

# The Risks of Using Homework in Middle Grades Math Classes

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**Abstract:** The assigning of homework is a widely used practice in education. However, requiring it comes with several risks. First, many students have very different levels of parent involvement at home, meaning that some are at a disadvantage in terms of completing homework. Similarly, differences in resources at home affect students' abilities to complete their homework. Language barriers and disabilities are also factors that can cause difficulties for students when they are at home and beyond the help of the teacher. In addition, homework can be very stressful for all parties involved. Before assigning homework, teachers should carefully consider the diverse needs, advantages, and disadvantages that their students have. They should understand their purposes for giving homework and decide if those purposes could be better served by using in-class activities.

## Introduction

Imagine what happens after you assign homework. Student A is driven home by his mother. Once there, he is greeted with a healthy snack and juice. He relaxes for an hour in a clean, quiet home. Then, his private tutor arrives and they head over to a well-lit table, Student A's favorite place to study. He works through the assignment and the tutor interjects when necessary. Once he completes all of his homework, the tutor leaves and the family sits down to a nice dinner. Student A's parents congratulate him for working so hard and doing well in school. "You'll do great things" they say. After spending more time with his family, he lays down in bed, dreaming of becoming an astronaut, an engineer, or a rock star. He knows he can do anything he sets his mind to.

Student B takes the bus home. Her parents try to help her with the assignment but they struggle to understand the questions, since English is not their first language. She eventually gives up asking them for help. Student B is not sure why she is even doing this assignment. She's never been good at math and that was not going to change. She decides to just write down nonsense for every question.

Student C walks home with a few of his young siblings from school. As soon as he gets there, his mother leaves and he is left to watch his six siblings, one of still a baby and needs constant attention. He tries to work on his assignment but the chaos in the room makes it impossible to focus. He makes another attempt once his siblings have gone to bed but he is unsure how to even start. It seems like the assignment is in a foreign language. Angrily, he crumples up the assignment and throws it away.

The next day, Student A turns in a beautifully completed assignment. Student B hands in the assignment but it is sloppily done and you can tell little thought was put into her answers. Student C does not turn it in at all. Since some students did well, you feel that the assignment must have been appropriate for this class. Yet students B and C feel that they must be stupid, incapable of completing an assignment that

was made for them. Student B decides she hates math. Student C shuts off completely in class, humiliated.

What if you had given this same assignment in class? Consider the differences for students B and C. Student B would have received the help she needed and you could have encouraged her when she doubted her abilities. She might have decided that math is not so bad after all; maybe she would even pursue a career involving math. After working with Student C for a while, you would have realized how to differentiate this assignment to his needs. As a result he would have felt more confident in this subject and would know that he could come to you when he struggles. Even student A would have gained more from this assignment than he did at home because he was able to collaborate with several other students. Through this collaboration, he considers new strategies, ideas, and perspectives that he and his tutor had not thought of.

These scenarios demonstrate the reality that students often go home to unequal situations. As a result, assigning homework frequently widens the achievement gap because it allows students with more resources to do better than those with less. Teachers can mostly control the environment in their classrooms but they cannot control what happens once their students leave school. Of course, these scenarios make it seem that giving assignments in class will solve all educational issues. Of course, doing so will not. However, clearly this issue requires further examination.

## Issues to Consider

### *History of Homework in the United States*

As Cooper, Robinson, and Patall (2006) make clear, public attitudes toward homework have been cyclical. Prior to the early 1900s, homework was considered to be an essential part of all students' educations. In the 1940s, public attitudes toward homework changed. It was then seen to be an intrusion on other home activities and problem-solving skills were placed above drilling. However, this changed in the 1950s when the United States felt the need to remain competitive with the Soviet Union after they launched the Sputnik satellite. Then, in the 1960s, homework was seen as a source of intense pressure on students and educators decreased their use of this practice. This pattern for and against homework has continued into current times. Once again, educators are beginning to doubt the usefulness of this practice.

### Attitudes Toward Homework

There are three important perspectives toward homework to consider, the parent's, the student's, and the teacher's. According to Brock, Lapp, Flood, Fisher, & Han (2016), "many parents expect homework for their children and feel that it improves their children's academic performance" (p. 354-355). Many teachers similarly view homework as a method to improve student achievement and to communicate with parents. However, many teachers seem to simply assign homework because they feel it is expected of them (by parents and their district). And students reportedly

find little intrinsic value in completing homework, instead doing it in order to please their parents and teachers and to avoid getting in trouble (Brock et al., 2016).

### ***Research -- Too Many Variables***

While a good deal of research supporting the use of homework to increase learning, as Cooper et al. (2006) point out virtually every study that does so had major flaws, primarily because there is no way to control all of the variables involved. For example, many studies involved using different teachers with different instructional techniques on different students. Scientifically speaking, there are too many variables in those experiments to draw any conclusions. According to Trautwein, Koller, Schmitz, & Baumert (2002), these flaws in research have led to conflicting results.

The disagreement is primarily due to methodological weaknesses in the studies reviewed. Most of the original studies included in the reviews have at least one methodological flaw that might affect their internal, external, or statistical validity, the most prominent being the lack of randomization procedures, lack of control for pretreatment differences, short treatment duration, small sample sizes, and questionable approaches to hierarchically ordered data (p. 27-28).

In fact, Cool and Keith (1991) showed that controlling certain variables (motivation, ability, quality of instruction, coursework quantity, etc) actually caused the results of their studies to no longer present a positive relationship between homework and achievement.

Further, most results support the use of homework with high school students, but not younger students. Cooper et al. (2006) found almost no correlation between the completion of homework and achievement in elementary students. In-class study proved to be more helpful for these students. And of course the research findings only apply if the students were actually able to complete their homework. Therefore, research must be carefully considered before it is used to support the use of homework.

### ***Parent Involvement***

One clear disadvantage for the hypothetical students B and C was their lack of parent involvement. "Research suggests that parent involvement with their children's homework is associated with improved academic performance" (Balli, Wedman, & Demo, 1997, p. 1). According to Balli et al., 95% of students reported that they did better in school when their parents helped them with their homework. However, not all students have the luxury of parent involvement with their homework. Some have parents that need to constantly work to support their children. Some have parents that cannot speak English and therefore have trouble helping with their homework. Others have parents that are unfortunately just not interested. It is the teacher's duty to give these students the chance they deserve. Homework only makes their already difficult lives harder.

### ***Socioeconomic Status and Other Differences***

Socioeconomic status can affect students' abilities to complete homework. As Ktisantas, Cheema, and Ware (2011) make clear:

Research has challenged the benefits of homework with the view that the use of homework expands the achievement differences between high and low socioeconomic status (SES) students, where students from higher SES backgrounds have more resources and their parents are better prepared to assist them than students from lower SES backgrounds (p. 310-312).

Societal perceptions can also affect a student's ability to complete homework. Female students reported lower self-efficacy even when they performed equally to or better than male students. Similarly, African-American students reported lower self-efficacy than their Caucasian peers (Kitsantas et al., 2011).

Language barriers are also a common issue with homework. According to Brock et al. (2016):

in the past decade the number of English language learners in U.S. schools has more than doubled. Also, children from nondominant backgrounds comprise from three fourths to almost all of the students enrolled in the nation's largest school systems. English language learners will make up 40% of the school-age population in U.S. schools by the 2030s (p. 351).

Thus Student B's scenario is not fictional for many students.

Students with disabilities must also be considered when teachers contemplate assigning homework. These students need more support and resources than others but a teacher cannot guarantee that they will receive what they need outside of school. According to Callahan, Rademacher, & Hildreth (1998), "lack of homework completion has been reported to be a major factor contributing to poor academic performance and school failure of youth at risk and youth with disabilities" (p. 131).

### ***Psychological Effects of Homework***

A reported potential benefit of assigning homework is increased student self-efficacy. However, as previously shown, outside influences can prevent this effect for the students that need it most. Homework can also be stressful. According to Brock et al. (2016), "homework can be a source of stress and burnout for children as well as their parents" (p. 355). Students protest about the amount of time that homework takes away from leisure activities. "Many students consider homework the chief source of stress in their lives" (Cooper et al., 2006).

### ***Purposes of Homework***

For the most part, teachers' reasons for assigning homework are good. Cooper et al. (2006) describe the purpose of homework as giving students opportunities to practice and review the content they learned in class. According to Dettmers, Trautwein, Lüdtke, Kunter, & Baumert (2010), homework serves the purpose of "enhancing student performance and self-regulation." It is seen as a way to tap into potentially educative time (Paschal, Weinstein, & Walberg, 1984). Kitsantas et al. (2011), also state that researchers view homework as a tool to increase self-efficacy. All of these purposes for homework are good. However, because of differences in home situations, these purposes can only be fulfilled for certain students. A better means to

these ends is doing the assignments in class. This way, the teacher can make sure that all students have the resources, assistance, and encouragement they need.

## An Alternative to Homework

After considering the above, teachers may be wondering what an alternative to homework is. As previously stated, the purposes to assigning homework are generally good. How can we, as educators, fulfill these purposes without homework? One possibility was illustrated in the introduction, assigning that work to be completed in class. Practicing concepts learned in class is important, but it does not necessarily have to be done at home. In my classroom, I have given students practice problems that would traditionally be assigned as homework to work on as “morning work” to warm up for the day. If students need more time, I can give them the option of completing the problems on their own time but I do not force them to so.

## Conclusion

Before assigning homework, consider the diverse needs and situations of your students. Consider what your purpose behind assigning homework is and if you could better fulfill that purpose in class. Many teachers base their decisions to assign homework on the research but it is important to remember that the research is flawed and that even if homework has benefits, such benefits only apply if students are actually able to complete their homework. The risks in assigning homework to middle grades students are numerous and should be considered by all teachers.

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