homework is related to test scores). Similarly, in research done by Challenge Success on high-achieving private and public high schools, we found an average of 3.07 hours of homework each night reported by students (Conner, Pope, & Galloway, 2009).

In sum, it seems that the research on time spent on homework in the United States is ambiguous, and largely depends on which students you are tracking and how you are tracking them. As for the argument that our kids are spending less time on homework and therefore aren't faring as well on tests as students from other countries, we turn to argument number three...

Argument 3: Homework leads to higher student grades and test scores.

One of the most common arguments surrounding the debate about homework is that the more time students spend on homework, the higher their grades and test scores tend to be. As mentioned above, one common argument is that the United States is falling behind on international test scores because we don't assign kids enough homework. However, in a recent study comparing the standardized math scores across multiple countries, no positive link was found between student math achievement and the frequency or amount of homework given (Baker & LeTendre, 2005). Another study found that countries that gave students more math homework, actually had lower overall math test scores than those that gave students less math homework (Mikki, 2006). So how can we make sense of these findings? What is the association between homework and test scores?

Harris Cooper (1989, 2001, & 2007) has reviewed hundreds of homework studies and is often thought to be the leading researcher on homework. His earlier work made claims about the possible link between the time spent on homework and academic achievement (Cooper, 1989). However, more recently, Cooper and other authors have found that the association between time spent on homework and academic achievement is not as strong as they once concluded (Cooper & Valentine, 2001; Cooper, 2007). Specifically, they claim that there is almost no correlation for students in elementary school between the amount of time

spent on homework and student achievement. In middle school, there is a moderate correlation, but, after 60-90 minutes spent on homework, this association fades. The authors found a correlation in high school, but this also fades after two hours spent on homework. Other studies have evidence that, even in middle and high school, the relationship between the time spent on homework and achievement may not be so straightforward. For instance, a study with over 5,000 15 and 16 year olds of varying income levels and ethnic backgrounds found that the more time spent on math homework, the lower the math achievement scores across all ethnic groups (Kitsantas, Cheema, & Ware, 2011). Similarly, Trautwein and her colleagues found that, while the frequency of math homework positively influenced math achievement in middle school, the amount of homework and length of time it took to complete it, had no effect on achievement (Trautwein, Koller, Schmitz, & Baumert, 2002).

The results across the studies reviewed often depended on factors such as the grade level of the students in the study and how achievement was measured (e.g. grades vs. standardized tests), and whether the homework was at an appropriate level for the child. The relationship between student grades and homework completed is further complicated because of the way teachers weigh homework as part of a student's overall grade in a course. Some students may be getting better grades merely for completing their homework and not necessarily learning more (Kohn, 2006a; 2006b), so to conclude that completing homework leads to better grades can be misleading.

Argument 4: Doing too much homework leads to burn out and disengagement from school.

Just as there has been recent media attention on the benefits of homework, there has also been a recent flurry of books and articles on the detriments of homework (Bennett & Kalish, 2006; Kohn, 2006b; for review, see Loveless, 2003). Some studies have investigated whether too much time spent on homework can lead to health problems such as stress, exhaustion, and headaches. Other research examined the connection between homework overload and

student disengagement. Across multiple countries, students who are not academically burned out tend to have higher grades and self-esteem than students who are academically burned out (Lee et al., 2010). Studies also show that students who feel increasing pressure and workload in school tend to be more exhausted, more disengaged, and have more mental and physical health problems (Galloway & Pope, 2007; Conner et al., 2009). And there may be a relationship between increased time spent on homework and decreased sleep on school nights, as well as between decreased sleep and increased feelings of anxiety, depression, and fatigue (Fuligni & Hardway, 2006).

In addition, if the homework is not seen as meaningful to the student or valuable to the teacher, it may turn students off from school and learning (Bempechat, Li, Neier, Gillis, & Holloway, 2011; Darling-Hammond & Ifill-Lynch, 2006; Marzano, Pickering, & Pollock, 2001). In one study of low income ninth and tenth graders, the authors found that when students were given homework but had few consequences for not completing it, students showed an increase in disengagement from school. The authors also found that, despite differences in achievement, the students they interviewed agreed that if they had to have homework, they would prefer homework that was more meaningful and relevant, and they wanted teachers to value the homework enough to monitor whether or not it was completed (Bempechat et al., 2011). Another study found that when students don't understand the homework, feel it is necessary, or have adequate support for doing it, it may exacerbate differences in learning among students (Darling-Hammond & Ifill-Lynch, 2006).

In contrast, if students see the homework as doable – manageable both in terms of the time they spend and the content of the assignment- it may support students' identities as learners as well as their self-esteem (Sagor, 2002). And several studies have shown that when students have some choice over assignments, such as which topics to write about or which problems to do, they are more likely to be engaged in the work and complete it (Alpern, 2008; Reeve & Halusic, 2009).

"What is the quality of the homework that is being assigned? Is the homework valuable and meaningful to students? Does the homework serve to engage students more deeply with the material?"

The studies reviewed here did not, however, take into account whether these students were more likely to be burned out, exhausted and have lower self-esteem or engagement in general, regardless of homework load. And, most of the studies also found quite a bit of individual variability in whether the amount of time spent on homework led to feeling fatigue -- suggesting that some kids might be more or less vulnerable to feeling fatigued than others, regardless of time spent on homework. Finally, there are many students who have heavy workloads and do not feel burned out. So the research on whether homework load leads to disengagement and health problems is not conclusive, though our own studies and our work with schools and families, point to a connection between too much time spent on homework and some health problems as well as issues with student engagement with learning.

In sum, the common arguments about homework should be viewed through a critical lens. First, it is difficult to isolate the effects of homework, as we cannot be sure how much achievement is due to homework versus classroom teaching versus prior knowledge (Trautwein & Koller, 2003; Vatterott, 2009). We also cannot be sure of the conditions under which homework was completed, and whether others helped the child with the homework. For instance, we know anecdotally that many parents work with their children or hire tutors to help with homework, but a review of more than 50 studies on parent involvement in their

children's homework found little evidence for any benefits to the children when parents were involved with the work (Hoover-Dempsey et al., 2001). And, finally, homework research usually focuses on time instead of task and classes or groups of students versus individuals. So, what can teachers, parents, and students conclude from homework research and what should be done about it?

In spite of much discussion and research about homework in the media and in the field of education over the past 100 years, the questions that seem to be the most critical are asked infrequently: What is the quality of the homework that is being assigned? Is the homework valuable

What does Challenge Success think about homework?

and meaningful to students? Does the homework serve to engage students more deeply with the material? Much of the research supporting and refuting the benefits of homework seems to be contradictory, and some of the arguments actually have no research to support their claims. Given that much of the research points to little or no benefits of homework, we urge educators to take a hard look at their current practices and policies. Some educators in the lower grades might consider eliminating homework altogether, and just ask students to spend time reading for pleasure (which is positively connected to achievement), or allow them the extra time to enjoy time for play and time with family. At the very least, we suggest that educators and parents note the overwhelmingly positive research on the value of engaging students in learning and the ties between student engagement and achievement in school. If homework is going to be assigned, it should be developmentally appropriate, meaningful, and engaging for the students. From our own work with schools and families and our review of the research, here is what we suggest:

Recommendations for Teachers:

- Make sure homework is developmentally appropriate, differentiated, and able to be done independently. It is a challenge to design homework assignments that meet individual children's academic and developmental needs, but, when homework is too hard or too easy, it may have a detrimental effect. Teachers should strive for the "just-right" challenge for each student, and should ensure that homework is "do-able" without the need for outside help from a parent, peer or tutor. Having students get started on homework in class may help teachers assess whether or not it is do-able and appropriate.
- Help students understand the purpose and value of the homework. Before assigning homework, we encourage teachers to reflect on the purpose of a homework assignment and how it ties back to the enduring understandings or the big ideas of a given unit, and make this clear to the students. When students perceive homework as busy work, meaningless, and of little value to the teacher, they may tend to be less interested in learning and in school in general. Some ways to increase the engagement factor is to allow students choice and voice in their homework assignments – let them choose which problems to do, or which topics to write on, or allow them to stop when they believe they understand the concept.
- Use homework specifically for tasks that cannot be performed in class. Sometimes activities can't be done efficiently or effectively inside the classroom, particularly in middle and high school. It might make sense, for instance, for students to read a book outside of class, interview a community member for an oral history project, or collect backyard samples for a science experiment, since these are done more easily at home than in school.
- Predict the amount of time homework may take. As mentioned above, the time homework takes will vary with the age and developmental stage and abilities of the students, so anticipating how long an assignment might take is not easy, especially given all the other things students tend to do while completing their homework, such as using social media and other distractions. Teachers might consider tracking actual homework task time (minus time spent taking breaks or being distracted) by having students do the assigned homework in class for a week, asking students and parents to keep homework diaries of actual time spent on work at home, and/or suggesting that students stop after a certain amount of time without penalty. These strategies all can help teachers gauge length and load of future assignments.
- Determine whether homework should count towards student grades and, if so, to what extent. Teachers should consider whether students will receive a certain amount of points for just completing the homework or whether they receive points for completing it correctly. Some teachers offer students opportunities to redo their homework and/or have lenient late policies. For some students, when homework is not completed, it may be due to organizational problems, task difficulty or other reasons, so penalizing the student may not be appropriate. Teachers might consider handing out homework packets that can be completed over time or homework "free passes" for students to use when the workload or home obligations are particularly heavy.

Recommendations for Parents:

- Parents should act as cheerleaders and supporters, not homework police. Ideally, the child should be able to do the homework alone, without help from parents. Instead of checking, editing, or doing the work for the student, parents should provide necessary supplies and show an active interest in the content the student is learning, while allowing the teachers to intervene if/when the student fails to do the homework correctly or regularly.
- When scheduling after school activities, keep in mind your child's homework load. Students who are overscheduled or exhausted will start homework later at night and will be less efficient. Work with your child to determine a healthy schedule of activities that will allow time to complete homework, work on projects, and study for tests while still getting adequate sleep and time for play.
- Recognize that children learn in different ways and have different work styles. Some students can sit and do homework "all at once," while others need to take frequent breaks. Some kids prefer to sit in quiet spaces, and some may do better with music playing in the background. Discuss with your child the working conditions that will lead to the best homework outcomes.
- Advocate for healthier homework policies at your school. Encourage educators to work with parents and students together to create effective homework policies. Start by communicating with your own child's teacher about issues or homework challenges your child is facing.
- Let children make mistakes and experience "successful failures." Recognize that a missed or poorly done homework assignment every now and then is not going to hurt your child in the long run. Parents can help students organize their time or prioritize assignments, but when parents regularly deliver forgotten assignments to school or step in to rescue a child at the last minute, they may be denying the child the opportunity to develop resilience and fortitude.

For Further Information

Challenge Success offers parenting classes and professional development workshops specifically on homework, as well as other issues that concern parents and schools. Please consider making a donation to Challenge Success to support our work so that we can continue to keep you informed on important issues such as homework. For more information please visit us at www.challengesuccess.org.

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